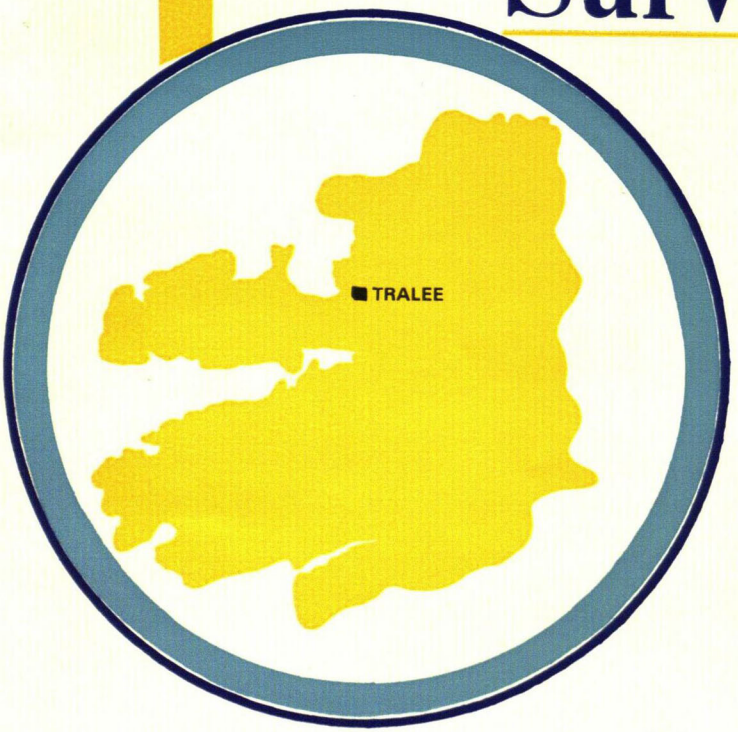
# County Kerry Agricultural Resource Survey



# COUNTY KERRY

# AGRICULTURAL RESOURCE SURVEY


Listowel
Tralee
Dingle
Killorglin
Killarney
Cahirciveen
Kenmare

# County Kerry Agricultural Resource Survey

*Compiled by Kerry County Committee of Agriculture*—1972

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## Section 4:
## Amenity Land

## FOREWORD

ON JANUARY 1, 1973, Ireland formally assumed full membership of the enlarged European Economic Community. This historic event heralds in a new era for Irish farming. Trade barriers will be progressively removed over the five-year transition period and farmers can plan ahead secure in the knowledge that a good market will be open to them at satisfactory prices.

But as we face this new situation we cannot but realise that the full benefits of EEC membership will be achieved only if Irish agriculture is up-to-date and competitive. The persistence of low farm incomes in agriculture, particularly in the Western Region, has hindered the general economic development of the country up to the present. Membership of the EEC, of itself, will not change this situation. A major effort will be required of farmers themselves in finding lasting solutions to the low income problem.

Precise identification of the problems to be solved is extremely important from the point of view of the Advisory Service. It helps individual members of the Service to clarify their thinking on possible solutions to these problems; in addition it facilitates them in the formulation and implementation of suitable development programmes. For these reasons the current Resource Survey of County Kerry is both timely and opportune.

The Survey which has been largely compiled by members of the county's Advisory Service attempts to place the current state of agricultural development in the county in proper perspective. In the process, other land-using activities of a non-agricultural nature are also examined. The results of this exercise undoubtedly have given the advisers concerned a valuable insight into the county's development problems and have provided them with a solid basis for sound decision making. In addition the Survey is a valuable reference source for all who are interested in the general development of County Kerry.

I wish to congratulate the advisory service and all others who helped in the compilation of this important document.

HENRY SPAIN,
***Chief Inspector,***
***Dept. of Agriculture and Fisheries.***

## PREFACE

IN these changing times there is need at local level for reliable up-to-date information on our basic agricultural resources. This information must be available in a concise, convenient form if it is to be of the maximum benefit to the Community. With this in mind, the Kerry County Committee of Agriculture undertook to produce this handbook and its compilation is the co-ordinated work of several people and bodies willingly given.

My Committee hopes that this survey will: *(a)* make a worthwhile contribution towards a more informed public opinion on Rural matters in County Kerry; *(b)* prove a useful, reliable reference for discussion and debate; *(c)* provide basic information and guidelines for many projects by young and old, and *(d)* generally form the basis for the effective planning and development of the County's Agriculture.

If these aspirations are realised to even a fair extent, then the effort in its preparation will be very amply repaid.

M. G. MOYLES,
*Chief Agricultural Officer.*

# ACKNOWLEDGEMENTS

I AM indebted to Dr. Pierce Ryan, Paul Broughan and Dr. Vivian Timon of An Foras Taluntais; Dr. John J. Scully and James Cadogan of the Department of Agriculture and Fisheries for their assistance at the initiation and their guidance during the production of this survey. They acted on a steering committee which decided on its content, along with the following members of our own staff—R. O'Connor D/C.A.O. and advisers James Adams, Maurice Stack, Tim Lyons, Seamus Murphy, Phil Hayes, Pat Sayers, Pauline Hayes and John Joe Shanahan. I am indeed very grateful for the assistance and guidance of this committee.

Grateful acknowledgement is due to those individuals and Departments (listed at the back of the book) who contributed articles or chapters and those who in any way helped or assisted them (acknowledged at the end of individual articles).

The Dairy Disposal Board, central and branch creamery managers, managers of milk and fish processing units, managers of Livestock Marts, and A.I. station supplied requested information.

The Land Project, Farm Buildings, Dairying, Beef and Sheep sections of the Department of Agriculture and Fisheries kindly contributed accounts of their work in recent years. The Irish Land Commission and Forestry section of the Department of Lands did likewise. To these and to the officers in charge of their services and schemes in the county, I wish to express my appreciation of their co-operation.

To Paddy Sayers was entrusted the onerous responsibility of co-ordinating and compiling the whole survey. His selection for this task was a happy one and the finished volume is a monument to his sagacity, efficiency and courtesy. On his return to the county, Seamus Murphy gave valuable help in producing this survey. In fact the structure of the book is almost entirely the result of his efforts. To Tom Burke and Finbarr Slattery fell the job of giving the proofs their final reading and editing. Mr. R. O'Connor the The Deputy C.A.O., guided its production by his many helpful suggestions. To each and everyone of the above mentioned and to all the many others who helped, I extend my most grateful thanks and acknowledgements.

To those who made the publishing of this survey possible by their

generous financial contribution (list at the back of the book) I wish to express my grateful appreciation.

Thanks are also due to Joan Shanahan, Margaret Leahy and Maureen O'Driscoll of my office staff for typing and general help.

Finally, the thanks of all are due to the chairman and members of the Kerry Committee of Agriculture, who authorised this production.

M. G. MOYLES, M.AGR.SC,
*Chief Agricultural Officer*.

# INTRODUCTION

KERRY is popularly known as the Kingdom. It is the fifth largest County in Ireland comprising an area of 1,189,786 acres. It is situated in the south-west of Ireland between 51° 40' and 52° 35' north latitude, and 9° 11' and 10° 25' west longitude. It is bounded on the west by the Atlantic Ocean, to the north by the Shannon Estuary and to the east by Limerick and Cork. The latter county also forms its southern boundary.

The county may be divided geographically into lowlands and gentle hills in the north and rugged hills and mountains in the south and west. The northern area is subdivided into:

(I) The hill region along the Limerick and Cork borders and the Kerry Head Peninsula.
(II) The lowlands north of Lixnaw and south of Tralee.
(Ill) The lowlands between Lixnaw, Fenit and Tralee.

South Kerry can be subdivided into:

(I) The lowlands from Killarney to Glenbeigh.
(II) The Iveragh Peninsula with the Macgillycuddy Reeks, Mangerton and Stoompa Mountains and the Beare Peninsula.

West Kerry comprises the Dingle Peninsula. The Dingle, Iveragh and Beare Peninsulas are mostly mountainous.

Over 41 % of the county is 500 feet above sea level. In contrast only 22 % of Ireland is above this elevation.

The total land area breaks down fairly evenly between a lesser area of what is classified for statistical purposes as 'Crop and Pasture' land, and a greater area of rugged mountain, bog marsh and sandy coast, areas referred to as 'other' land. The remaining area is made up of the territories occupied by lakes and larger waters on the one hand, and the urban areas on the other.

Chronic decline in total numbers, and a disproportionate decline in numbers in the different geographic regions, has been a feature of the history of our population. Decline in total population has been halted for the first time in a century in the 1966-71 census. The decline in all rural districts with the exception of Killarney (rural district) continued, however, during this period. We do not have sufficient facts as yet from 1971 census to assess the most recent situation regarding changes by geographic area or changes in population structure.

It is against this background that we look at the everyday working activities of the County.

A look at the economic activities leaves little room to doubt the key role of farming in the county. It embraces virtually all the land, engages the energies of almost half of the total gainfully occupied labour force, and in 1965 it accounted for approximately 38% of the total county income. In addition a large proportion of the income generated in industry and services, derives from the farming sector and from processing of farm products. It is difficult to imagine Kerry without its farming industry.

We have carried out a survey of this industry. We looked at the present situation and, in some cases, the potential of the resources used in Kerry farming. We used as much relevant published material as we could find. We relied mainly, however, on facts we could assemble, much of which was kindly made available to us from other sources. In this manner we looked at the physical, human and capital resources.

Kerry's maritime location in the extreme South West of Ireland with its long indented coastline gives it a mild and equable climate, resulting in a low frequency of late spring frosts. This is a very important aspect of our climate from a farming and particularly from a horticultural point of view.

To get farming into its proper perspective it is useful to see where its soils fit into the broad national land use classifications drawn up by the Agricultural Research Institute a couple of years ago. It divides the land of Kerry into four categories of potential use. They run from wide use range at one end, to very limited at the other, and the proportions in that order are as follows:

Class (i) 10%;
Class (ii) 14%;
Class (iii) 23%;
Class (iv) 53%.

When the land quality situation is linked with that of land structure and features of our farming population it presents a picture which has significance for our farming industry. We try to make these matters clear in our survey.

The predominant agricultural enterprise in the county is Dairying, Cattle, Sheep and Pigs make an appreciable contribution to farm income. Crop production and horticulture contribute to a lesser extent. Poultry and Horses figure in a small way also. We have

attempted to look at each one separately, to see how it has developed or declined in the past and especially over the last 10 years.

The most important aspect of farming is the income derived from the various enterprises or combination of enterprises by the people involved. An economic survey made some years ago of the various Irish Counties, showed that, comparatively speaking, Kerry farmers made good use of their resources. Their income per acre was the highest in Ireland apart from County Dublin. Their stocking rate too, was high by the system of calculation used, and their income per £1 valuation was again higher than in any other county. However, the income per person engaged in agriculture was low and this most important aspect of farming is nowadays with better communication, a rising standard of living and a rising level of aspirations coming more and more to the forefront.

We hope that this Survey will highlight some of the factors giving rise to this low farm income and help in developing a programme to tackle them.

# *Section 1*

# Agriculture in the Life and Economy of Kerry

THE total population and the availability of adequate employment opportunities have a major impact on the economy of the county. A decrease in the farm population with a corresponding increase in employment in industry and services is one of the main essentials for economic growth.

In the past the economy of Kerry was based on agriculture. Urban areas developed mainly as marketing centres for agricultural produce. Low incomes from agriculture allied to the attraction of remunerative employment opportunities abroad gave rise to emigration of the farm population from the poorer districts of the county. In more recent times, mechanisation and the adoption of modern techniques in agriculture have contributed further to the decline in the farm labour force. At the same time industrial employment has expanded rapidly.

In this section population trends and employment in industry, services and agriculture are examined to determine to what extent the decrease in employment in agriculture is being compensated for by the increase in both the industrial and service sectors.

CHAPTER ONE

# POPULATION AND EMPLOYMENT

IN line with the situation in all other counties in the Western Region, County Kerry has experienced some important changes both in population and employment in recent decades. In terms of employment, agriculture is still the most important economic sector in the county. This situation is changing rapidly, however, as the numbers employed in farming decrease and employment in other economic sectors expands.

Normally a decrease in agricultural employment, in both absolute and relative terms, is regarded as one of the basic prerequisites for economic growth. This presupposes that those released from farming, as a result of the introduction of new farm technology and other factors, can be simultaneously absorbed in other economic activities. Full employment and satisfactory incomes for those remaining on the land are thereby facilitated. At the same time the development of non-agricultural sectors leads to a larger market for the products of agriculture and, by inference, to greater agricultural productivity. On the other hand, agriculture contributes to the expansion of other economic sectors not alone in terms of labour, but also in terms of the market which it provides for such basic production inputs as fertilisers, chemicals, machinery, equipment and other services, all of which are essential to its own development. In economic growth, therefore, the functions of agriculture and other economic sectors are interrelated and interdependent.

In Kerry and in the other western counties, however, the rate of expansion of the non-agricultural sectors has not been sufficient to absorb the surplus farm population. Indeed there is ample evidence to suggest that employment opportunities are not, as yet, being created in sufficient number to absorb prospective new entrants to the labour force from within the non-agricultural sectors themselves. Because of this situation the county has experienced a protracted emigration of young people for many decades. This emigration has been greater in absolute terms than the natural increase of births over deaths. And so the total population of the county has declined.

Some of the more important aspects of population and employment in Kerry are examined briefly in this chapter.

TABLE 11. Population of Kerry in each of the sixteen censuses from 1841 to 1971.

| *Year* | *Males* | *Females* | *Total* | *% change in each intercensal period* |
|---|---|---|---|---|
| 1841 | 147,307 | 146,573 | 293,880 | |
| 1851 | 116,511 | 121,743 | 238,254 | — 18-93 |
| 1861 | 99,999 | 101,801 | 201,800 | — 15-40 |
| 1871 | 97,913 | 98,673 | 196,586 | — 2-58 |
| 1881 | 101,208 | 99,831 | 201,039 | + 2-27 |
| 1891 | 91,017 | 88,119 | 179,136 | —10-89 |
| 1901 | 84,427 | 81,299 | 165,726 | — 7-49 |
| 1911 | 81,474 | 78,217 | 159,691 | — 3-64 |
| 1926 | 76,863 | 72,308 | 149,171 | — 6-59 |
| 1936 | 73,503 | 66,331 | 139,834 | — 6-26 |
| 1946 | 70,113 | 63,780 | 133,893 | — 4-25 |
| 1951 | 66,507 | 60,137 | 126,644 | — 5-41 |
| 1956 | 63,965 | 58,107 | 122,072 | — 3-61 |
| 1961 | 60,838 | 55,620 | 116,458 | — 4-60 |
| 1966 | 58,674 | 54,111 | 112,785 | — 3-15 |
| 1971 | 58,404 | 54,368 | 112,772 | |

SOURCE: *Census of Population of Ireland.* 1971, Vol. I, P. 8.

## Population

The total population of County Kerry has declined persistently since the 1840s with the exception of a slight increase in the intercensal period 1871-1881 (table 1-1). This decline which occurred despite a net positive balance of births over deaths in the interim years has resulted from emigration.[1]

In the 1961-66 period the rate of net emigration from Kerry was almost twice as high as the national figure. However in the most recent intercensal period the rate of emigration in the county was less than half that in the 1961-66 period. National emigration also declined but not to the same extent (table 1-2).

TABLE 1-2. Average annual rate of net emigration per 1,000 average population in intercensal period, 1946 to 1971, Kerry and the Republic of Ireland.

| | *Intercensal Period* | | | | |
|---|---|---|---|---|---|
| | 1946-51 | 1951-56 | 1956-61 | 1961-66 | 1966-71* |
| KERRY | 17-7 | 14-0 | 15-2 | 11-2 | 4-7 |
| REPUBLIC | 8-2 | 13-4 | 14-8 | 5-7 | 3-7 |

SOURCE: *Statistical Abstract of Ireland,* 1968, P. 26.
* *Census of Population of Ireland,* 1971: Vol. 1, P. 5.

Between 1961 and 1966 the national population increased by 2-3 per cent; during the same period a decline of 3-2 per cent was recorded in Kerry (table 1-3). At the same time, the county's contribution to the national population declined from 4-1 to 3-9 per cent.

A significant change occurred in the 1966-1971 period. The population of the county remained almost static while the national population increased by 3-3 per cent (table 1.3). Kerry had 3-8 per cent of the country's total population in 1971.

[1] Emigration here refers to movement of people out of the county to other parts of Ireland and abroad.

TABLE 13. Population of Kerry and the Republic of Ireland 1961, 1966 and 1971, with intercensal changes.

| | *Total Population* | | | *Population Change* | | | |
|---|---|---|---|---|---|---|---|
| | 1061 | 1966 | 1971 | 1961-66 | | 1966-71 | |
| | | | | *Actual* | /o | *Actual* | *%* |
| KERRY. . . . . | .116,458 | 112,785 | 112,772 | —3,673 | — 3-2 | -13 | — 00 |
| REPUBLIC. . . . . | 2,818,341 | 2,884,002 | 2,978,248 | +65,661 | +2-3 | • 94,246 | + 3-3 |
| Kerry as % of the Republic. . . . . | .4-1 | 3-9 | 3-8 | | | | |

SOURCE: *Census of Population of Ireland.* 1966, Vol. I, P. 3, and *Census of Population of Ireland* 1971, Vol. 1. P. xiv.

TABLE 1-4. 'Aggregate Town' and * Aggregate Rural' population, 1956, 1961, 1966 and 1971 in Co. Kerry.

| *Kerry* | 1956 | *Per cent of total* | 1961 | *Per cent of total* | 1966 | *Per cent of total* | 1971 | *Per cent of total* |
|---|---|---|---|---|---|---|---|---|
| Aggregate Town | 24,696 | 20-2 | 24,484 | 21-0 | 24,997 | 22-2 | 27,301 | 24-2 |
| Aggregate Rural | 97,376 | 79-8 | 91,974 | 79-0 | 87,788 | 77-8 | 85,471 | 75-8 |
| *Total* | 122,072 | 1000 | 116,458 | 100-0 | 112,785 | 1000 | 112,772 | 1000 |

SOURCE: *Census of Population of Ireland,* 1961, Vol. 1, P. 28,
*Census of Population of Ireland.* 1966, Vol. 1, P. 11, and
*Census of Population of Ireland,* 1971, Vol. 1, P. 11.

Urban/Rural Population

Less than one-quarter of the county's population was classified as 'aggregate town'[2] in each of the years examined (table 1-4). This fraction is increasing, however, mainly because of the continuing decrease in the total population of the county. All indicators point to further continuing decline in the aggregate rural population.

*Changes in Urban Population*

Of the nine towns which had populations of 1,000 or more in the 1966 census, six—Tralee, Killarney, Kenmare, Castleisland, Ballybunion and Killorglin—showed increases in the 1966-71 period (table 1-5). But it was the population of Tralee which really accounted for the greater part of the improvement in the aggregate town population. Generally speaking, the population of this

TABLE 15. Population of principal towns in Kerry, 1961 and 1966.

| *Town* | 1961 | 1966 | *Percentage Change* 1961-66 | 1971 |
|---|---|---|---|---|
| TRALEE | 10,723 | 11,213 | +4-6 | 12,287 |
| KILLARNEY | 6,825 | 6,877 | +0-8 | 7,184 |
| LISTOWEL | 2,859 | 2,822 | —1-3 | 3,021 |
| CASTLEISLAND | 1,718 | 1,673 | —2-6 | 1,929 |
| CAHERCIVEEN | 1,659 | 1,649 | —0-6 | 1,547 |
| DINGLE | 1,460 | 1,406 | —3-7 | 1,401 |
| BALLYBUNION | 1,163 | 1,160 | -0-3 | 1,287 |
| KENMARE | 1,046 | 1,113 | -f-6-4 | 903 |
| KILLORGLIN | 1,100 | 1,070 | —2-7 | 1,150 |
| *Total* | 28,553 | 28,983 | +1-5 | 30,709 |

SOURCE: *Census of Population of Ireland,* 1966, Vol. 1, P. viii, and *Census of Population of Ireland,* 1971, Vol. 1, P. 25.

'Aggregate Town Area*. The population in the 'aggregate town area' of the county is defined as those persons residing within towns of 1,500 inhabitants or more. If a town with a legally defined boundary has a suburban area or environs outside this boundary and if the total population made up of the population inside the legally defined boundary plus that in the suburbs or environs amounts to 1,500 persons or over, this town (including suburbs or environs) is classified as belonging to the 'aggregate town area'.

'Aggregate rural area'. The population residing in all areas outside towns of 1,500 inhabitants or over is classified as belonging to the 'aggregate rural area'.

nucleus of urban areas is not expanding to any significant extent.

*Absence of Expanding Urban Centres*

The absence of expanding urban centres particularly in the peripheral zones of South and West Kerry has a decidedly negative influence on the economy of surrounding rural areas. The weak urban structure which predominates over much of the county is a definite barrier to the creation of off-farm employment opportunities, in sufficient number to absorb the surplus rural population. As a result, farming remains the dominant activity in the majority of areas. At the same time, worthwhile opportunities for part-time employment off the land are, by and large, the exception rather than the rule.

In more normal circumstances, expanding urban centres could provide a definite stimulus to agricultural development by projecting rapid growth in the demand for farm produce, particularly for such labour intensive items as milk and vegetables. In turn, the expansion of available markets and the development of more orderly marketing arrangements for all farm products, which logically follow in the wake of urbanisation, enhances the formation of capital necessary for farm modernisation and improvement. Well developed urban centres also provide greater facilities for education and communication, and for contact with new ideas and methods of operation. These serve to broaden the horizons of rural people and as a result make them more amenable to change. Lastly, the availability of a wide range of consumer goods in well developed urban areas may, in itself, act as a positive incentive to increased production at farm[3] level.

In very real terms, therefore, the lack of adequate urbanisation in Kerry and elsewhere in the West of Ireland is a substantial barrier to the development of agriculture.

## Employment

An analysis of male and female occupations in 1961 and 1966 may give insights into trends in employment in the agricultural, industrial and service sectors of the county. The most salient feature of the analysis is the decline of 11.7 per cent in agricultural occupations during the five-year period. Female employment declined by almost 26 per cent (table 1.6). At the same time, industrial occupa-

[3] John W. Meller, *The Economics of Agricultural Development* (Ithaca, New York, Cornell University Press, 1966), pp. 72-73.

TABLE 1.6. Male and female employment by occupational group, County Kerry, 1961 and 1966.

| | 1961 | | | 1966 | | | *Percentage change* 1961-66 | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Males* | *Females* | *Total* | *Males* | *Females* | *Total* | *Males* | *Females* | *Total* |
| AGRICULTURE | 21,489 | 2,308 | 23,797 | 19,308 | 1,719 | 21,027 | —11-2 | —25-6 | --11-7 |
| INDUSTRY . . . . . | 7,285 | 475 | 7,760 | 7,706 | 605 | 8,311 | + 5-8 | 4-12-7 | + 71 |
| SERVICE SECTOR | 6,726 | 5,650 | 12,376 | 6,913 | 5,998 | 12,911 | +2-7 | + 6 1 | + 4-3 |
| *Total gainfully employed* | 35,500 | 8,433 | 43,933 | 33,927 | 8,322 | 42,249 | — 4-4 | — 1-4 | — 3-9 |
| *To tal population* | 60,838 | 55,620 | 116,458 | 58,674 | 54,111 | 112,785 | — 3-6 | — 2-8 | — 3-2 |
| Agriculture as a % of total gainfully occupied .... | 60-5 | 27-4 | 54-2 | 56-9 | 20-7 | 49-8 | — | — | — |
| Industry as a % of total gainfully occupied .... | 20-5 | 5-6 | 17-7 | 22-7 | 7-3 | 19 7 | — | — | — |
| Services as a % of total gainfully occupied .... | 190 | 670 | 281 | 20-4 | 720 | 30-5 | | | |
| Total gainfully occupied as a % of total population | 58-4 | 15 2 | 37-7 | 57- | 15-4 | 37-5 | | | |

SOURCE: *Census of Population oj Ireland,* 1961, Vol. V, P.P. 67 and 104, *Census of Population of Ireland,* 1966. Vol. IV, P.P. 16 and 17.

tions increased by 7.1 per cent and service employment by 4.3 per cent. In absolute terms male employment in industry received pride of place over female employment. The converse was true for service employment. There were some notable changes within both the industrial and service sectors, however. Most prominent was the absolute decline in males engaged in mining, quarrying, turf, metal manufacture, leather and textiles.[4] All categories of female labour increased apart from those classified as 'labourers and unskilled' in the industrial sector and as 'service workers' in the service sector. The total number of males employed in the service sectors also increased, although declines occurred in specific categories.

Aggregate employment increases in the industrial and service sectors, however, were not large enough to compensate for the decline in agricultural occupations. As a result, the total gainfully occupied labour force decreased by some 3.2 per cent.

In 1966, almost half of the total gainfully occupied population was engaged in agriculture; less than one-fifth was engaged in industry and less than one-third in the service sector. The relatively high proportion still remaining in agriculture is a further reflection of the stage of economic development of the county. Between 1961 and 1966 male labour between the ages of fourteen and forty-four years accounted for more than 70 per cent of the total decrease in agricultural occupations (table 1-7).

**TABLE 1-7. Males and females in agricultural occupations, County Kerry, 1961-66.**

| *Year* | *Males* | *Females* | *Total* | *Males* 14-44 *years* |
|---|---|---|---|---|
| 1961 | 21,489 | 2,308 | 23,797 | 10,494 |
| 1966 | 19,308 | 1,719 | 21,027 | 8,485 |
| *Decrease* 1961-66 | 2,181 | 589 | 2,770 | 2,009 |

SOURCE: *Census of Population of Ireland,* 1961, Vol. V, PP. 67 and 104, and *Census of Population of Ireland,* 1966, Vol. V, PP. 72 and 109.

Under conditions of normal economic growth it would be logical to expect that the greater part of this released labour would be

* See Appendix A.

absorbed by service and industry. However, although industrial employment increased substantially between 1961 and 1966 the number of new jobs generated was a little more than a quarter of the decrease in males aged fourteen to forty-four years during the same period. Comparable information is not available for the 1966-1971 intercensal years.

The crucial question now is whether or not the rate of growth in industry and services, particularly the former, can be stepped up sufficiently in the years immediately ahead, to absorb an agricultural labour exodus of recent magnitudes. Failing this, the decline in the county's population will continue, and in the circumstances the achievement of conditions for real economic growth may recede **further.**

**Anticipated Future Employment Trends**

Chief among the factors which imply continuing change in employment patterns in the years ahead are, improved levels of living and associated shifts in consumer preferences, and technological innovations, allied to increased labour productivity. These and other factors have a substantial effect on the manpower requirements of each economic sector in all counties and in regions within countries. In Kerry, the main employment trends characteristic of recent decades are expected to continue in the future. Thus, in general terms, it is likely that industrial and service employment will expand further while agricultural employment will decline.

In all occupational groups, however, there will be an on-going need for additional education and training. The advent of free post-primary education will undoubtedly have a substantial positive impact on labour skills in the years ahead. This being so it is likely that with continuing development the role of the unskilled worker will diminish progressively even within agriculture.

The stabiisation of the population of Kerry during the 1966-71 inter-censal period, is a welcome change from the progressive declines of past decades. But, during the same period, emigration accounted for a loss of some 2,655 persons in all.[5] Obviously, therefore, this population loss is still a problem of some magnitude in the county. This situation can be changed, only if the creation of additional non-farm employment opportunities is accelerated in the immediate future. At the same time a comprehensive programme of agricultural development should be pursued, with particular emphasis

[5] ***Census of Pofulation of Ireland,*** **1971, Vol. I, P. 5**

on labour intensive enterprises, especially in low income areas.

Agricultural development, however, is hindered by many factors, physical, land tenure, demographic, economic and others. An examination of the extent and influence of such factors is undertaken in the following section of this survey.

## Summary

County Kerry has experienced important changes in population and employment in recent decades. Agriculture is still the most important economic sector. Agricultural employment is decreasing, however. At the same time new employment opportunities are being created, but as yet, not in sufficient quantity to absorb new entrants to the labour force in addition to those released from farming. As a result, emigration of young people is still a problem of some magnitude.

The decline in total population which was a characteristic feature of the county for many decades was almost halted in the 1966-71 period.

The weak urban structure which predominates over much of the county, is a definite barrier to the creation of off-farm employment opportunities in sufficient number, to absorb the surplus rural population. As a result, farming remains the dominant activity in the majority of areas. Lack of adequate urbanisation is a substantial barrier to agricultural development also.

Between 1961 and 1966, agricultural occupations declined by **11-7** per cent; industrial occupations increased by 7-1 per cent and service employment by 4-3 per cent. But, because aggregate employment increases in the industrial and service sectors were not large enough to compensate for the decline in agricultural occupations, the total gainfully occupied labour force declined by 3-2 per cent. However, there is some local evidence to suggest that this decline may have been reversed in the period 1966 to 1971.

It is likely that agricultural employment will decline further in the years ahead while employment in industry and services should expand. Emigration is still a problem. This situation can be changed only if the creation of additional off-farm employment opportunities is accelerated in the immediate future.

ACKNOWLEDGEMENTS: The author wishes to acknowledge help received from Patrick J. Higgins, Agricultural Inspector, and Seamus O'Donnell, Executive Officer, in preparation of this article.

# *Section 2*

# Agricultural Production Base

IN terms of employment and output, agriculture is the most important single industry in Kerry. Its development has therefore a leading role to play in the economic development of the county. The extent to which agriculture can be developed depends on a wide variety of factors both physical and human.

Rainfall and temperature have a very marked effect on the range of crops which can be grown and the output obtained from these crops. They also, to a large extent, determine the cost of livestock housing and the prevalence of certain animal diseases.

The extent to which land lends itself to agricultural development is governed by the type of soil, fertility, topography and drainage capacity. The capacity and ability of land owners to develop the land is to a large extent dictated by the size of farm, land quality, ownership, age and educational status of the landowners and the availability of capital.

Climate, soil resources, land tenure and structure, the farm population and capital are therefore basic factors in the development of agriculture. In this section each is examined in relation to its effects on agricultural development in the county.

CHAPTER TWO

# CLIMATE

THE moderating effect of the Atlantic Ocean on temperatures, and the orographic or lifting effect of the mountains on cloud, precipitation[1] and sunshine, are two major factors governing the climate of County Kerry.

Because of the long, indented coastline, temperatures in the greater part of the county are affected directly by the relatively warm North Atlantic Drift to the west. This oceanic influence results in higher winter temperatures, earlier and longer growing seasons, and less frequent and less severe frosts in Kerry than in most other parts of the country.

The presence of extensive mountain ranges in Kerry has a considerable influence on the distribution of cloud, rainfall and sunshine in the county. The prevailing winds usually contain a high proportion of moisture and the lifting effect of the mountains on this moist airstream results in the formation of cloud and the deposition of precipitation (mostly rain and drizzle) on elevated parts of the county. In areas in the lee of the mountains, where the descending air is warmer and drier, cloud and rainfall amounts are less, and sunshine amounts greater, than those on windward slopes and near the peaks. Thus, recorded averages of annual rainfall in Kerry range from over 3,000 millimetres (118 inches)[2] in mountainous areas to less than 1,000 millimetres (39 inches) in the sheltered parts of north Kerry.

Strong winds, associated with the movement of depressions north-eastwards near the west of Ireland, are experienced near exposed coasts of Kerry particularly during the months September to March.

[1] In the meteorological sense, precipitation includes all water reaching the ground in either liquid or solid (frozen) state. By far the greater proportion of precipitation in Ireland is in liquid form (rain, drizzle, or dew), and particularly in Kerry, snow, hail, or freezing rain contribute little to the total precipitation amounts. It is usual, therefore, to refer to the water gained from the atmosphere as rainfall rather than precipitation.

[1] One inch equals *25-4mm.*


**FIGURE 21. Average annual rainfall in County Kerry, 1931-1960.**

## Implications for Kerry Agriculture

Snow and hail are seldom a hazard in agricultural production in Kerry except on mountains where snow drifts are sometimes a danger to outwintered stock. In low-lying parts of the county snow rarely persists on the ground for more than a few days. Hail showers during the growing season are infrequent and of a mild nature, by comparison with those which create serious problems almost every year for fruit-growers in parts of continental Europe.

In the following pages, those aspects of the climate of Kerry which are most important in agriculture are discussed in some detail. In the case of some elements, e.g. sunshine and wind, the amount of information available is less than adequate for the purposes of a comprehensive survey. It is suggested that the acquisition of additional climatological information in the county, through the co-operation of agriculturists and meteorologists, would be most desirable; the extra data collected would lead to a greater insight into the many climatic advantages which Kerry enjoys in agricultural production.

### Rainfall

The map of average annual rainfall (figure 2-1) shows the large variation in rainfall over the county, this variation being mainly due to difference in topography. Three rainfall zones are shown on the map:

(1) A zone of moderate rainfall covering the north of the county and extending southwards into the valleys of the Maine and the Laune. In this zone, sheltered by the mountains from moist southerly and south-westerely winds, the average annual rainfall is less than 1,250 millimetres. The driest part of the zone lies between Listowel and Lixnaw where the average annual rainfall is in the range 950 to 1,000 millimetres.

(2) A zone of moderate to heavy rainfall in which the average annual total is between 1,250 and 2,000 millimetres. This zone covers most of the county and includes elevated areas in the north as well as the greater part of the south, with the exception of the highest mountain ranges.

(3) The third zone is one of very heavy rainfall where the average annual total is over 2,000 millimetres. This zone includes the mountainous districts of the Iveragh and Beara peninsulas and a small area near Mount Brandon. The average annual rainfall (over 3,000 millimetres) in some parts of this zone is the highest recorded in Ireland.

**TABLE 2·1. Averages of monthly and annual rainfall at selected rainfall stations in County Kerry, 1931-1960.**

| | Station | | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Annual Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | LIXNAW | % of Annual: | 10·8 | 7·4 | 6·2 | 5·4 | 5·3 | 5·7 | 8·5 | 8·5 | 8·9 | 10·0 | 10·8 | 12·4 | 100·0 |
| | | Amount (mm.): | 106·9 | 73·3 | 61·4 | 53·5 | 52·5 | 56·4 | 84·1 | 84·1 | 88·1 | 100·0 | 106·9 | 122·8 | 990·0 |
| | ABBEYDORNEY | % of Annual: | 10·9 | 7·5 | 6·3 | 5·4 | 5·3 | 5·8 | 8·5 | 8·3 | 8·8 | 10·1 | 10·8 | 12·3 | 100·0 |
| | | Amount (mm.): | 112·3 | 77·3 | 64·9 | 55·6 | 54·6 | 59·7 | 87·6 | 85·5 | 90·6 | 104·0 | 111·2 | 126·7 | 1,030·0 |
| | BALLYHEIGUE | % of Annual: | 10·8 | 7·4 | 6·3 | 5·4 | 5·3 | 5·7 | 8·8 | 8·3 | 8·8 | 10·2 | 10·7 | 12·3 | 100·0 |
| | | Amount (mm.): | 113·4 | 77·7 | 66·2 | 56·7 | 55·7 | 59·9 | 92·4 | 87·1 | 92·4 | 107·1 | 112·3 | 129·1 | 1,050·0 |
| | BALLYLONGFORD | % of Annual: | 10·6 | 7·3 | 6·2 | 5·2 | 5·3 | 5·8 | 8·8 | 8·6 | 9·1 | 10·1 | 10·7 | 12·3 | 100·0 |
| | | Amount (mm.): | 113·7 | 78·3 | 66·5 | 55·8 | 56·9 | 62·2 | 94·4 | 92·3 | 97·6 | 108·4 | 114·8 | 132·0 | 1,072·9 |
| | CASTLEISLAND (Voc. School) | % of Annual: | 11·4 | 7·7 | 7·0 | 5·6 | 5·5 | 5·5 | 7·4 | 7·8 | 8·7 | 9·8 | 11·0 | 12·6 | 100·0 |
| | | Amount (mm.): | 136·8 | 92·4 | 84·0 | 67·2 | 66·0 | 66·0 | 88·8 | 93·6 | 104·4 | 117·6 | 132·0 | 151·2 | 1,200·0 |
| Zone 2 | BALLINSKELLIGS | % of Annual: | 11·5 | 7·8 | 7·3 | 5·2 | 6·1 | 6·1 | 7·9 | 7·3 | 8·8 | 9·8 | 10·8 | 11·4 | 100·0 |
| | | Amount (mm.): | 159·6 | 108·3 | 101·3 | 72·2 | 84·7 | 84·7 | 109·7 | 101·3 | 122·1 | 136·0 | 149·9 | 158·2 | 1,388·0 |
| | GLENBEIGH | % of Annual: | 11·5 | 7·9 | 6·8 | 5·7 | 5·6 | 5·6 | 7·7 | 6·9 | 8·7 | 10·0 | 11·2 | 12·4 | 100·0 |
| | | Amount (mm.): | 175·4 | 120·5 | 103·8 | 87·0 | 85·5 | 85·5 | 117·5 | 105·3 | 132·8 | 152·6 | 170·9 | 189·2 | 1,526·0 |
| | KILGARVAN | % of Annual: | 12·4 | 8·5 | 7·9 | 5·7 | 6·2 | 4·9 | 6·4 | 6·4 | 8·5 | 9·5 | 11·2 | 12·4 | 100·0 |
| | | Amount (mm.): | 205·7 | 141·0 | 131·0 | 94·5 | 102·8 | 81·3 | 106·1 | 106·1 | 141·0 | 157·6 | 185·8 | 205·7 | 1,658·6 |
| | KENMARE (Sheen Falls) | % of Annual: | 11·9 | 8·3 | 7·8 | 5·7 | 6·2 | 5·2 | 6·5 | 6·4 | 8·8 | 9·7 | 11·2 | 12·3 | 100·0 |
| | | Amount (mm.): | 204·2 | 143·4 | 134·9 | 97·3 | 107·5 | 88·7 | 112·7 | 111·0 | 151·8 | 166·5 | 191·8 | 210·8 | 1,720·6 |
| | SNEEM | % of Annual: | 11·9 | 8·0 | 7·5 | 5·5 | 5·9 | 5·7 | 7·1 | 6·8 | 8·8 | 9·8 | 11·0 | 12·0 | 100·0 |
| | | Amount (mm.): | 221·8 | 149·1 | 139·8 | 102·5 | 110·0 | 106·3 | 132·3 | 126·8 | 164·0 | 182·7 | 205·0 | 223·7 | 1,864·0 |
| Zone 3 | LAURAGH | % of Annual: | 12·0 | 8·1 | 7·2 | 5·5 | 5·8 | 5·7 | 7·3 | 6·7 | 9·0 | 9·9 | 11·0 | 11·8 | 100·0 |
| | | Amount (mm.): | 244·6 | 165·1 | 146·7 | 112·1 | 118·2 | 116·2 | 148·8 | 136·5 | 183·4 | 201·8 | 224·2 | 240·4 | 2,038·0 |
| | CLOGHANE | % of Annual: | 10·8 | 7·4 | 6·6 | 5·4 | 5·4 | 5·9 | 8·6 | 7·8 | 8·8 | 10·3 | 10·9 | 12·1 | 100·0 |
| | | Amount (mm.): | 236·1 | 161·8 | 144·3 | 118·0 | 118·0 | 129·0 | 188·0 | 170·5 | 192·4 | 225·1 | 238·3 | 264·5 | 2,186·0 |
| | GAP OF DUNLOE | % of Annual: | 12·4 | 8·4 | 7·3 | 5·8 | 5·8 | 5·0 | 6·8 | 6·5 | 8·4 | 9·8 | 11·1 | 12·7 | 100·0 |
| | | Amount (mm.): | 287·1 | 195·0 | 169·2 | 143·2 | 133·5 | 116·1 | 157·1 | 151·5 | 195·1 | 226·5 | 257·5 | 295·3 | 2,318·1 |
| | GLENCAR (Cloone Lake) | % of Annual: | 12·1 | 8·3 | 7·5 | 5·7 | 5·7 | 5·3 | 6·8 | 6·4 | 8·6 | 9·8 | 11·2 | 12·6 | 100·0 |
| | | Amount (mm.): | 309·8 | 212·4 | 192·0 | 145·9 | 145·9 | 135·7 | 174·1 | 163·8 | 220·2 | 250·9 | 286·7 | 322·6 | 2,560·0 |
| | BALLAGHBEAMA GAP | % of Amount | 12·2 | 8·3 | 7·6 | 5·7 | 5·8 | 5·2 | 6·8 | 6·3 | 8·6 | 9·8 | 11·1 | 12·6 | 100·0 |
| | | Amount (mm.): | 393·4 | 267·7 | 245·1 | 183·8 | 187·1 | 167·7 | 219·3 | 203·2 | 277·4 | 316·0 | 358·0 | 406·3 | 3,225·0 |

The annual rainfall is distributed throughout the year in much the same way in all three zones although there is a tendency for a higher percentage of the annual total to fall during the summer months in drier areas than in the wetter parts of the county.

Table 2-1 gives the average rainfall amounts and percentages of annual totals for each of the twelve months at five rainfall stations in each of the three rainfall zones. It may be seen that December is generally the wettest month and that April, May and June are the three driest. The sharp rise between June and July in the monthly percentage of rainfall points to the advantage of early haymaking. This advantage is further illustrated in table 2-2 which gives the months May to September at Listowel, a dry spell being taken as one during which no more than 0-2mm. of rainfall occurs in any one day. The table shows that the probability of getting dry spells is considerably less in July and August than in May and June.

Evapotranspiration and Soil Moisture

During the winter half-year, October to March, rainfall in County Kerry is almost invariably greater than evapotranspiration and the soil is usually at or near field capacity. The average potential evapotranspiration (PE) over the six summer months, April to September, is about 350 millimetres in the county and normally this is more than balanced by the rainfall even in the drier areas. During exceptionally dry summers, however, PE exceeds rainfall at intervals during the growing season and deficits of soil moisture cause temporary checks in the growth of crops, particularly short-rooted crops growing on sandy soils near coasts. During the dry summer of 1968, for example, soil moisture deficits had reached an estimated 60 millimetres at Caherciveen by early August. Such conditions are exceptional and normally crops in the county are not adversely affected by lack of soil moisture. In fact, since rainfall in Kerry is normally greater than PE during the summer, ground conditions are usually favourable for the development of the snail *Limnaea truncatula,* the intermediate host of the liver fluke. For this reason, liver fluke disease is a serious problem in the



**TABLE 2·2. Frequency of occurrence of specified numbers of dry spells of specified duration at Listowel, 1951-70.**

| *Number of dry spells in month* | *May* | | | | *June* | | | | *July* | | | | *August* | | | | *September* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *2-day* | *3-day* | *4-day* | *5-day* | *2-day* | *3-day* | *4-day* | *5-day* | *2-day* | *3-day* | *4-day* | *5-day* | *2-day* | *3-day* | *4-day* | *5-day* | *2-day* | *3-day* | *4-day* | *5-day* |
| | *Frequency of occurrence (years in twenty)* | | | | | | | | | | | | | | | | | | | |
| One or more | 20 | 18 | 17 | 15 | 20 | 19 | 14 | 13 | 20 | 17 | 13 | 10 | 17 | 14 | 11 | 8 | 19 | 17 | 12 | 7 |
| Two or more | 20 | 17 | 16 | 12 | 20 | 15 | 12 | 11 | 16 | 16 | 9 | 5 | 15 | 13 | 8 | 4 | 18 | 12 | 7 | 7 |
| Three or more | 19 | 16 | 13 | 11 | 19 | 15 | 11 | 11 | 16 | 12 | 6 | 4 | 14 | 9 | 5 | 3 | 16 | 9 | 7 | 4 |
| Four or more | 19 | 16 | 11 | 11 | 15 | 12 | 11 | 8 | 16 | 7 | 4 | 2 | 11 | 7 | 3 | 2 | 14 | 8 | 6 | 4 |
| Five or more | 18 | 13 | 11 | 9 | 14 | 11 | 9 | 8 | 12 | 6 | 2 | 2 | 11 | 4 | 2 | 1 | 10 | 7 | 5 | 3 |
| Six or more | 16 | 10 | 9 | 9 | 14 | 9 | 8 | 7 | 11 | 4 | 2 | 2 | 11 | 4 | 1 | 1 | 7 | 6 | 3 | 2 |
| Seven or more | 15 | 10 | 9 | 8 | 12 | 9 | 7 | 5 | 8 | 3 | 2 | 2 | 6 | 2 | 1 | 1 | 7 | 4 | 2 | 0 |

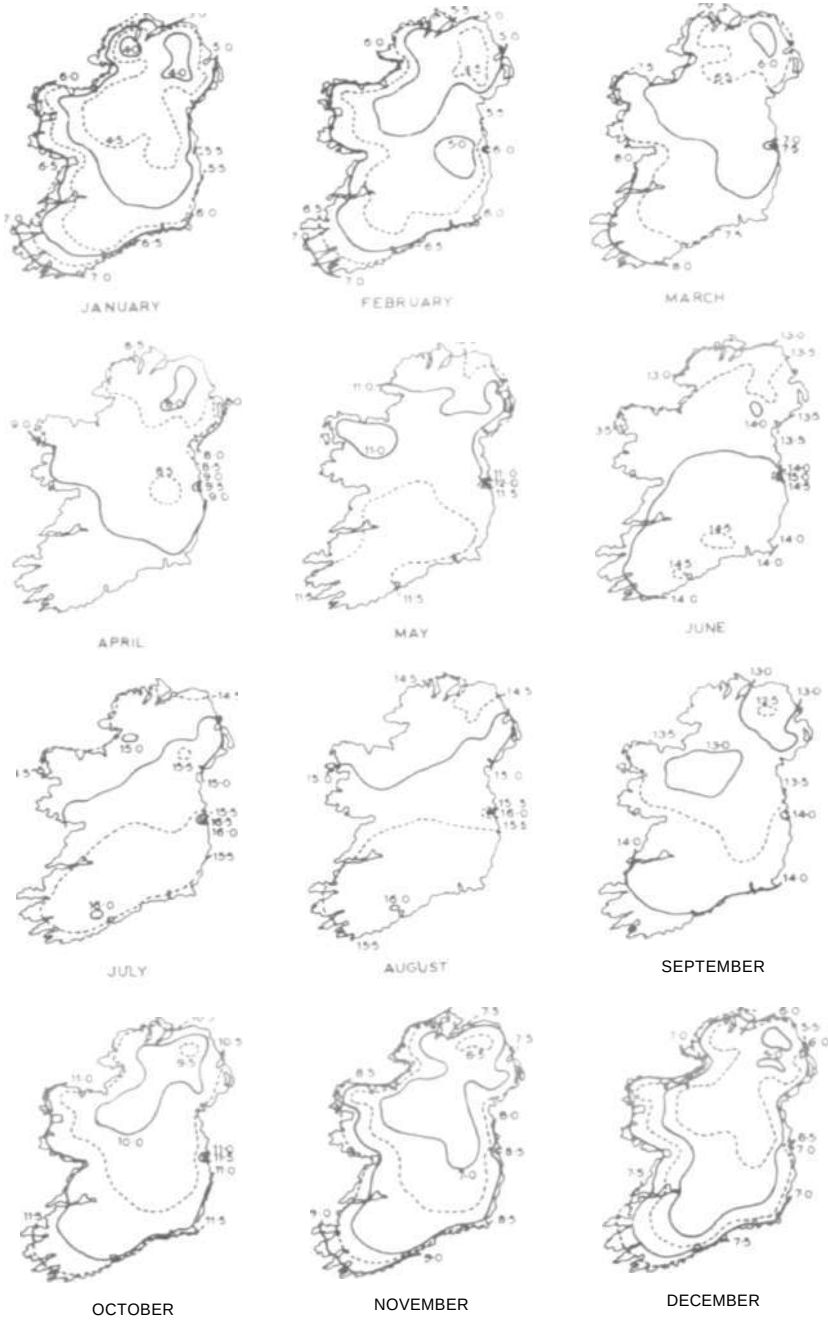



FIGURE 2-2. Mean air temperature (C) reduced to mean sea level, monthly averages, 1931-1960.

SOURCE: P. K. Rohan, *The Climate of North Munster* (Dublin: Irish Meteorological Service, 1968).

county in most years and stockowners are obliged to take precautions to safeguard sheep and young cattle against the disease.

**Temperature**

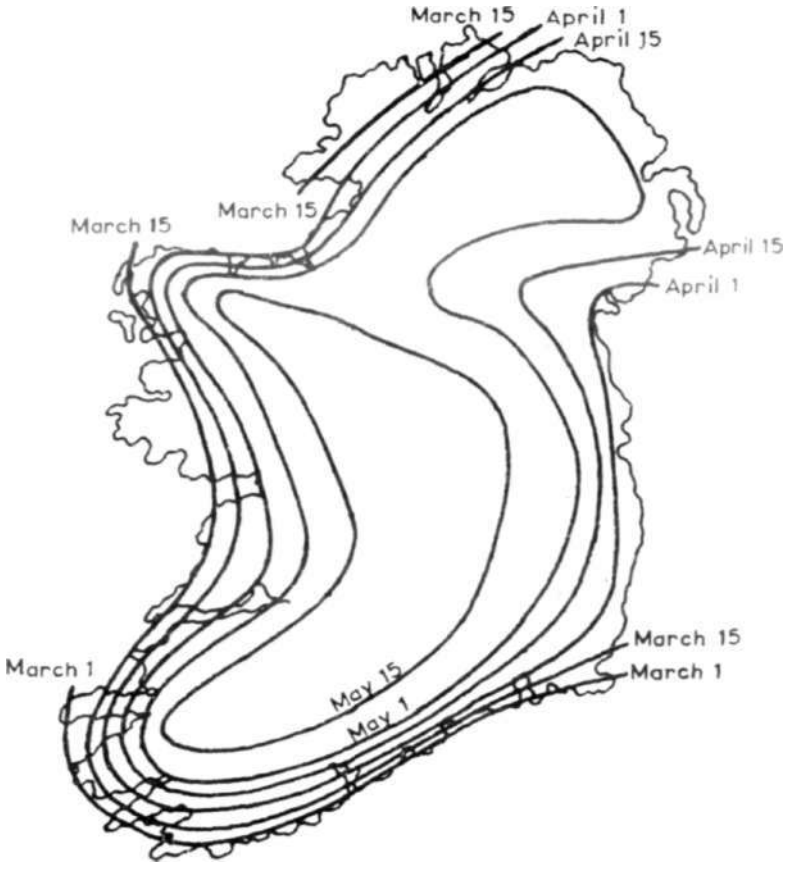
The maps (figure 2-2) show averages of mean air temperature over Ireland in each month of the year. These illustrate the favourable temperature climate of County Kerry particularly during the winter months—when mean air temperatures in south-western coastal areas are, on average, as much as 2-5 ° C higher than those in parts of the midlands. It should be noted that temperatures shown on the maps have been reduced to sea-level values; mean temperatures at higher levels decrease at the rate of 1 ° C per 500 feet.

*Air Frost*

From the point of view of agriculture and, more particularly, horticulture, one of the most important aspects of the climate of Kerry is the low frequency of late spring frosts in the county. The map (figure 2-3) shows the average date of the last spring air frost, defined as the latest date on which the air temperature drops to 0° C or below. The probabilities of air frost occurring after specified periods after the average date are shown in the table beside the map. The advantage enjoyed by coastal areas of Kerry in the matter of spring frosts may be seen from figure 2-3; air frost is unlikely to occur in these areas after March 1 in five years in ten while the risk of air frost after March 19 is only 20 per cent. This risk compares very favourably with that in most inland counties where the average date of the last air frost is May 1 and where there is a likelihood of air frost in one year in five after May 19. It must be stressed that the map and table in figure 2-3, based on temperature records from well-exposed sites, are only intended to give a broad comparison between the frost risk in different parts of the country and are subject to error where local physical features are likely to cause deviations from the general pattern of frost occurrence. For example, the risk of frost is greatest in deep sheltered valleys into which cold air tends to gravitate on 'radiation' nights of light winds and clear skies.

*The Growing Season*

Because of the favourable temperature climate in Kerry, growth continues there longer into the winter months and recommences there much earlier in spring than in most other parts of the country. This is particularly true of coastal districts in the south and west




| PROBABILITY OF FROST AFTER | |
|---|---|
| Mean Date | 50% |
| Mean date -f 5 da>s | 40% |
| Mean date -f 11 days | 30% |
| Mean date + 18 days | 20% |
| Mean date + 27 days | 10% |

FIGURE 2 3. Average date of last spring air frost, 1944-1968.

SOURCE: M. J. Connaughton, "Air Frosts in Late Spring and Early Summer" in *Agrometeorological Memorandum No. 2.* 05ublin: Irish Meteorological Service, 1969).

in some of which grass growth continues in most years with little interruption right through the year.

The critical soil temperatures for grass growth is usually taken as being 6° C at 10cm depth. Table 2-3 gives the average monthly mean soil temperature at Caherciveen—these values are probably representative of most coastal districts of Kerry. It may be seen that, even in the coldest month (January) mean soil temperatures at *10cm* drop only slightly below the 6° C level.

TABLE 2-3. Average monthly soil temperature at 10cm at Valentia Observatory, Caherciveen, 1954-1968.

| | MONTH | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Jan.* | *Feb.* | *Mar.* | *Apr.* | *May* | *June* | *July* | *Aug.* | *Sept.* | *Oct.* | *Nov.* | *Dec.* |
| Average Soil Temperature (°C) | 5-6 | 5-8 | 80 | 10-5 | 13-3 | 16-1 | 17-2 | 16-6 | 14-4 | 11-7 | 8-2 | 6-8 |

Table 2-4 provides a comparison between the length of the growing season at Caherciveen and at some other places in the country, the growing season being defined as the period during which the soil temperature at *10cm* is not lower than 6° C. The table shows that, of the places considered only Roche's Point on the south coast of Cork has a growing season comparable with that at Caherciveen either in earliness or length. In the midlands, at Birr and Mullingar, the growing season starts some twenty to thirty days later and lasts over two months shorter than at Caherciveen.

Soil temperatures and thus the length of the growing season are dependent on soil type and drainage. The data shown in tables 2-3 and 2-4 are based on temperatures recorded in well-drained, 'medium' soils and they are not applicable to areas where soil drainage is poor or where soils of extreme thermal characteristics, e.g., sand, peat or heavy clay, predominate.

Sunshine

The maps in figure 2-4 show the monthly averages of mean daily

TABLE 2-4. Average dates of start and end and average duration of growing season 1954-1968.

| | *Average Growing Season* | | |
|---|---|---|---|
| | *Start* | *End* | *Duration (days)* |
| VALENTIA OBSERVATORY, Caherciveen | February 17 | January 6 | 323 |
| ROCHES POINT. . . . . | February 18 | January 3 | 319 |
| ROSSLARE . . . . . | February 26 | December 16 | 293 |
| BELMULLET . . . . . | February 28 | December 18 | 293 |
| SHANNON AIRPORT | March 3 | December 10 | 282 |
| BIRR . . . . . | March 10 | November 22 | 257 |
| KILKENNY . . . . . | March 12 | November 23 | 256 |
| DUBLIN AIRPORT . . . . . | March 13 | November 24 | 256 |
| CLAREMORRIS . . . . . | March 15 | November 20 | 250 |
| **MULLINGAR** . . . . . | March 17 | November 17 | 245 |
| CLONES. . . . . | March 18 | November 17 | 244 |


**FIGURE 2-4. Mean daily duration of bright sunshine (hours), monthly averages, 1931-1960.**

SOURCE: P. Rohan, *The Climate of North Munster* (Dublin: Irish Meteorological Service, 1968).

duration of bright sunshine over Ireland while table 2-5 gives the average monthly values at Caherciveen. While the maps serve to provide a general picture of the distribution of bright sunshine over the country, it is clear that particularly in areas of varying topography, like Kerry, the sunshine climate is much more variable than the maps would indicate. Thus, while the duration of sunshine at Caherciveen is probably typical of most places along the Kerry coast south of Tralee Bay, it is very likely that it is less than that experienced in the drier areas of North Kerry, for which no sunshine records are available. On the other hand, it is probable that in hilly parts of the county sunshine is much reduced by the presence of cloud over the mountain ranges.

TABLE 2*5. Averages of mean daily duration of bright sunshine at Valentia Observatory, Caherciveen. 1931-1960.

| | MONTH | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Jan.* | *Feb.* | *Mar.* | *Apr.* | *May* | *June* | *July* | *Aug.* | *Sept.* | *Oct.* | *Nov.* | *Dec.* |
| Average daily duration of bright sunshine (hours) | 1-58 | 2-47 | 3-53 | 5-18 | 6-53 | 5-90 | 4-69 | 4-87 | 3-83 | 2-83 | 1-96 | 1-31 |

Wind

Due to its position on the western seaboard of Europe close to the most common track of depressions across the Atlantic Ocean, County Kerry experiences a greater frequency of fresh, moderate or strong winds than most other places in Ireland, with the exception of west Connaught and west Ulster. Since the wind at any particular place is greatly influenced by local topography, it is not feasible to give a comprehensive picture of the wind pattern throughout the county. However, the wind records at Valentia Observatory, Caherciveen, which are summarised in table 2-6 may be regarded as being fairly typical of most open coastal areas in the county; inland areas will, in general, experience lighter winds than those at Caherciveen while wind directions will be influenced to some degree by local topography.

**TABLE 2·6. Percentage frequencies of simultaneous occurrences of specified ranges of winds, speed and direction at Valentia Observatory, Caherciveen, 1961-1970.**

| *Direction* | *Speed (knots)* 1–3 | 4–6 | 7–10 | 11–16 | 17–21 | 22–27 | 28–33 | *Over* 33 | *All Speeds over one knot* |
|---|---|---|---|---|---|---|---|---|---|
| N | 0·4 | 0·9 | 2·1 | 2·1 | 0·8 | 0·3 | | | 6·6 |
| NNE | 1·0 | 0·9 | 1·4 | 1·2 | 0·4 | 0·2 | | | 5·1 |
| ENE | 2·1 | 1·7 | 1·7 | 1·3 | 0·3 | 0·1 | | | 7·2 |
| E | 0·6 | 0·9 | 2·3 | 1·7 | 0·6 | 0·3 | 0·1 | | 6·5 |
| ESE | 0·2 | 0·5 | 1·3 | 1·3 | 0·7 | 0·3 | 0·1 | | 4·4 |
| SSE | 0·3 | 0·7 | 2·2 | 2·5 | 1·2 | 0·5 | 0·1 | | 7·5 |
| S | 0·6 | 1·4 | 3·8 | 4·0 | 1·9 | 0·6 | 0·2 | 0·2 | 12·5 |
| SSW | 0·5 | 1·0 | 2·7 | 3·6 | 1·8 | 0·9 | 0·2 | | 10·7 |
| WSW | 0·3 | 0·6 | 2·0 | 2·5 | 1·3 | 0·6 | 0·2 | | 7·5 |
| W | 0·5 | 1·4 | 3·0 | 2·8 | 1·2 | 0·5 | 0·2 | | 9·6 |
| WNW | 0·5 | 0·9 | 2·5 | 2·4 | 1·0 | 0·4 | 0·1 | | 7·8 |
| NNW | 0·4 | 0·9 | 2·5 | 2·5 | 0·8 | 0·2 | | | 7·3 |
| All directions | 7·4 | 11·8 | 27·5 | 27·9 | 12·0 | 4·9 | 1·2 | 0·2 | 92·9 |


**FIGURE 2-5. Percentage frequencies of winds from different directions at Valentia Observatory, Caherciveen, 1961-1970.**

**SOURCE: P. Butler, and B. C. Farley, "A Study of Wind Conditions Over Ireland" (unpublished, Irish Meteorological Service, 1972).**

Table 2-6 is based on twenty-four observations of wind speed and direction per day during the ten years period 1961-1970, each observation relating to the mean wind during the ten minutes preceding each hour. The table shows the percentage frequency of winds of varying speeds from the different directions on a twelve-point compass. Percentages less than 0-1 are not included in the table but percentage frequencies of mean winds in excess of thirty-three knots have been grouped together in the appropriate column. Of the total number of observations considered (87,648) only six were of mean speed of over forty-one knots, the highest of these being fifty-eight knots on 16 September 1961, when Hurricane 'Debbie' moved northwards along the west coast of Ireland. A gust of eighty-eight knots, the highest gust recorded at Caherciveen since 1916 was experienced on that same day.

The wind-rose in figure 2-5 is a graphical representation of the percentage frequency of winds from the various directions at Valentia Observatory. The percentage frequencies are shown for each ten degrees of the compass, the distances from the centre of the circle being proportional to the percentage frequencies of winds; the shaded portion of the wind-rose correspond to winds of eleven knots or stronger while the unshaded portion corresponds to winds of one to ten knots. The figure shows the preponderance of winds from the sector south-southeast to west-northwest with a marked peak associated with southerly winds. This peak is probably due to the funnelling of winds into the valley lying north-south between Caherciveen and Waterville, and is an example of topographical effect on wind direction, as is also the relatively low frequency of winds from the west-southwest because of the sheltering effect of Valentia Island.

## Summary

The climate of County Kerry is mild with long growing seasons and relative freedom from frost, particularly near coasts where oceanic influences are most marked. Rainfall, cloudiness and sunshine are very variable over the county, topography being a major factor in their distribution. While average annual rainfall (over 3,000 millimetres) in some mountainous districts is the highest recorded in Ireland, some sheltered areas in North Kerry have an average annual rainfall of less than 1,000 millimetres. Coastal districts of Kerry are subject to strong winds; prevailing winds are from between south-southeast and west-northwest, but, both wind speed and direction are influenced by local topography.

CHAPTER THREE

# SOIL RESOURCES

THE potential of any soil for agricultural purposes depends on many factors, some within man's control, such as cultural techniques, new fertilizers and crop varieties, and marketing. However, this potential is strongly influenced by climatic, topographical, parent material and soil location factors.

The soil parent material determines soil heaviness and this factor in association with climate and topography influences drainage and soil workability. Man can in many cases bring about marked improvements through drainage and fertilization, but the degree of such improvements will be controlled by the permanent characteristics mentioned.

The soils we see today, developed over the past thousands of years from materials conditioned by events in the past geology. Some salient features of the geology which contribute to the complexity of County Kerry are outlined below.

## Solid and Glacial Geology

The solid geology mainly comprises rocks of the Palaeozoic with the exception of an extremely small exposure of Cretaceous rocks a few miles north of Killarney. The alignment of rocks within the county is controlled by the Armorican orogeny. This has given the east-west folding with the valleys and sea inlets as synclines and the peninsulas as anticlines.

The Saale Glaciation covered the lowlands of the Dingle Peninsula and also the entire north of Kerry as far south as the Maine Valley with till of carboniferous shale and sandstone origin. The limestone lowlands from Castleisland to Farranfore and Castlemaine are also mantled with Saale Age glacial drift comprised of Carboniferous shales and sandstones. The resulting topography in this region is gently rolling soliflucted slopes with occasional steep knobs of limestone.

The Weichsel or last glaciation is represented in north Kerry by a small area around Tarbert. In south Kerry it is represented by the Cork-Kerry Mountain Glaciation. This glaciation deposited thick drift in the Roughty valley and where it debouched on the

Killarney lowlands. From Glenbeigh to the Cork-Kerry border there are lines of recessional moraines. From Glenbeigh to a little east of Killarney the moraines are derived from the Old Red Sandstone of the hills. Further east the moraines contain a progressively high proportion of Coal Measure Shales and Sandstones.

### Classification and Use-Range of Soils in the County

In the reconnaissance soil survey[1] of the county the soils were mapped as associations. In table 3-1 a more broadscale breakdown is given.

**TABLE 3.1. Classification and extent (st. acres)* of land resources.**

| *Lowland Mineral* | *Mountain and Hill* | *Peat* |
|---|---|---|
| 594,000 (51) | 444,000 (38) | 125,000 (11) |

•Per cent in brackets.

The lowland mineral category corresponds generally with the land occurring below 500 ft. O.D. Although the mountain and hill category occurs mainly above 500 ft. O.D., it also includes pockets of land below this elevation.

### Lowland Mineral Soils

The soils of the lowland areas which are mainly derived from Carboniferous shale and sandstone drift are classified into two drainage categories (table 3-2). The acreage shown is based on the Reconnaissance Soil Survey of the county (the best information available) and therefore the figures should not be regarded as absolute. This would require more detailed survey work.

**TABLE 3-2. Classification of lowland mineral soils according to natural drainage** category.

| Drainage category | Well drained | Poorly drained |
|---|---|---|
| Extent (st. acres) | 232,000 | 362,000 |

Approximately 40 per cent of these soils are well drained and 60 per cent are impeded. This means that only 20 per cent of the total

[1] T. F. Finch, "Reconnaissance Soil Survey of Kerry" (unpublished work. An Foras Taluntais. 1957).

land area of the county is occupied by well drained mineral soils. By contrast, in Wexford and Carlow comparable soils occupy 62 per cent and 70 per cent of the counties respectively.

*Suitability of Lowland Mineral Soils*

The well-drained lowland mineral soils (232,000 acres) are physically suited to both tillage and grassland enterprises. However, because of associated climatic (annual rainfall = 1,500 mm) exposure or topographic limitations, the use-range of the soils is often restricted, e.g., in the south-western area of the Dingle Peninsula. This is reflected in the total area of tillage in the county which was only 36,000 acres (2-6 per cent of the county) in 1968. Factors such as competition from grassland enterprises, remoteness from markets, demographic and cultural, contribute to the low tillage acreage also. The main concentration of tillage is on the well-drained arable soils in the Lerrig-Abbeydorney-Ardfert area which has a mean annual rainfall of 1,250 mm. Approximately 20 per cent of the soils in this area are under tillage crops. Sugarbeet is one of the major crops in the area and over the 1966-68 period, the average sugar-beet yield of all growers in the Ardfert-Abbeydorney areas was 15-16 tons per acre.

The use-range of the poorly-drained lowland mineral soils (362,000 acres) is restricted to grassland enterprises (or forestry) because of soil wetness and physical limitations such as defective structure.

**Mountain and Hill Soils**

These soils occur throughout south Kerry and also extensively in the peninsular areas. They occur on Devonian Old Red Sandstone rock and colluvium with smaller areas on glacial drift. They consist mainly of highly degraded soils (peaty podzols), skeletal mineral soils and blanket peat. The more elevated areas consist mainly of outcropping rock. They occur under a high rainfall (1,750-3,500 mm mean annual rainfall) regime and are associated with steep topography.

The Dingle peninsula has a relatively high proportion of dry hills. The vegetation of these hills is Nardus/Agrostis/Festuca. In addition, many slopes have some Molinia.

Large areas of the south Kerry hills are occupied by soils which are shallow and organic or peaty. Their vegetation is largely Molinia-dominated but smaller areas have skeletal mineral soils which carry an Agrostis-type vegetation. Much of the less elevated

areas between the south Kerry hills consist of blanket peat and only a very small proportion is fenced or farmed.

*Suitability of Mountain and Hill Soils*

Because of their accessibility and the quality of their soils, much of the hill areas in the Dingle peninsula (especially the southern slopes) have good potential for hill sheep production. Many of the lower hill slopes are accessible and suitable for pasture improvement.

By comparison, large areas of the south Kerry mountains and hills, because of the nature of the soils, have a lower potential for hill sheep production. In this regard the mountain and hill areas generally have low soil cobalt levels and "pining" is a problem, especially in sheep.

**Peat**

Peat formations occupy approximately 11 per cent of the land surface area of Kerry. The larger tracts occur flanking a line from Ballyheigue Bay to Moyvane in North Kerry: the Stack's-Glana-ruddery mountains in Central Kerry and the Barna-Ballydesmond district of East Kerry. Large formations occur in South Kerry in places such as the Inny Valley, Portmagee and Kenmare districts. Lesser formations occur dispersed throughout South and West Kerry.

The Agricultural Institute carried out a survey of peat-lands in the county in 1970. This survey was undertaken in four sample areas which were selected as being representative of the range of geographical and geomorphological situations on which peat soils occur

Three peat types were identified in the county.

A. Fen peats. These occur along river valleys with or without a thin cover of river alluvium. They are widely scattered throughout the county; vary in depth from 45 cm (\\ ft.) to 2-00m (6£ ft.).

B. Deep Raised Bog Peats. Their occurrence in the county is limited to gently undulating topography of North and East Kerry. They have similar characteristics to the raised Mid-land bogs i.e., a surface layer which is extremely wet, very acid and its vegetation is usually dominated by Sphagnum moss. They vary in depth from 200m (6£ ft.) to 13 or more ft. (4-00m).

C. Blanket Peat (mountain and Atlantic type). The greater proportion of peats occurring in Kerry are of the blanket

type. Peat depth varies in relation to the degree of slope of the underlying soils. It varies from less than 30cm (1ft.) on slopes exceeding 25° to 3m (10ft.) on slopes of 2° to 3°.

*Use-range of Peatland*

Peatland in the county has traditionally been used for the production of domestic fuel and extensive livestock grazing. In more recent years the peat-lands at Carrick Cannon, Lyreacroumpane, Barna and Caherciveen have been used for commercial production of peat fuel for domestic and industrial purposes. A large proportion of the forestry planting programme has been carried out on virgin or cut-over peatlands. The use of peat for horticultural purposes in the county has been very limited to date. It appears to have potential for considerable exploitation in this sphere.

Variations in slope of the underlying mineral sub-stratum have influenced the type of peat formed and the occurrence of pine stumps and other wood debris in the basal peat layer(s).

*Agricultural Use of Peatland.* Traditionally people settled in areas of shallow peatland, used the peat for fuel and cultivated the cut-over soil for agricultural purposes. Consequently these reclaimed peatlands either in present use or in reverted form skirt the roads and surrounds of settlements in such areas. They also represent, within the context of peatland use, moderate to high stock carrying capacity. Further along and away from such roads, unreclaimed cut-over and virgin peatlands of diminishing stock-carrying capacity occur.

Present level of use of the peatland of the county for livestock production purposes is governed by the type of reclamation described and the characteristics acquired at the hands of its managers. The cut-over peats have a use-range approximating that of the wet lowland mineral soils; the virgin peats that of mountain and hill soils.

## Grazing Density of County Soils

Grazing density of pastureland is generally expressed in terms of the number of acres of such land required to feed a grazing Livestock Unit (L.U.)[2] for a full year. In practice this varies with soil fertility, fertilizer use and management among other factors. In the following pages a comparison is made between present use

* See Appendix B for further details.

Livestock unit is defined as the "average" lOi cwt. cow or its equivalent in other stock. (See E. A. Attwood and J. F. Heavey, Ir. J. Agric. Res. 3.1964, 249).

and capacity for grazing purposes, of the broad categories of soils identified in the county.

**Use and Potential of Soils for Grazing Livestock**

Grazing livestock numbers which are enumerated on a District Electoral Division basis were obtained from the agricultural returns of the Central Statistics Office. In 1970 there were 299,000 grazing L.U.'s in the county representing an average of approximately 25 L.U.'s per 100 acres of total land. However, there is considerable variation in stock density within the county depending on land quality. This is evident from table 3-3 which is based on 1965 Agricultural Statistics returns. There are considerably higher densities on the dry mineral soils than on the wet soils with very low densities on the mountain and hill land. Cows and heifers-in-calf comprise the major component of grazing livestock on the lowland mineral soils. On the wet soils within this land category sheep comprised less than 1 per cent of grazing livestock. In contrast, in the mountain and hill areas sheep comprised up to 65 per cent of the total.

It is difficult to give a representative estimate of livestock densities on the mountain and hill land because of the heterogeneity of these areas. For example, on the Dingle peninsula there are stock densities of 20 L.U. per 100 acres on some of the mountain and hill areas. This is probably due to the relatively high proportion of dry hills and the contribution of lowland grazing may be a factor. In contrast, on parts of the Iveragh and Beare Peninsulas and around the Macgillycuddy Reeks there are stock densities of 6-10 L.U. per 100 acres. The stock density of 8-15 L.U.'s per 100 acres (table 3-3) is considered to be the most representative stocking rate for the~mountain and hiiriand category.

*Grazing Capacity of Lowland Mineral Soils*

Estimates of the grazing capacity of these soils are based on animal production research findings. The extrapolation of target animal production levels from experimental sites at An Foras Taluntais research centres to the lowland mineral soils of Kerry is made possible through the publication of the generalized soil map of Ireland[3] and the reconnaissance soil survey of Kerry.[4] The grazing

* M. J. Gardiner and P. Ryan, Irish J. Agric. Res., 8., 1969, 95-109.

[4] Finch, op. cit.

TABLE 3-3. Grazing livestock density (L.U.'s per 100 acres)* according to land type (1965).

| *Land Type* | *Major Occurrence* | *Total grazing livestock density (L.U.'s per 100 acres)* | *Cows and Heifers in-calf (per cent total L.U.'s)* | *Other Cattle (per cent total L.U.'s)* | *Sheep (per cent total L.U.'s)* |
|---|---|---|---|---|---|
| Lowland mineral (dry) | Abbeydorney-Lerrig-Ardfert; Causeway-Ardagh-Ballyduff; Milltown; Ventry; Castleisland, Killarney and Killorglin (North) | 50-60 | 45-65 | 35-55 | <5 |
| Lowland mineral (wet) | Ballylongford-Listowel—Knock-nagoshel; Scartaglin-Rathmore | 35-45 | 65-75 | 25-35 | <1 |
| Mountain and hill | South Kerry; Iveragh; Dingle and Beare peninsulas | 8-15 | 20-40 | 20-55 | 20-65 |

*L.U's. per 100 acres = Livestock units per 100 feed acres.

capacity estimates presented in this study assume a good level of pasture management including an input of approximately 50 lbs. of nitrogen per acre with adequate phosphorus and potassium. With high levels of nitrogen use, the estimates would be higher. At least minimum drainage (opening of main drainage channels) is assumed for the poorly drained soils. The soil associations are categorised into three grazing capacity classes: (I) 90 or more, (II) 70-89 and (III) 50-69 L.U.'s per 100 acres (table 3-4).

TABLE 3 4. Distribution of grazing capacity classes on lowland mineral soils.

| | *Grazing capacity class (L. U. 's per* 100 *acres)* | | |
|---|---|---|---|
| | 90 *or more* | 70-89 | 50-69 |
| Extent (st. acres) | 150,000 | 114,000 | 330,000 |
| Percent total area | 13 | 10 | 28-5 |

The geographic distribution of these classes is shown on the accompanying grazing capacity map.[5] Soil associations with a grazing capacity of 90 L.U.'s per 100 acres are predominantly dry. The dry components of these areas have few limitations for grassland farming and can carry a L.U. per acre with moderate inputs. Current stocking (1965) is approximately 55 per cent of capacity in these areas. Areas with a grazing capacity of 50-70 L.U.'s per 100 acres are generally wet. The less impeded component has a grazing capacity of approximately 70 L.U.'s per 100 acres and the more poorly drained component has a grazing capacity of 50 L.U.'s per 100 acres. The acreage of dry soils in the 50-70 L.U.'s per 100 acres class is extremely small.

The remainder of the lowland area is classified as having a grazing capacity of 70-90 L.U.'s per 100 acres. It comprises associations of wet and dry soils ranging from 20-60 per cent wet. A sizeable portion of the area consists of wet and dry soils in the proportion 50:50. The dry component has a grazing capacity of approximately 1 L.U. per acre and the wet component has a capacity of 1 L.U.

[5] See grazing capacity map inside back cover.

per 2 acres. This gives an average grazing capacity of 75 L.U.'s per 100 acres.

*Grazing Capacity of Mountain and Hill Areas*

The most common stock densities (1965) in these areas varied from 8-15 L.U.'s per 100 acres (table 3-3) with the lower densities associated with the more mountainous areas. In the latter areas sheep comprised 55-65 per cent of the total L.U.'s (table 3-3) with cattle concentrated on the small areas of associated lowland or on the lower iill slopes.

In 1968 there were 189,000 sheep in Kerry. From table 3-3 it is valid to assume that these were confined mainly to the mountain and hill anas. This gives an average sheep density of 5 L.U.'s per 100 acres of this land. On the basis of lamb numbers presented for subsidy each year and allowing a weaned lamb rate of 60-70 per cent, O'Toole[6] estimates that there are approximately 110,000 breeding ewes in the mountain and hill areas. This is equivalent to 1 breeding ewe per 4 acres of mountain and hill. O'Toole further suggests that with limited pasture improvement and removal of surplus sheep, such as aged wethers, the hill sheep industry in Kerry could be expanded to twice the present stocking rate of breeding ewes.

*Grazing Capacity of Peatlands*

The potential of peatland for grazing can be correlated with the following Categories tabulated (table 3-5).

By improving existing drainage networks and fertilization, soils in Category 1 can be brought to a level where grazing potential is equivalent to the higher grades of poorly drained lowland mineral soils. Whereas the soils in Category 2 may have a potential similar to that of the lower grades of poorly drained lowland mineral soils.

However, within Categories 3 and 4, the feasibility of bringing the soils potential up to that for Category 1 depends on a number of factors. For Category 3, depth of peat, variation in cutting practices, and slope will influence reclamation for grazing purposes. For the future of Category 4 it is important to recognise that minimum requirements for land utilisation will necessitate a level cut-over, with a minimum depth of peat-over-burden of 40 cm. (16 in.).

Where these factors are recognised, the grazing potential could be

[6] **M. O'Too.e, An Foras Taluntais: Private communication.**

**TABLE 3-5- Classification of peatlands in Kerry.**

| *Category* | *Mapping Unit* | *Description* |
|---|---|---|
| | Reclaimed Cut-over Peatland<br>(a) in present usage;<br>(b) reverted to rush and scrub. | Depth generally less than 120 cm (4 ft.), moderate to strongly acid, variable conditions, well developed Al horizon. |
| | Intact Peatland<br>(a) undrained;<br>(b) partially drained. | Depth,generally over 120 cm. (4 feet), strongly acid and wet. |
| | Hand Cut-over Peatland<br>(a) poor potential for reclamation—uneven "bogholes" and face banks;<br>(b) good potential for reclamation—level. | Depth generally less than 120 cm. (4 ft.), strongly acid and variable water conditions. |
| | Machine Cut-over Peatland | Depth generally less than 60 cm. (2 ft.) moderately to strong acid variable water conditions, subsoil exposed in many places. |

**SOURCE : R. F. Hammond, "Peat Soils—County Kerry." (Unpublished work, An Foras Taluntais, 1970).**

equivalent to the higher grades of the poorly drained lowland mineral soils.

With a similar improvement possible for cattle on the lower land areas, resulting from improved pasture output and management, it is estimated that the grazing capacity of the mountain and hill land is 10-25 L.U.'s per 100 acres. The lower estimate applies to the more mountainous areas and the higher estimate applies to areas

with a good proportion of dry hill slopes, e.g., parts of Dingle Peninsula.

**Present Stock Numbers in Relation to Possible Numbers**

Table 3-6 is a summary of present and possible stock densities for the different land categories. The total grazing capacity of the county (excluding current tillage acreage) is estimated to be 460,000 **L.U.'s.**

**TABLE 3.6. Summary of current and potential livestock numbers.**

| *Grazing Capacity L.U. per* 100 *acres* | *Lowland mineral* | | | *Mountain and hill* |
|---|---|---|---|---|
| Current | 50-60 | | 35-45 | 8-15 |
| Potential | 90 | 70-89 | 50-69 | 10-25 |
| Extent (st. acres) | 150,000 | 114,000 | 330,000 | 444,000 |

It is difficult to predict when this level of stocking might be achieved. Study of grazing livestock numbers in the county over the 1960-1970 period shows that the number of L.U.'s increased from 269,000 to 299,000, i.e., an increase of 30,000 (10 per cent per annum). At this rate of increase, approximately 40 years would be required to achieve the estimated grazing capacity of the county. However, there are farms in the county, e.g., on the dry soils of the Abbeydorney-Ardfert area where stocking rates of approximately 1 L.U. per acre are being achieved at the present time.

Over the 1960-1970 period livestock intensification occurred mainly on the dry lowland soils with relatively small increases on the wet lowlands. Livestock numbers on the mountain and hill areas declined.

**Land Resource—Agricultural Development Relationships**

Because of the limiting soil and environmental factors in Co. Kerry, agricultural development must be based mainly on the intensification of livestock farming. It is unlikely that tillage farming

will increase substantially above the present level. The mean annual rainfall over most of the lowland areas in north Kerry is 1,250 mm. which is relatively low for the county. This includes the Abbeydorney-Ardfert area. Tillage is likely to remain confined to the well-drained soils in the latter area and to a lesser extent to the dry lowland soils between Killarney and Killorglin, an area which also has a relatively low rainfall. An annual rainfall of 1,500 to 1,750 mm together with exposure limitations will preclude tillage expansion in the fairly extensive area of dry soils on the south-western end of the Dingle peninsula.

Intensive grazing of livestock i.e., approximately a L.U. per acre is possible on over 230,000 acres. On another 362,000 acres, moderate intensity livestock production is possible. Because of soil wetness and structural limitations in this area, intensification above 1 L.U. per 1-4 acres is unlikely and in some cases a stocking rate above 1 L.U. per 2 acres may be impractical. There are 440,000 acres of mountain and hill land with a mean annual rainfall of 1,750-3,500 mm which is only suitable for low intensity (mainly sheep) livestock farming and grazing is impossible on some areas of this land because of topographic or rock outcrop limitations. The grazing potential of the 125,000 acres of peatland is variable. It may be considered to approximate to that of poorly-drained lowland mineral soils.

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CHAPTER FOUR

# LAND TENURE

BY definition, land tenure concerns the relationships established among men regarding the right to control and use land. This right varies from country to country and even between areas within countries.

In Ireland, the prevailing tenure system is based on an almost universal occupier-ownership of land. In some cases, however, short-term leasing on an 11-month or conacre basis is a relatively common practice. But this practice is, more often than not, confined to relatively small-scale farmers who need extra land in order to operate farms of viable proportions.

Tenure rights attach to specific land areas. These areas are usually fixed in size and, unlike other productive resources, are not easily changed. For this reason the tenure system is crucial to the growth and development of the economy. In broad terms its role is to expedite the use of land to satisfy human wants e.g., in the production of food, fibre and so on. In addition, the land tenure system is a source of security, particularly in old age. By and large too, land ownership is associated with prestige and status.

## Land Distribution and Rural Population Density

Land distribution in Kerry varies considerably between the various Rural Districts of the county; so also does the rural population density. A brief examination of both of these factors would form a useful background, therefore, to the more detailed discussion on land tenure.

### Land Distribution

The total area of the county is 1,189,786* acres. Of this, some 28,080 acres are occupied by large rivers and lakes and 6,100 acres by urban areas; the remaining 1,155,606 acres, or what, in the narrowest sense, may be called the "rural area" of the county, embraces mountains, hills, rough grazing, woodlands, crop and

[1] P. J. Malone and T. C. Linehan, *County Provisional Plan* (Tralee: Kerry County Council, November 1966), p. 6.

pasture lands, small rivers and lakes. Crop and pasture lands, however, account for less than half of the total rural area (table 4-1).

**TABLE 4*1. Distribution of crop and pasture land, by Rural District, Co. Kerry.**

| *Rural District* | *Total area (acres)* | *Crop and pasture land (acres)* | *Crop and pasture land as % of total area* |
|---|---|---|---|
| COL. 1 | *2* | 3 | 4 |
| Kenmare | 198,416 | 31,526 | 15-9 |
| Caherciveen | 198,101 | 49,138 | 24-8 |
| Dingle | 126,454 | 50,514 | 39-9 |
| Killarney | 248,543 | 126,682 | 50-9 |
| Tralee | 220,194 | 141,779 | 64-4 |
| Listowel | 163,898 | 136,636 | 83-4 |
| All Rural Districts | 1,155,606 | 536,275 | 46-4 |

SOURCE: Col. *2—Census of Population of Ireland,* 1966, Vol. 1, p. 59.
Col. 3—*Agricultural Statistics,* 1970, p. 9.

Within the various Rural Districts, the proportion of the total rural area occupied by crop and pasture land varies from 15-9 per cent in Kenmare to 83-4 per cent in Listowel. These figures give a relatively good indication of the farming potential of each Rural District.

**Rural Population Density**

The population density expressed in terms of total land area per person, varies considerably among Rural Districts. Total land per person is highest in Kenmare and lowest in Listowel (table 4.2). This land/person index is misleading, however, since it does not allow for the productive potential of the soils in each case. A similar index, expressed in terms of total crop and pasture land

per person shows a fairly consistent rural population density among the six Rural Districts.

**TABLE 4-2. Rural population density by Rural District, Co. Kerry, 1971.**

| *District* | *population* 1971 | *Rural population density* *Total land per person {acres)* | *Crop and pasture land per person {acres)* |
|---|---|---|---|
| **COL. 1** | 2 | 3 | 4 |
| Kenmare | 6,333 | 31-3 | 5 0 |
| Caherciveen | 10,064 | 19-7 | 4-9 |
| Dingle | 8,830 | 14-3 | 5-7 |
| Killarney | 21,879 | 11-3 | 5-8 |
| Tralee | 23,045 | 9-4 | 6-2 |
| Listowel | 20,129 | 8 1 | 6-8 |
| All Rural Districts | 90,280 | 12*8 | 5-9 |

**SOURCE: Col. *2—Census of Population of Ireland,* 1971, vol. 1, P. 18.**

Land distribution and population density, however, give no more than a cursory view of one aspect of agrarian structure throughout the county. A more detailed examination of the existing land tenure factors is necessary in order to complete the picture.

## Land Tenure Factors

Defects in land tenure are important factors which inhibit agricultural development in underdeveloped countries and regions. Primarily, because of historical factors these defects have been a feature of Irish farming for centuries. Despite much valuable work.

formerly by the Congested Districts Board, and recently by the Irish Land Commission, rural congestion is still a relatively acute problem throughout the greater part of the Western Region. To a large extent it accounts for the main land tenure defects which are still prevalent there. Farming is still the dominant activity of the greater proportion of the working population in all counties in the Region. As a result, farm incomes are relatively low.

In the remainder of this chapter the main land tenure factors are examined under a number of headings. These are (a) farm size, (b) fragmentation, (c) use of communal grazing rights, (d) short-term leasing of land, and (e) registration of farm titles.[2]

In passing, the activities of the Irish Land Commission in the general area of land settlement during the decade 1960 to 1970 are briefly reviewed.

According to the Western Farm Survey (1967) the typical farm in Kerry contains approximately 38 acres of land. Nearly two-thirds of all farms extend to no more than 50 acres. Farm sizes are generally smaller in West Kerry than in any other part of the county (table 4-3).

Fragmentation

Almost one-third of the farms in Kerry are fragmented in that they contain two or more non-contiguous parcels of land (table 4-4).

Fragmentation increases farming costs and the difficulties of operating and managing enterprises such as dairying, especially on the smaller farms. In Kerry, dairying is the most popular of all farm enterprises.

The costs and difficulties multiply as the number of separated parcels and the distances between them increase. Most fragmented farms in Kerry are in two parts. The distance between the farm homestead and the parcel with the next greatest productive potential is over half a mile on some 40 per cent of farms, while on nearly 20 per cent it exceeds one mile (table 4-5).

Fragmentation appears to be more widespread in West Kerry than in any other part of the county (table 4-6).

[2] Information on these tenure factors which appears in tables 4-3 to 4-11 inclusive, was obtained by means of the Western Farm Survey 1967. Because of the small size of sample in certain cases it is not possible to continue the examination of tenure factors on the basis of Rural Districts. Instead the county is divided into five survey regions—south, west, north, east and central. This regionalisation is still sufficient to show the varying impact of tenure factors in different parts of the county. The location of the five regions is shown in figure 4-1.


**FIGURE 4.1. Western Farm Survey (1967) regions in Kerry, and population of the principal urban areas, 1971.**

**TABLE 4-3. Percentage distribution of farms according to** size, **by survey region.**

| *Survey region* | *Farm size group {acres)* 5-30 | 31-50 | 51-75 | 76-100 | *Over* 100 | *Total* |
|---|---|---|---|---|---|---|
| South | 29-7 | 30-6 | 12-8 | 9-6 | 17-3 | 1000 |
| West | 44-4 | 30-3 | 16-2 | 30 | 61 | 1000 |
| North | 460 | 19-5 | 13-8 | 6-9 | 13-8 | 100-0 |
| East | 26-4 | 32-6 | 21-3 | 9-6 | 101 | 100-0 |
| Central | 43-4 | 22-9 | 18-9 | 8-0 | 6-8 | 1000 |
| County Kerry | 35-9 | 28-0 | 16-8 | 80 | 11-3 | 1000 |

**TABLE 4-4. Percentage distribution of farms according to separate parcels of land, by size of farm.**

| *Farm size group {acres)* | *Number of parcels of land per farm* 1 | | | | 5 *or more* | *Total* |
|---|---|---|---|---|---|---|
| 5-30 | 61-2 | 26-5 | 5-6 | 30 | 3-7 | 100-0 |
| 31-50 | 68-4 | 19-8 | 71 | 3-3 | 1-4 | 100-0 |
| Over 50 | 74-9 | 18-9 | 3-5 | 2-4 | 0-3 | 1000 |
| All farms | 68-3 | 21-8 | 5-2 | 2-9 | 1-8 | 1000 |

TABLE 4 5. Percentage distribution of fragmented farms according to distance apart of the two main parcels, by size of farm.

| *Distance apart of two main parcels* | *Farm size group (acres)* | | | | *Total* |
|---|---|---|---|---|---|
| | 5-30 | 31-50 | 51-100 | *Over* 100 | |
| Under \ mile | 28-8 | 16*9 | 12-4 | 20 | 601 |
| \ to 1 mile | 8-6 | 4-9 | 4-9 | 2-9 | 21-3 |
| 1 to 2 miles | 2-5 | 2-5 | 1-2 | 21 | 8-3 |
| 2 to 3 miles | 2-9 | 2-5 | 0-8 | 1-2 | 7-4 |
| Over 3 miles | Nil | 0-8 | 0-8 | 1-3 | 2-9 |
| All farms | 42-8 | 27-6 | 201 | 9-5 | 1000 |

TABLE 4-6. Percentage distribution of farms according to number of separate parcels of land, by survey region.

| | *Number of parcels of land per farm* | | | | | *Total* |
|---|---|---|---|---|---|---|
| *region* | 1 | *2* | 3 | 4 | 5 *or more* | |
| South | 71-2 | 210 | 5-5 | 1-8 | 0-5 | 1000 |
| West | 46-5 | 27-3 | 7-1 | 111 | 80 | 1000 |
| North | 74-7 | 161 | 4-6 | 2-3 | 2-3 | 100-0 |
| East | 75-8 | 16-3 | 6-7 | 0-6 | 0-6 | 100-0 |
| Central | 66-3 | 28-6 | 2-8 | 2-3 | Nil | 1000 |
| County Kerry | 68-3 | 21-8 | 5-2 | 2-9 | 1-8 | 1000 |

**Communal Grazing Rights**

Some 23 per cent of farmers in Kerry have communal grazing rights on mountain, hill or lowland commonages. The majority of the latter are located in South and West Kerry (table 4-7).

**TABLE 4-7. Percentage distribution of farmers with commonages according to survey region.**

| *Survey region* | | | | | *Total* |
|---|---|---|---|---|---|
| *South* | *West* | *North* | *East* | *Central* | |
| **41-3** | **320** | **4-6** | 9-9 | **12-2** | **1000** |

Most commonages comprise areas of rugged terrain along mountain sides and among the foothills. The land involved has probably least potential for development in the agricultural sense. Still, it often provides a useful modicum of grazing, particularly for sheep. Yet, even in South Kerry, where land resources are most scarce over one-third of farmers with grazing rights neglect to make any use of them (table 4-8).

**TABLE 4-8. Percentage distribution of farmers with commonages according to degree of use of grazing rights, by survey region.**

| *Survey region* | *Degree of use of grazing rights* | | | *Total* |
|---|---|---|---|---|
| | *Full* | *Part* | *None* | |
| South" | 35-2 | 28-2~~ | 36-6 | 100-0 |
| West | 52-8 | 23-6 | 23-6 | 1000 |
| North | 12-5 | 62-5 | 25-0 | 100-0 |
| East | 23-5 | 35-3 | 41-2 | 100-0 |
| Central | 4-7 | 28-6 | 66-7 | 1000 |
| Co. Kerry | 34-9 | 291 | 360 | 1000~ |

It was probably inevitable that as the average age of the farm work force increased there would be a decline in the numbers using commonages. On the other hand it is known that some farmers stock far more than their share of the communal grazing.

Worthwhile farm development may sometimes follow subdivision of a commonage. However, any such scheme requires careful budgeting and should include properly phased farm development plans for all who are to participate. Otherwise development costs may be incurred which outweigh the benefits gained.

## Short-Term Leasing of Land

Some 10-3 per cent of farms in Kerry are let on the conacre or 11-months system. On the other hand 8-6 per cent of the farmers rent land. Most of those who let land let their entire farm; most of the farms involved in either renting or letting are no more than 30 acres and most of the areas rented are relatively small (tables 4-9 and **4-10).**

**TABLE 4-9. Percentage distribution of farms, wholly or partly let, by size of farm.**

| *Farm size group {acres)* | *Wholly let* | *Partly let* | *Total* |
|---|---|---|---|
| 5-30 | 49-4 | 101 | 59-5 |
| 31-50 | 17-7 | **7-6** | 25-3 |
| Over 50 | 7-6 | 7-6 | 15-2 |
| All farms | .74-7 | 25-3 | 100-0 |

**TABLE 4 10. Percentage distribution of fanners renting land, according to farm size, by area rented.**

| | *Farm size group {acres)* | | | | |
|---|---|---|---|---|---|
| *{acres)* | 5-30 | 31-50 | 51-75 | *Over* 75 | ***Tntnl*** |
| 10 or less | 38-5 | 9-2 | 9-2 | 7-7 | 64-6 |
| 11-20 | 9-2 | 4-6 | 1-6 | Nil | 15-4 |
| Over 20 | 4-6 | 31 | 4-6 | 7-7 | 200 |
| All farms | 52-3 | 16-9 | 15-4 | 15-4 | 1000 |

Since farms are often let continuously year after year, lessors take little trouble to preserve or develop fertility. Lessees, on the other hand, have interests which are essentially short-term. In these circumstances much of the land involved deteriorates over time.

Furthermore, as most of the lessees probably farm on a small scale, it is likely that very often the rents constitute a relatively large addition to their fixed costs. Thus, in many cases, it may well be that the outlay on rent might be better spent in the development of land which they own.

## Registration of Farm Titles

A minority of farms in all regions of Kerry have unregistered titles. This situation varies little among the five regions but there are a higher proportion of registered titles in the South than elsewhere (table 4-11).

**TABLE** 4-11. **Percentage distribution of farmers according to title** status, by survey **region.**

| *Survey region* | *Status of farm title* | | | *Total* |
|---|---|---|---|---|
| | *Registered* | *Not registered* | *Part registered* | |
| South | 86-3 | 13-2 | 0-5 | 1000 |
| West | 77-8 | 19-2 | 3-0 | 100-0 |
| North | 78-1 | 20-7 | 1-2 | 100-0 |
| East | 82-0 | 16-3 | 1-7 | 100-0 |
| Central | 74-3 | 24-0 | 1-7 | 100-0 |
| Co. Kerry | 80-5 | 18-1 | 1-4 | 1000 |

Defective farm titles often impede capital formation especially where long-term loans are required. Since the farmers concerned may be in doubt as to their future control over farm resources, it is likely too that their incentive to farm development is undermined.

### Land Settlement Activities

The work of land settlement in County Kerry consists mainly of the resale of untenanted land and the rearrangement of inter-mixed holdings. It is proceeding satisfactorily. The extent of the work already done may be gauged from the results of operations during the 10-year period ended March 31, 1970.

During this period a total area of 15,700 acres was acquired for re-allocation; and some 12,900 acres were distributed amongst 660 allottees. The latter area included the re-arrangement of 143 fragmented holdings and the provision of 7 holdings for migrants (table 4-12). In addition, 56 migrants were transferred from the county to newly-created farms in non-congested areas. The total expenditure on estate improvement during this period was £171,962.

Final statistics for the year ended 31st March, 1971 are not yet available, but it is expected that the aggregate allotment figure for the year will be in the region of 1,800 acres.

At present proceedings are in progress for compulsory acquisition or voluntary purchase of some 65 properties aggregating 3,950 acres.

### Summary

Land tenure concerns the relationships established among men regarding the right to control and use land. In Ireland the pre-

**TABLE 412. Details of land settlement activities, Co. Kerry, during the period 1960/61 to 1969/70.**

| | | *Land allotment* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Enlargements* | | *Migrants* | | | *Rearrangements* | | *Others* | | *Total* | | |
| | | | | *Within county* | | *from county* | | | | | | | |
| *Year* | *Land* | | | | | | | | | | | | *Improvements expenditure* |
| | *Acres* | *Number* | *Acres* | *Number* | *Acres* | *Number* | *Number* | *Acres* | *Number* | *Acres* | *Number* | *Acres* | £ |
| 1960/61 | 876 | 35 | 326 | Nil | Nil | 7 | 19 | 411 | **7** | 48 | 61 | 785 | 25,679 |
| 1961/62 | 547 | 17 | 232 | Nil | Nil | 3 | 18 | 305 | 16 | 22 | 51 | 559 | 18,188 |
| 1962/63 | 1,327 | 35 | 323 | Nil | Nil | 6 | 10 | 280 | 22 | 450 | 67 | 1,053 | 21,227 |
| 1963/64 | 2,692 | 24 | 1,403 | Nil | Nil | 8 | 2 | 62 | 22 | 533 | 48 | 1,998 | 16,100 |
| 1964/65 | 2,023 | 11 | 203 | Nil | Nil | 9 | 3 | 24 | **5** | 133 | 19 | 360 | 12,557 |
| 1965/66 | 1,760 | 67 | 853 | 1 | 57 | 8 | 8 | 842 | 20 | 200 | 96 | 1,952 | 12,980 |
| 1966/67 | 1,557 | 49 | 901 | 1 | 50 | 3 | 20 | 730 | 12 | 27 | 82 | 1,708 | 14,086 |
| 1967/68 | 1,337 | 29 | 624 | 2 | 130 | 3 | 27 | 569 | **6** | 16 | 64 | 1,339 | 14,519 |
| 1968/69 | 2,691 | 70 | 931 | 1 | 107 | 6 | 26 | 752 | **18** | 202 | 115 | 1,992 | 11,732 |
| 1969/70 | 859 | 41 | 736 | 2 | 118 | **3** | 10 | 290 | **4** | 9 | 57 | 1,153 | 24,894 |
| Totals | 15,669 | 378 | 6,532 | 7 | 462 | 56 | 143 | 4,265 | 132 | 1,640 | 660 | 12,899 | 171,962 |

SOURCE: The Irish Land Commission, private communication (September 1971)

vailing tenure system is based on an almost universal occupier-ownership of land.

Of the total rural area in Kerry, less than half is accounted for by crop and pasture land. Among the Rural Districts this proportion varies from 15-9 per cent in Kenmare to 83-4 per cent in Listowel. Rural population density expressed in terms of total land area per person, varies considerably among the Rural Districts also. However, there is hardly any variation in the index of crop and pasture land per person between one part of the county andanother.

Defects in land tenure often inhibit agricultural development in undeveloped countries and regions. Such defects have been a feature of Irish farming for centuries. Rural congestion in Western counties accounts for the main defects which still prevail.

Nearly two-thirds of all farms in the county are no more than 50 acres in area; almost one-third of all farms are fragmented. The majority of fragmented farms are in two parts. This problem appears to be more widespread in West Kerry than elsewhere.

Some 23 per cent of farmers have communal grazing rights on mountain, hill or lowland commonages, but little more than one-third of these exercise their rights in full.

Roughly 10 per cent of farms are let on the conacre or 11-months system, while about 9 per cent of farmers rent additional land. Most of the farms involved in either letting or renting are no more than 30 acres in area; most of the rented areas are relatively small.

Approximately 18 per cent of farmers do not have registered titles to their farms. This situation often impedes capital formation, especially where long-term loans are required. Since the farmers concerned may be in doubt about their future control of farm resources, it is likely too that their incentive to farm development is undermined.

**Land Settlement**

Land settlement in Kerry is proceeding satisfactorily. During the 10-year period, ending on March 31, 1970 a total of 15,700 acres was acquired for reallocation; during the same period 12,900 acres were distributed among 660 allottees. In addition, 56 migrants were transferred from the county to newly created farms in non-congested areas. The total expenditure on estate improvements during this period was £171,962.

ACKNOWLEDGEMENTS: The author wishes to acknowledge help received from Patrick J. Higgins, Agricultural Inspector, and Seamus O'Donnell. Executive officer, in preparation of this article.

CHAPTER FIVE

# THE FARM POPULATION

THE most important resource in the agricultural development of the county is the farm population. It is they who decide the extent to which the potential of our soils will be achieved and to what extent agriculture will develop in the future. The age of the farmer has a marked influence on his willingness or ability to carry out new techniques. The farmer who has no successor, who may inherit his farm, has no incentive to develop his holding. On the other hand the ability of any farmer to develop his resources may be influenced by his basic formal education and subsequent agricultural education.

The voluntary organisations into which the farm population organise themselves, help agricultural development. Information and development techniques are passed on through private and group discussions. These organisations also encourage members to get involved in group activities, resulting in lower costs, higher prices and improved living standards.

## DEMOGRAPHIC FACTORS

This article examines in depth the composition of the farm population and its components with particular reference to age structure. Data is used from the Census of Population 1951, 1961 and 1966 and from the Western Farm Survey 1967. This should help to identify the trends in demographic structure and provide information on the components of farm population which have experienced the most rapid decline. This demographic analysis is a necessary prerequisite to successful planning for agricultural development. Furthermore, because of the basic interdependence of agriculture and other sectors in economic growth it is a vital component of general economic planning also.

### Age and Sex Composition

One of the chief characteristics of the farm population in Kerry is the high proportion of young and old persons and the corresponding low proportion in the productive age groups. A comparison of

male and female farm population shows that males outnumber females in all except the over 75 age group (table **5-1).**

**TABLE 51. Percentage distribution of farm population, by** sex **and age.**

| *Age group (years)* | *Male* | *Female* | *Total* |
|---|---|---|---|
| 14 or less | 14-3 | 13-5 | 27-8 |
| 15 to 19 | 4-6 | 3-8 | 8.4 |
| 20 to 44 | 14-2 | 8.7 | 22.9 |
| 45 to 64 | 140 | 11-2 | 25-2 |
| 65 to 74 | 5-9 | 4-4 | 10.3 |
| Over 75 | 2-7 | 2-7 | 5-4 |
| Total | 55-7 | 44-3 | 100-0 |

SOURCE: Western Farm Survey.

This is particularly noticeable in the age groups between 20 and 44 years. Over the years selective migration has, to a large extent drained surplus youth from rural areas and has resulted in a declining and ageing farm population. In 1967 the number of dependents per 100 people in the working age groups was 77.

This ageing of the farm population appears to be an on-going phenomenon. Between 1951 and 1966 the proportion of the farm labour force of 45 years or more increased from 42 per cent to almost 57 per cent (table 5-2).

This situation is due to the fact that people rarely leave farming once they are fully committed to it, even when alternative employment opportunities are available to them. Furthermore, young people are reluctant to enter farming when income prospects are poor.

TABLE 5-2. Percentage engaged in agricultural occupations according to age, 1951, 1961 and 1966.

| *Year* | *Number engaged in agricultural occupations* | *Age group (years)* | | | | | | | *Total* |
|---|---|---|---|---|---|---|---|---|---|
| | | 14-19 | 20-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65 *and over* | |
| 1951 | 31,263 | 11-2 | 9-8 | 180 | 19-1 | 14-8 | 13-2 | 13-9 | 100-0 |
| 1961 | 23,797 | 10-1 | 6-6 | 13-4 | 17-7 | 21-5 | 16-3 | 14-4 | 100.0 |
| 1966 | 21,027 | 8-5 | 6-7 | 11-9 | 16-1 | 22-7 | 19-2 | 14-9 | 1000 |

SOURCE ***Census of Population of Ireland,* 1951, Vol. V., Part 2, P.P.**
***Census of Population of Ireland,* 1961; Vol. V., P.P. 67 and 104**
***Census of Population of Ireland,* 1966, Vol. V., P.P. 72 and 109.**

Age Structure of Farmers

Between 1951 and 1966 total farmers in Kerry declined progressively from 14,088 to 12,333 (table 5-3). This decline occurred mainly among those of 44 years of age or less as well as among

TABLE 5-3. Percentage distribution of farmers according to age 1951, 1961 and 1966.

| *Year* | *Total farmers* | *Age group (years)* | | | | *Total* |
|---|---|---|---|---|---|---|
| | | 24 *or less* | 25-44 | 45-64 | 65 *and over* | |
| 1951 | 14,088 | 0-5 | 26-6 | 45-7 | 27-2 | 1000 |
| 1961 | 12,936 | 0-6 | 25-4 | 51 1 | 22-9 | 1000 |
| 1966 | 12,333 | 1-2 | 24-6 | 52-2 | 220 | 1000 |

**SOURCE: AS for table 5-2.**

those of 65 years and over. The latter decline may be attributed to natural causes; the former however, was no doubt due to off-farm migration allied to a reduction in the number of young people entering farming.

Among the various regions, there is scarcely any variation in the age structure of farmers.*

**Age of Farmer and Size of Farm**

The majority of elderly farmers have relatively small farms. Some 36-3 per cent of all farmers are over 50 years of age and operate farms of 50 acres or less. On the other hand, only 15-9 per cent are 50 years of age or less and operate farms over 50 acres (table 5-4).

**TABLE 5-4. Percentage distribution of farmers according to age, by farm size.**

| *Farm size group {acres)* | *Age groups {years)* | | | | | | *All farmers* |
|---|---|---|---|---|---|---|---|
| | *Up to* 30 | 31-40 | 41-50 | 51-60 | 61-70 | *Over* 70 | |
| 5- 30 | 1-7 | 4-9 | 80 | 91 | 7-8 | 4-4 | 35-9 |
| 31- 50 | 1-7 | 4-4 | 6-9 | 81 | 4-7 | 2-2 | 28-0 |
| 51- 75 | 1-5 | 2-6 | 3-6 | 4-2 | 3-7 | 1-2 | 16-8 |
| 76-100 | 0-5 | 1-4 | 1-6 | 2-6 | 1-5 | 0-4 | 8-0 |
| Over 100 | 0-4 | 2-1 | 2-2 | 4-0 | 1-7 | 0-9 | 11-3 |
| *Allfarmers* | 5-8 | 15-4 | 22-3 | 280 | 19-4 | 91 | 1000 |

SOURCE: Western Farm Survey.

**Marital Status**

Some 68 per cent of farmers are married or widowed. The proportion of married farmers increased significantly with increasing

[1] See Appendix C, table 1.

age of farmer. However, there appears to be no consistent relationship between marital status of farmers and farm size (table 5-5).

**TABLE 5*5. Percentage of total fanners in each age group who are married, by size of farm.**

| *Farm size group - {acres)* | *Age group {years)* | | | | | | |
|---|---|---|---|---|---|---|---|
| | 30 *or or less* | 31-40 | 41-50 | 51-60 | 61-70 | *Over* 70 | *All farmers* |
| 5- 30 | 46-1 | 54-0 | 67-2 | 76-8 | 76-3 | 63-6 | 68-4 |
| 31- 50 | 76-9 | 63-6 | 67-3 | 70-5 | 77-8 | 88-2 | 67-5 |
| 51-100 | 33-3 | 54-8 | 74-3 | 84-6 | 76-9 | 91-6 | 73-2 |
| Over 100 | — | 37-5 | 52-9 | 86-6 | 84-6 | 85-7 | 68-7 |
| All farms | 27-3 | 54-7 | 67-4 | 78-3 | 77-5 | 76-8 | 68.0 |

SOURCE: Western Farm Survey.

**Farm Succession**

Some 23 per cent of farmers are over 50 years of age and have no prospective heirs. These are either unmarried farmers or childless married couples. A further 12 per cent have no families of their own. In the circumstances, it is somewhat unlikely that their farms will be maintained as independent viable units by the next farming generation. In the case of a further 6 per cent of farmers, all of whom are married, the entire families apart from farm parents have emigrated and are unlikely to return to active farming (table 5-6). This suggests that some 41 per cent of farms operated by farmers over 50 years of age will no longer function as independent units once the current ownership expires.

TABLE 5-6. Percentage distribution of fanners over 50 years of age, according to fanning status, by successor status.

| *Successor status* | *Farming status* | | | |
|---|---|---|---|---|
| | *Full-time* | *Part-time* | *Let or Derelict* | *All Farmers* |
| (a) Definitely no heirs | 19-9 | 18-1 | 53-3 | 23-0 |
| (b) Heirs doubtful | 11-6 | 6-9 | 22-2 | 120 |
| (c) Heirs emigrated and unlikely to return to active farming | 4-4 | 11-1 | 8-9 | 6-0 |
| (d) Farmers without prospective heirs (a+b+c) | 35-9 | 36-1 | 84-4 | 410 |
| (e) Farmers with heirs | 64-1 | 63-9 | 15-6 | 59-0 |
| Total d+e | 100-0 | 1000 | 1000 | 1000 |

SOURCE: Western Farm Survey.

This situation varies little between full-time and part-time farmers. However, some 84-4 per cent of farmers who are over 50 years of age and whose farms are let or derelict, are without prospective heirs.

The absence of prospective heirs is most pronounced on farms between 5 and 30 acres in all regions except East Kerry.[2]

Farm Children

The aggregate ratio of male to female resident farm children[3] in Kerry is approximately 5 to 4. The sexes are fairly evenly distributed up to the age of 18 years. Thereafter, males outnumber females by roughly 3 to 1 (table 5.7). This imbalance appears to be completely independent of farm size (table 5.8). Clearly, the earlier migration of females is due to the fact that there are very few work roles for young unmarried girls in rural areas in the absence of

[2] See Appendix C, table 2.

[3] Children normally resident on the farm include those who may be attending boarding schools and universities as well as those in the older age groups who may be employed off the farm but still reside with their parents.

adequate industrial and service employment. The resultant difficulties experienced by males in finding suitable marriage partners undoubtedly will undermine the long-term viability of the farm population.

**TABLE 5-7. Percentage distribution of resident farm children by sex and age.**

| *Age group (years)* | *Male* | *Female* | *Total* |
|---|---|---|---|
| 5 or less | 10-4 | 11-3 | 21-7 |
| 6-10 | 12-3 | 11.5 | 23-8 |
| 11-14 | 10-2 | 8-2 | 18-4 |
| 15-18 | 8-2 | 7-7 | 15-9 |
| 19-30 | 11-6 | 4-2 | 15-8 |
| Over 30 | 3-3 | 11 | 4-4 |
| Total | 560 | 440 | 1000 |

SOURCE: Western Farm Survey.

**TABLE 5-8. See opposite page.**

The average number of resident children per farm generally increased with increasing size of farm (table 5.9). This may reflect a higher marriage rate or a lower rate of migration from larger farms.

**TABLE 5-9. Average number of resident children, both sexes per family, by farm size.**

| *Farm size group (acres)* | *Male* | *Female* | *Total* |
|---|---|---|---|
| 5 - 1 5 | 1-40 | 105 | 2-45 |
| 1 6 - 3 0 | 1-43 | 1-34 | 2-77 |
| 3 1 - 5 0 | 1-44 | 1-26 | 2-70 |
| 51 - 75 | 1-62 | 119 | 2-81 |
| 76 - 100 | 2-25 | 1-45 | 3-70 |
| Over 100 | 1-89 | 1-27 | 316 |
| All farms | 1-59 | 1-25 | 2-84 |

SOURCE: Western Farm Survey.

**TABLE 5-8. Percentage distribution of male and female resident farm children, within each age group, by size of farm.**

| *Farm size group (acres)* | *Age {%roup (years)* | | | | | | | | *All age groups* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10 or *less* | | 11 - 14 | | 15 - **18** | | *Over* **18** | | | |
| | *M* | *F* | *M* | *F* | *M* | *F* | *M* | *F* | *M* | *F* |
| 5 - 3 0 | 16-8 | 16-4 | 171 | 17-1 | 16-3 | **15-8** | 17-5 | **6-8** | **16-9** | **14-5** |
| 31 - 50 | 12-5 | 15-7 | 13-7 | 11-5 | **14-9** | **9-9** | 17-5 | **7-6** | 141 | 12-4 |
| 51 - 75 | 7-7 | 7-2 | **8-5** | **5-6** | **7-9** | 10-9 | 17-1 | **61** | **9-8** | **7-2** |
| 76 - 100 | 6-7 | 4-9 | **9-4** | **3-9** | 50 | 50 | **7-2** | **3-8** | 70 | **4-5** |
| Over 100 | 6-3 | 5-8 | **6-4** | **6-8** | **7-4** | **6-9** | **14-1** | **2-3** | **81** | 5-5 |
| **All** farms | 500 | 500 | 55-1 | 44-9 | 51-5 | **48-5** | 73-4 | 26-6 | 55-9 | **441** |

SOURCE: Western Farm Survey.

On aggregate, the percentage of farm families with three or more children generally increases with increasing farm size (table 5-10). However, this trend is not apparent at regional level.

**TABLE 5 10. Percentage of total farm families in each farm size group where number of resident children per family is three or more, by survey region.**

| | *Farm size group (acres)* | | | | | | |
|---|---|---|---|---|---|---|---|
| *region* | 5-15 | 16-30 | 31-50 | 51-75 | 76-100 | *Over* 100 | *All fanm* |
| South | 500 | 500 | 40-5 | 77-8 | 63-6 | 28-6 | 48-7 |
| West | 50-0 | 62-5 | 38-5 | 38-5 | 1000 | 75-0 | 500 |
| North | 38-5 | 15-4 | 22-2 | 62-5 | 66-6 | 500 | 390 |
| East | 55-5 | 22-2 | 48-5 | 47-6 | 55-5 | 69-2 | 47-6 |
| Central | 42-1 | 44-1 | 42-8 | 38-9 | 63-6 | 1000 | 48-5 |
| County Kerry | 461 | 39-8 | 41-3 | 52-6 | 651 | 54-5 | 47-3 |

SOURCE: Western Farm Survey.

**Farm Relatives**

The greatest decline in agricultural employment between 1951 and 1966 occurred among farm relatives. During this period their numbers declined from 12,475 to 5,835. Furthermore, as a group they also tended to become more elderly (table 511).

**TABLE 5-11. Percentage distribution of farm relatives according to age, 1951, 1961 and 1966.**

| *Year* | *Total farm relatives* | *Age group (years)* | | | | | | | *Total* |
|---|---|---|---|---|---|---|---|---|---|
| | | 14-19 | 20-24 | 25-34 | 35-44 | 45_54 | 55-64 | 65 *and Over* | |
| 1951 | 12,475 | 22-4 | 18-8 | 30-5 | 16-5 | 60 | 3-5 | 2-3 | 100-0 |
| 1961 | 7,621 | 24-3 | 161 | 250 | 14-8 | 10-4 | 5-7 | 3-7 | 1OO-0 |
| 1966 | 5,835 | 24-4 | 181 | 21-1 | 12-9 | 10-4 | 7-9 | 5-2 | 100-0 |

SOURCE: AS for table 5-2.

Agricultural Labourers

The number of agricultural labourers also declined substantially during the 1951-66 period. As a group they also tended to become more elderly (table 5-12). Obviously less young people are entering the agricultural labour force nowadays. Furthermore, because of lack of alternative employment, those who do so are committed to remain in farming.

TABLE 512. Percentage distribution of agricultural labourers according to age, **1951, 1961 and 1966.**

| *Year* | *Total agricultural labourers* | *Age* 14-19 | 20-24 | 25-34 | 35-44 | 45-54 | 55-64 | *65 and Over* | *Total* |
|---|---|---|---|---|---|---|---|---|---|
| 1951 | 4,005 | 15-8 | 14-3 | 20-2 | 20-9 | 13-2 | 10-3 | 5-3 | 100-0 |
| 1961 | 2,841 | 17-6 | 8-9 | 14-0 | 18-7 | 22 5 | 12-8 | 5-5 | 100-0 |
| 1966 | 2,407 | 12-5 | 8-3 | 12-1 | 160 | 25-5 | 20-7 | 4-9 | 100-0 |

SOURCE: AS for table 5.2.

Implications for Farm Development

The ageing of farmers as a group has important implications for farm development. Elderly farmers are usually not change conscious. They are unable or unwilling to adopt new techniques, to engage the services of agricultural advisers or develop co-operative activities. Thus, in situations where elderly farmers predominate, the development of agriculture is seriously inhibited.

It is clear too that the decline in the total farm population which has taken place between 1951 and 1966 has added to the basic structural problems of agriculture in Kerry. Because of the dominant position of agriculture in the county, this decline has been more or less synonymous with total rural decline. This situation is typical of all Western counties. In more normal circumstances the loss of active farm labour can be compensated for by the realignment of production resources and the introduction of labour saving techniques at farm level. This realignment would then lead to an expansion in farm output. But an elderly farming community is not equipped, physically or otherwise, to introduce changes of the magnitude required to achieve this objective. As a result, only a minority of farmers can contribute to progressive farm improvement and, in turn, to general agricultural development. The adverse

demographic situation which prevails in Kerry and in the West of Ireland as a whole is indicative of the major problem which must be solved if agriculture is to fulfil its important role in general economic development.

## Summary

The outmigration of young people from rural areas, particularly those in the age groups between 20 and 44 years, has resulted in a declining and ageing farm population in Kerry. Between 1951 and 1966 the proportion of the farm labour force of 45 years or more increased from 42 per cent to almost 57 per cent. During the same period total farmers declined from 14,088 to 12,333. Among the various regions of the county there is scarcely any variation in the age structure of farmers.

Some 36-3 per cent of all farmers are over 50 years of age and operate farms of 50 acres or less; only 15-9 per cent are 50 years of age or less and operate farms over 50 acres; 68 per cent of farmers are married or widowed. Furthermore, because of the absence of prospective heirs it is likely that 41 per cent of farms operated by farmers over 50 years of age will no longer function as independent units once the current ownership expires. This situation is most pronounced on farms between 5 and 30 acres in all regions except East Kerry.

The aggregate ratio of male to female resident farm children is approximately 5 to 4. In the age groups over 18 years, however, males outnumber females by roughly 3 to 1 on all farms irrespective of size. Clearly this state of affairs undoubtedly will undermine the long-term viability of the farm population.

The average number of resident children per farm generally increased with increasing size of farm. This may reflect a higher marriage rate or a lower rate of migration from larger farms.

The greatest decline in agricultural employment between 1951 and 1966 occurred among farm relatives. During the same period the number of agricultural labourers also declined substantially. As a group they also tended to become more elderly.

Obviously in situations where elderly farmers and farm workers predominate the development of agriculture is seriously inhibited. In addition, the decline in the total farm population has accentuated the basic structural problems of agriculture in Kerry. This decline has been more or less synonymous with total rural decline. The loss of active labour has not been compensated for by the realignment of productive resources nor by the introduction of labour

saving techniques at farm level. As a result, only a minority of farmers can now contribute to progressive farm improvement and in turn, to general economic development. The adverse demographic situation which prevails in Kerry and elsewhere in the West of Ireland is indicative of the major problem which must be solved if agriculture is to fulfil its important role in general economic development.

ACKNOWLEDGEMENTS: The author wishes to acknowledge help received from Patrick J. Higgins, Agricultural Inspector, and Seamus O'Donnell, Executive officer, in preparation of this article.

## EDUCATION

Over 90 per cent of farmers in Kerry terminated their education at the primary level (table 5-13). This percentage increases with increasing age of farmer from 74-2 per cent for farmers of 30 years or less to 95-7 per cent for those over 70 years.

**TABLE 513. Percentage distribution of full-time farmers, by age and terminal education.**

| *Age Group (years)* | *Level of terminal education* | | | | *Total* |
|---|---|---|---|---|---|
| | *Primary* | *Vocational* | *Secondary* | *University* | |
| 30 or less | 74-2 | 9-7 | 161 | Nil | 1000 |
| 3 1 - 4 0 | 87-5 | 3-8 | 8-7 | Nil | 1000 |
| 41 - 50 | 91-4 | 4-3 | 4-3 | Nil | 1000 |
| 5 1 - 6 0 | 91-2 | 0-7 | 8 1 | Nil | 1000 |
| 61 - 70 | 95-8 | Nil | 4-2 | Nil | 100-0 |
| Over 70 | 95-7 | Nil | 4-3 | Nil | 1000 |
| All ages | 911 | 2-2 | 6-7 | Nil | 1000 |

SOURCE: Western Farm Survey.

No farmer over 60 years of age in 1967, attended a vocational school. This situation needs to be understood in the light of the availability and suitability of the vocational education programme available to members of this age group. Prior to 1930 vocational schools were operated only in the towns of Tralee, Listowel and Killarney, and the educational programme operated in them was not geared to the requirements of farmers. It is noteworthy that the attendance at vocational and secondary schools becomes increasingly higher among the younger farmers.

This position outlined is completely unsatisfactory in view of the ever growing need for farmers to be well educated and trained in up-to-date skills of production and management. Education and particularly agricultural education is a very important factor in creating change in farming. There is ample evidence to show that farmers' rate of adoption[4] of new practices is related to the level of education.

TABLE 5.14. Education in relation to practice adoption score.

| *Education* | *Per cent of farmers with a* | | |
|---|---|---|---|
| | *low adoption score* | *medium adoption score* | *high adoption score* |
| No Post Primary No Agricultural | 53 | 27 | 20 |
| Primary and Agricultural | 31 | 28 | 41 |
| Post Primary and Agricultural | 17 | 22 | 61 |
| Post Primary only | 35 | 22 | 43 |

SOURCE : P. Keenan, "Evaluating Advisory Work in Ireland," *Journal of the European Society of Rural Sociology.* V (March, 1965), 225.

The number of high adopters from among farmers without post-primary or agricultural education who have high adoption scores, is only 1 in 5, while it is more than 2 in 5 for farmers with post primary education only, and 3 in 5 for farmers with both post primary and agricultural education. These findings confirm the need for educational opportunities for those remaining in farming, provided in such a form that it can be availed of by all farmers, both large and small.

[4] Adoption means putting proven practices such as dehorning of calves, stalls for sows, self-feed silage, combined vaccine for sheep, into operation.

In a study on the Adoption of farm practices in Ireland, Bohlen and Breathnach[5] (Foras Taluntais), found that mass media sources (farm magazines, newspapers, radio and television) were widely used by farmers as sources from which they become aware of new ideas and get general information on new practices. When further information on the merits of new practices was required, farmers looked to local farmers or relatives, the Advisory Service,[6] local non-farming sources, newspapers, radio and television in that order, to supply it.

The Advisory Service outranked all other sources combined, in being named as the most knowledgeable and most trustworthy source of information. It was named by almost 50% of the respondents as the most readily available source of information.

## County Advisory Programme

The County Advisory Programme is a series of educational events, which is organised and co-ordinated by members of the County Advisory Service for the benefit of the farming community. Its purpose is to help farmers to meet the needs of their present farm life situation, and plan to meet those needs which are likely to arise in the forseeable future. Certain changes are recognisable in the type of programme operated over the years.

In the earlier decades of the present century, up to and including the fifties, little change was evident. The number of advisers in the county was much fewer than in succeeding decades. It grew from four in 1910 to eight in 1940 and eighteen in 1960. They were concerned mainly with attending to demands for technical advice on specific problems in crop and livestock production at farm level. The advisory method most commonly used was the farm visit. Winter Farm Schools and classes, geared to the requirements of the general farming community, were regularly organised at centres in the county which were selected on a rotational basis. A considerable portion of the adviser's time was taken up with conducting, demonstrating and reporting the results of field trials and experiments of a technical nature.

[5] J. M. Bohlen and T. Breathnach, "'Irish Farmers' Uses of Information Sources," *Irish Journal of Agricultural Economics and Rural Sociology,* Vol. 3, No. 1, 1970, 18-25.

[1] Advisory Service. The Agricultural (including Horticultural, Poultry and Farm Home Management) Advisory service operated under the dual control of County Committees of Agriculture and the Department of Agriculture and Fisheries.

In the early sixties the emphasis centred more on total farm development. The number of advisers in the county increased. The farm visit continued, to an ever greater extent, to be the main advisory method used. The adviser's time was mainly spent giving advice on farm management and development at farm level. The organised educational aspect of advisers work centred mainly on young people taking up farming as a livelihood, and day-time winter farm schools were introduced to cater for their needs.

The late sixties saw the introduction of, and increased emphasis on, the one-year advisory programme. The central idea in these programmes was to broaden the focus of development from particular farms to take in problem areas of a local or general nature, and where feasible, to involve the farm people themselves in the process. Each adviser drew up an advisory programme for his area based on his knowledge of farm development problems. Aspects of these programmes were frequently based on knowledge obtained by area survey or in consultation with farmers and housewives in the area. They occasionally concerned problems not directly connected with farm development. The CAO co-ordinated these programmes and from them he developed a plan for the County Advisory Programme which was operated each year in the County.

The introduction of the Small Farm Incentive Bonus (IB) Scheme on 1 May 1968 made new demands on the Advisory Service in the county. It's incorporation into the Advisory Programme reduced the amount of time available for alternative advisory activities. This was offset to a certain extent by an increase in advisory staff to 34 in 1970. In spite of these changes the farm visit continued to be the main advisory method used and advisers made an average of 500 farm visits per annum over the last three years of the decade.

This brief overview helps to give a picture of the changes of focus, direction and other aspects of advisory activity in the county over the years, with consequences for the type of advisory programme operated. Participation in the programme has always been voluntary on the part of the farming public, hence the range of advisory methods used to broaden its scope in this direction.

Irrespective of method used the object continues to be the same. It is the understanding, acceptance and application by farmers of approved knowledge, practice and skills which can be of benefit to them in their own lives. The underlying assumption and guiding principle of all advisory effort is, that people who have the ability to do so, will make changes which can be effectively shown to have

desirable consequences for their present and future well-being.

While the main focus of the advisory programme over the years has been the development of viable family farms in the county, advisers have also concerned themselves with other aspects of education of the farm population. Some of these are mentioned in the following pages.

**Education of Young Farmers**

A survey carried out by the Advisory Service in 1965 showed that there are approximately 200 young people entering farming each year. Of the formal types of agricultural education available, the one-year courses at residential agricultural colleges, and the two-year winter farm school courses appear to give the most suitable basic agricultural training for young men who are to become future farmers.

*Residential Agricultural Colleges*

In the ten-year period '60/61 to '70/71 a total of 296 students from the County attended the one-year course at residential agricultural colleges throughout the Country. A survey in 1970 showed that only 52 of those students are now farming in the County, five of whom do so on a part-time basis. The majority are employed in the agricultural services.

*Winter Farm Schools*

The winter farm schools are operated by the Committee of Agriculture, usually on two days a week from November to February. Students attending these schools follow a two-year course of instruction in the theory and practice of farming in the classroom and laboratory. In addition outdoor practical work sessions and demonstrations are arranged on developing farms. The adviser-teachers maintain close contact with the students on their home farms. Enrolment at winter farm schools operated by the Committee of Agriculture (1964-'71) are given in table 5-15.

It is obvious from these enrolment figures that many of the young people going into farming are not availing of agricultural education. Even in 1970/'71 when there were seven winter agricultural schools in operation, only 37 per cent of eligible students enrolled. Will many of our future farmers be slow to adopt new ideas and practices as a result?

TABLE 5-15—inrolment for winter farm schools operated by the County Committee of Agriculture 1964-1971 at different centres.

| *Year* | *Abbey-dorney* | *Dingle* | *Listowel* | *Killarney* | *Castle-island* | *Caher-civeen* | *Rathmon* |
|---|---|---|---|---|---|---|---|
| 63/64 | 20 | | | | | | |
| 64/65 | 15 | 38 | | | | | |
| 65/66 | 18 | 25 | | | | | |
| 66/67 | 11 | 17 | 22 | | | | |
| 67/68 | 19 | 18 | 25 | | | | |
| 68/69 | 14 | 11 | 26 | 30 | 30 | | |
| 69/70 | 25 | *Abandoned* | 20 | 17 | 21 | | |
| 70/71 | 15 | 15 | 25 | 18 | 30 | 14 | 20 |
| 71/72 | 21 | 8 | 14 | 12 | 22 | *One year course* | 14 |

SOURCE : Kerry County Committee of Agriculture, Winter Farm School Class Register.

*Educational Scholarships*

There are 15 scholarships for boys and 5 scholarships for girls, who wish o pursue courses at agricultural colleges and rural domestic eonomy schools, offered each year by the Kerry Committee of Agriculture. The Department of Agriculture offers university scholarships in General Agriculture, Horticulture and Dairy Science each year on the results of a competition. Further details of post primary agricultural education can be obtained in the booklet *Specially for the Farmer,* which is available free from the Departnent of Agriculture.

*Other Educctional Opportunities*

The raisirg of the Primary school leaving age to 15 years and the introducion of free post primary education, have been welcome introductions in the education of youth. All children are afforded

an opportunity of receiving post primary education at either vocational or secondary schools. The emphasis in recent years on Rural Science and Biology in post primary education and the short courses on machinery at present in operation by Tralee Vocational Education Committee are a very important aspect of the education of those who will remain on farms.

In the early sixties some of the winter farm schools were carried out in technical schools throughout the county by the Committee of Agriculture in co-operation with the Vocational Education Committee (table 5·16). In addition the informal educational programmes carried out by voluntary rural organisations played a very important role in the education of young farmers.

**TABLE 5·16. Enrolment at winter farm schools held in co-operation with the County Kerry Vocational Education Committee.**

| *Year* | *Killarney* | *Caherciveen* | *Rathmore* | *Waterville* | *Kenmare* | *Castleisland* | *Listowel* | *Killorglin* |
|---|---|---|---|---|---|---|---|---|
| 1959/'60 | | | | | | | 27 | 24 |
| | | | | | | | 21 | 13 |
| 1960/'61 | | | | | | | | |
| 1962/'63 | | | 21 | | | | | |
| 1963/'64 | 27 | 26 | 19 | | | 21 | | |
| 1964/'65 | 19 | 16 | | | | 21 | | |
| 1965/'66 | | | | 22 | 8 | | | |
| 1966/'67 | | | | 18 | 8 | | | |

SOURCE: Kerry County Committee of Agriculture, Winter Farm School Class Register, and Mr. S. McDyer, C.E.O.

## Telefis Feirme

In the winters of 1965/'66/'67 Radio Telefis Eireann (RTE) transmitted their Telefis Feirme Programmes that were devised to educate the viewers on various matters pertaining to agriculture. To increase the absorbtion of the information transmitted on the TV screen, the RTE authorities felt that the subject matter should be discussed by groups immediately after screening and the discussion leaders were sent a hand-out on the contents of the programme in advance. The Department of Agriculture and Fisheries paid the TV licence for all groups that were set up to their satisfaction. There was a big number of such groups in the County with which the adviser in the area kept in close touch.

## Education of Farm Women

Practically all farms in the County are family farms, so the role of the farmer's wife is particularly important. She is at the centre of the home and family life and she is often very influential in deciding how the farm is run.

The importance of the wife's role in family farm life has been appreciated for a long time and acknowledged in a very definite way by the introduction of the Farm Home Management (F.H.M.) Advisory Service in 1963. The function of the FHM adviser—to put it in the broadest simple terms—is to look at the problems of farm life through the eyes of the farmer's wife, and try by eductional means, to introduce any changes that would make life on the farm more pleasant and attractive.

The Farm Home Management Advisory Service was introduced in Kerry in 1965 with the appointment of one adviser on the staff of the Kerry County Committee of Agriculture. Two further appointments had been made by 1972.

The FHM advisers visit farm homes on request and advise farm housewives on the following: money management, better buying, keeping of household accounts, the installation of running water, labour saving arrangement in the kitchen, better planning and furniture arrangements, colour scheming, floors and floor coverings.

They provide information and guidance on laundry work, heating, hygiene and safety in the home. Needlework and craft-making are also dealt with.

They teach the principles of nutrition, meal preparation, the importance of balanced diets; the use of home produced foods,

particularly vegetables and fruits; the deep freezing and preservation of vegetables, fruit and meat.

General and specialised courses have been provided for farm women in the County in each year since 1965 as shown in table 5-17.

**TABLE 517. Summary of classes given by FHM advisers 1966-1971.**

| *Year* | *No. of Classes (days)* | *Average duration of class* | *Total enrolment* | *Average attendance* |
|---|---|---|---|---|
| 1965/'66 | 92 | 2 hours | 82 | 21 |
| 1966/'67 | 98 | 2 hours | 187 | 25 |
| 1967/'68 | 61 | 2 hours | 115 | 16 |
| 1968/'69 | 30 | 2 hours | 61 | 16 |
| 1969/'70 | 88 | 2 hours | 274 | 18 |
| 1970/71 | 117 | 2 hours | 327 | 19 |

SOURCE : Kerry County Committee of Agriculture. Farm Home Management School Class Register.

**Summary**

Over ninety per cent of farmers terminated their education at the primary level. However, the attendance at vocational and secondary schools becomes increasingly higher among younger farmers. A high level of education is of great importance to farmers, as there is ample evidence to show that farmers' rate of adoption of new practices is related to their level of education.

The mass media are widely used by farmers as sources where they become aware of new ideas. The advisory service outranks

all other sources combined, as being the most knowledgeable and most trustworthy source of information.

The County Advisory Programme is operated by the Agricultural Advisory Service. The central aim of the Programme has changed over the years from meeting the requirements of farmers for advice on specific problems at farm level, to that of development of whole farms and solving problems of a local or general nature.

There are approximately 200 young people entering farming each year. Attendance at a one-year course at a residential agricultural college or two-year course at winter farm school is very desirable for these people. However, in the sixties only 2 per cent of young farmers attended residential agricultural colleges and in 1970/71 only 37 per cent of eligible students attended winter farm schools.

In the winters of 1965/'66/'67 Radio Telefis Eireann transmitted their Telefis Feirme programmes. They were designed for education of rural youth by way of group viewing followed by discussion.

The education of farm women is catered for by the Farm Home Management Advisory Service. The adviser visits homes on request. She gives classes and lectures on such items as labour saving arrangements in the kitchen, colour schemes, money management, floor coverings, meal preparation and use of home produced foods. Her function is to introduce changes which will make life on the farm more pleasant and attractive.

ACKNOWLEDGEMENTS. The authors wish to acknowledge the help received from the principals of state and state-aided agricultural colleges who supplied requested data. Mr. McDyer, C.E.O., supplied information on Vocational education in the county and the farm home management advisers supplied details of their educational programmes.

## VOLUNTARY ORGANISATIONS

The people of Kerry constitute the most important single resource in the county. The voluntary groups into which they organise themselves constitute an important aspect of the life of our people. It is appreciated that the various organisations have an important role to play in the life of Kerry people. For that reason the secretaries of major rural organisations were asked to give us a brief

report on the state of their organisations. The following are the reports given:

Irish C ountrywomens Association (ICA)

Date of founding of Organisation: 1910.

Date of founding in the County: 1943.

Growth in intervening years: Steady growth; two new guilds shortly.

Present position: Thirty-five Guilds.

Membership: Approximately 900.

The Association is 61 years a-growing, and our founders were amongst the first to see the need for *better living.* We are now starting a new decade. The future is a challenge. We in the ICA recognise that the future of Ireland depends largely on the quantity and quality of its education—education, not only to understand and appreciate the past, but also to *meet the challenges of the future. To be good citizens—to feel that we are making the full contribution of which we are capable.* In the years ahead, we have an exciting range of choice thrust upon us and so we must be trained and educated to choose wisely *to retain all that is truly good and worth-while in our Irish heritage,* and to add to what is new and valuable and of real benefit to us. There is no point in becoming part of a new world unless we *preserve our distinctiveness.* We must equip ourselves responsibly to give wise and thoughtful consideration to new concepts.

As women we have a unique opportunity *to conserve the values we respect,* nurture them, and pass them on, as well as *to help future generations to meet what lies ahead.* A challenge we all accept with courage, confidence and faith.

**Irish Creamery Milk Suppliers Association (ICMSA)**

The ICMSA was founded in May 1950 on an entirely non-political, non-sectarian basis, to organise efficiently the creamery milk suppliers of Ireland and to carry out a policy for the benefit of its members.

The promoters being creamery milk suppliers themselves, felt that dairying, being the primary agricultural industry, should be the cornerstone of its foundation. At national level the association now has over 600 branches with a membership of over 70,000 milk suppliers.

The association was founded in Kerry in the winter of 1950/'51 with meetings in Listowel, Tralee, Castleisland, Rathmore and

Dingle. From these meetings volunteers came forward to promote the foundation of branches and the intervening years have seen the formation of a branch in almost every creamery district in the county. To date the association has 60 registered branches in the county, witlh a paid-up membership of 8,563 creamery milk suppliers. As the creaimery cheque is a source of income to over 80 per cent of Kerry fairmers, their interest in an organisation whose main task is to improve their income is understandable.

The coumty is divided into four regions—North, South, West and Mid K<erry, with delegates from each region forming the County Executive. Each region has its Annual General Meeting when officers are elected and delegates appointed to the National Council. All appointtments are ratified at the AGM of the County Executive, and resolutions from branches and regional meetings are processed before goimg to Council. The office of Chairman of the County Executive rotates between the regions annually and eight delegates represent Kerry on the National Council.

The Association within the county has always been foremost in promoting and supporting any projects designed to improve the lot of those engaged in agriculture.

One of tme principal aims of the ICMSA is to raise the standard of living off the dairy farmers and to secure an economic price for his milk amd dairy produce. Its efforts are particularly directed towards th<e family farm and the small and medium sized dairy farmer witlh mixed farmyard enterprises such as pig-rearing, calf-rearing, etc

The association has during the past 22 years by direct and frequent negotiations with the Minister for Agriculture and by vigorous caampaigning succeeded in considerably improving dairy farmers' incomes. Creamery milk suppliers in Kerry have always readily supported these efforts.

Irish Farmters Association **(IFA)**

The IFA is a national voluntary organisation of farmers founded by farmers, themselves at a public meeting in Dublin in January 1955, to look after all their interests.

One humdred and twenty thousand (120,000) farm families (60,000 of whom are farmers under £25 PLV) are now organised in over ome thousand branches covering almost every parish in Ireland.

The IFAt is a democratic non-party-political organisation open in memberrship to all farmers.

The IFA is governed by a President, Deputy/President, four Vice-Presidents, and County Representatives—all elected by members every two years.

All branches of farming are catered for by twenty-five Commodity Committees, and each Committee has its experienced staff aided by a competent economic section, and a general secretary.

The national status of the IFA is recognised by successive governments, and other organisations as the authoritative voice of Irish farmers. Irish farmers are represented internationally by the IFA.

Kerry took a very active part in founding the IFA. The Kerry Executive of Macra na Feirme loaned £500 to help launch the organisation, and arranged excursion fares to Dublin for the large party of delegates that attended the inaugural meeting in January 1955.

The first branches were formed in Kerry in January '55, and today (March '72) there are thirty-seven branches with a paid-up membership of over three thousand farm families, and with the present increasing demand for membership, it is expected the membership will be five thousand farm families before the end of the year.

The IFA have always advised its members to take an active part in all farm business, and as a result are shareholders in all the co-operatives in the county. In 1969 the IFA members formed their own insurance company—Farm Business Development (FBD).

The Kerry County Executive of IFA share an office with FBD at 3, High Street, Tralee. Telephone: 22185.

Macra na Feirme

Macra na Feirme was founded in 1944 for education, cultural and social activity among our agricultural community. In the spring of 1947 the present Chief Agricultural Officer, Mr. Gerry Moyles, introduced Macra na Feirme into Kerry when he started the Listry club. Since the organisation was founded in Kerry the membership has risen steadily and this year there are fifteen branches affiliated with an approximate membership of 600, but there are still branches to be affihated. However, during the 1960's there were occasions when there were substantially more branches than we have now. With the recent appointment of a full-time Munster Regional Development Officer, Mr. Dan O'Gorman, we expect the formation of new branches shortly in the county and the attraction of new members to existing clubs.

The objectives of Macra na Feirme are:

To assist the personal development of its members.

To provide opportunity for learning the skills and theory of farming.

To widen the interests of its members by increasing their store of general knowledge.

To offer a medium of social contact between young people of both sexes.

To encourage leadership ability.

To improve relationships between farming and non-farming sections of the population.

One of the main aims of Macra na Feirme is to help individuals to achieve their full human potential and to help the rural community identify and train its future leaders. Macra's objective is to produce effective leaders at club, county and national level who will achieve Macra's present objectives, men of vision with cultivated minds who can see beyond the circumstances of the day, therefore Macra encourages its leaders and potential leaders to read, write and think for themselves, and eventually be fully confident in accepting leadership roles in the rural and national community.

The role of Macra na Feirme in education is of great importance and Macra's programmes include training and educational activities of a very wide variety, ranging from informal farm walks and debates to formal agricultural and leadership training. The Vocational Education Committee has given young farmers of Kerry a share in the scheme of higher technological education and this is of great importance to the young men who will run the farms of Kerry in **future** years. Winter Farm Schools which are conducted by the Advisory Service on two consecutive Winter seasons are a main source of agricultural education. This year the Kerry County Committee of Agriculture held Winter Farm Schools in Abbeydorney, Castleisland, Listowel, Killarney, Rathmore and Annascaul.

**Macra na Tuaithe**

Macra na Tuaithe is a National Youth Organisation with a total of about 300 clubs and a membership of 4,000 teenagers. The business of the organisation is directed by the Governing Council and this Council is made up of two representatives each from the ICA, Macra na Feirme and Muintir na Tire, plus three club Leaders. The purpose of the organisation is to provide for the young people—12-17 years—of Ireland an out-of-school programme of recreation and education. Its education programme complements the formal education programmes of the schools and the

emphasis in Macra na Tuaithe is on learning by doing. Projects are carried out by club members as individuals or in groups and the eight educational programmes now in operation by Macra na Tuaithe afford each member the opportunity to develop his potential and to pursue his personal interests. These programmes are: Future Farmers Programme, Young Homemakers, Young Achievers, Culture, Citizenship, Health, Leadership and Science. The club is the basic unit of the organisation and it is made up of members and a number of adults who are called Club Leaders. Club Leaders come from many walks of life—priests, farmers, nurses, guards, teachers, housewives, etc. At county level, these club leaders get together to further the work of the clubs and of the organisation within the County. This combination of leaders is known as the district Council and there could be more than one district council in a county if there were sufficient clubs. It is of interest to note that Macra na Tuaithe is a long established organisation here in Kerry. The importance of the work here in the clubs is recognised by many of the educational bodies and in particular by the County Kerry Vocational Education Committee. For some years now the Chief Executive Officer, Mr. James McDyer, has one of the teachers working almost full-time with the clubs. The fact that 75 per cent of the present club leaders are vocational teachers has some significance too, and 65 per cent of the clubs are dependent to some extent for their existence on Vocational Schools. It is hoped that in the near future many more who are responsible for providing facilities for Youth Work will recognise the value of a long established organisation and that the present total of 22 clubs and 500 members will increase considerably.

Muintir na Tire

Muintir na Tire was founded by the late Canon John Hayes in Tipperary in 1937. It was a movement for the improvement of the cultural, social and economic phases of parish life. It was to make rural Ireland more practically christian by helping the people to solve their problems in a co-operative way and was to work for the common good, instead of serving a particular class or vocational group and so was in keeping with the best Christian and Irish traditions.

The headquarters of Muintir na Tire are in Tipperary. It is a non-political, non-sectarian organization. There is a National Council with a membership of about 39. Each County Federation is represented on this council and meetings are held about ten times

in the year. All these meetings are attended by the national officers.

Muintir na Tire was introduced into Kerry in 1943 and for some years flourished in North Kerry—in Ballybunion, Ballyduff, Lixnaw and Kilflynn—before being introduced into South Kerry—Cahirciveen, Valentia, Glenbeigh, Beaufort, Milltown, Castlegregory and Camp. Many guilds mushroomed in the county for short periods but then died away. At present there are nine guilds in the county in Beaufort, Clonkeen, Kilcummin, Firies, Cromane, Camp, Castlegregory, Milltown, Glenbeigh. It is hoped in the near future to employ a county organizer.

Over the years Muintir na Tire has concerned itself with the organisation of group water schemes, the provision of community centres, co-operative developments, the introduction of cottage industries and the clearing of graveyards. They have been very successful in getting these facilities and developments established in a number of areas. Social functions are held each year and question time, public speaking, drama and talent competitions for young people are organised at local, county and national level.

The aim of Muintir at the present time as in the past is community development. The organization at National and County level is being re-structured. Community councils are being set up with a view to making people aware of the needs of their own areas and giving them a say in the solution of their own problems. Rules for setting up these councils are of necessity very flexible; the idea being to get the best possible representation from a particular community.

Its great interest in the general good of the whole community without specific aims for any one section has been its great attraction for many and its own drawback. People fail to realize its value when its aims are so broad.

**Agricultural Co-Operatives (IAOS)**

The Agricultural Co-Operative Movement in this country was begun in the 1880's. It was undertaken on a voluntary basis by Sir Horace Plunkett and a few friends with the help of the Co-operative Union in England.

The first real success of the Movement was the establishment of co-operatives in the dairy industry. Co-operative Creameries were quickly established throughout the country, and at the present time some 80 per cent of the milk of the country is handled through co-operative societies.

By 1894 the Movement had grown to such an extent that it could

no longer be organised on a voluntary basis. This gave rise to the founding of the Irish Agricultural Organisation Society which had as its aim the voluntary organisation of farmers for business purposes along co-operative lines. Since then, the Movement, under the guiding hand of the IAOS, has developed enormously. By 1914 there were over 1,000 co-operatives of all kinds in existence, with a total membership of 106,000. Like many other facets of Irish life the period 1914-1945 was a difficult one for the Co-operative Movement. Many of the co-operatives founded in the inflationary period of Word War I did not survive. These were mainly agricultural store societies.

Since 1945 the Movement has grown with renewed vigour as the following figures will show:

| | *Numbers of Co-ops.* | *Membership* | *Turnover* |
|---|---|---|---|
| 1950 | 315 | 98,967 | £30-22 m |
| 1960 | 329 | 116,504 | £65-50 m |
| 1970 | 350 | 167,877 | £278-40 m |

A major feature of the growth was the development of new types of co-operatives such as livestock marts, AI stations and pig-fattening units.

The development of co-operatives in Kerry dates from 1895—the first year of operation of the IAOS. In that year six dairy co-operatives were founded mainly in North Kerry. The co-operative form of organisation became well established in the dairy industry in North Kerry, but made little or no headway in South Kerry, with the result that today only 25 per cent of the milk in the County is handled by co-operatives.

In the early years of the Movement many co-operative stores and credit societies were founded in the county. These served a very useful purpose at that time, but almost all of them failed to surmount the difficulties experienced in the inter-war period.

In line with the trend of national co-operative development, it was not until the early fifties that there was a sustained growth of co-operatives in the county. Since then the range of activities catered for by co-operatives has widened considerably as can be seen from the following figures setting out the number and type of

societies in existence in Kerry in 1970 as set out in the IAOS annual report for that year.

| *Society* | *Main Function* | *No. of Members* | *Total Turnover £(000)* |
|---|---|---|---|
| Abbeydoraey | Dairying | 364 | 433 |
| Ballinclemesig | " | 230 | 115 |
| Brosna | " | 57 | 105 |
| Lee Strand | " | 396 | 554 |
| Lixnaw | " | 253 | 366 |
| Newtownsandes | " | 204 | 292 |
| Rattoo | " | 198 | 236 |
| Castleisland | Livestock Mart | 304 | 792 |
| Kingdom | " | 474 | 1,190 |
| Mid Kerry | " | 266 | 118 |
| Killaraey | Agricultural Supplies | 440 | 33 |
| Kerry Foods Ltd. | Horticultural Production | 2,418 | 49 |
| St. Brendan's Onion Growers | | 208 | 171 |
| Castlemaine Harbour | Fishing | 70 | 40 |
| Dingle Fishermen's Co-Op. | | 43 | 38 |
| Tralee Bay Shellfish Co-Op. | " | 70 | 28 |
| Comhar Cumann Forbartha Chorcha Dhuibhne | Farm Services & Agricultural Development | | 3 |

Membership of co-operatives in the county has increased from 2,570 in 1950 to 5,577 in 1970. In the same period total co-operative turnover in the county has increased from £500,000 to £5,218,685.

At the present time there is a tremendous upsurge of interest by dairy fanners, in areas of the county not presently serviced by co-operatives, in getting control of their own business. In addition a number of pig fattening co-operatives are being organised at the present time. These developments together with the growth of existing co-operatives will ensure that the Co-operative Movement will play an increasing role in the life of Kerry farmers.

**Other Voluntary Organisations**

The organisations listed do not exhaust the total compliment of voluntary organisations which make a positive contribution to the life of the Kerry farming community. These include livestock associations, show societies and development committees and other such groupings. Their influence extends in many cases beyond purely agricultural matters to enhance the social life of the farming community.

CHAPTER SIX

# CAPITAL

LAND, labour, capital and management constitute the economic factors of production. As the supply of land is essentially fixed and the agricultural labour force is continually declining, capital is assuming an increasing importance as a component of the input structure of modern agriculture. In this chapter, capital, as it relates to agricultural production on farms in County Kerry, is scrutinised. Industries which supply the raw materials of farming, process or market its products are closely interwoven parts of the whole agricultural fabric of the county. They may, however, be studied separately at another time.

## Meaning of Capital

The term capital is open to many interpretations depending on the context in which it is used. It may refer purely to money in a very restrictive sense. Alternatively, it may embrace anything which has commercial trading value or costs money to acquire. In this sense it includes property, general or vocational level of education, as well as cultural characteristics which have economic value. For the purposes of this chapter its meaning is confined to that which represents investment in the form of land, buildings, machinery, livestock and continuing inputs such as feed and fertiliser. These should reflect the economic conditions prevailing in the agricultural industry in the county.

Capital involved in agriculture can be conveniently considered as consisting of two broad categories, namely: *(a)* Fixed, and *(b)* Operating. This classification is based on the different life-spans attributable to the various items of capital investment. On this basis, investment in items such as land, land improvement, farm buildings and machinery, which is generally recovered over a long time period, is regarded as fixed. In a similar manner, and for the converse reason, expenditure on livestock and items of working capital such as feed, fertilizers and seeds is classified as operating capital.

## Scope of Study

This study sets out to throw some light on aspects of capital in

farming in the county. The main questions being raised are:

1. how much capital is involved in farming in Kerry and is it changing?
2. what was the rate of capital formation in Kerry farming in the 1960-70 period and how was it distributed between different capital investment categories?
3. what were the economic returns from farming in Kerry over the decade of the 'sixties and what was the relationship between these returns and the capital investment programme pursued?
4. what are the implications of entry to the EEC in 1973 for the capital development programme of grassland farmers in the county?
5. will it be feasible for farmers to expand their enterprises at the desired rate and where will the investment capital be found?

In attempting to answer these questions, information was assembled from a variety of sources, both published and private. Details of the manner in which some calculations were made appear in appendix D.

*Limitations*

An examination of the part which capital plays in Kerry agriculture is rendered difficult by the absence of any previous study of this nature for the county. A general lack of comprehensive statistics on capital in agriculture renders such a study increasingly difficult. This restricts any assessment of the state of capitalisation of agriculture in the county to indirect estimation, which in some instances is subject to unavoidable inaccuracies. However, despite these limitations such estimates will prove worthwhile as a basis for appraising past investment in Kerry agriculture and assessing its capital requirements in the foreseeable future. They will be useful as a guide in making decisions on aspects of the county advisory programme, as well as providing a background for future studies in this area.

## Capital Assets

Estimates at current prices (prevailing in the year under review) of the value of the capital stock in each major investment category in farming in County Kerry is presented in table 6.1 for each of

the three years 1960, 1965 and 1970. It amounts to a substantial

TABLE 61. Estimate of capital assets in farming in County Kerry in 1960, 1965 and 1970 (£ million), constant 1960 prices* in brackets.

| | | 1960 | 1965 | 1970 |
|---|---|---|---|---|
| Fixed capital | Land | 38-4 | 49-2 | 62-4 |
| | Farm buildings | 2-8 | 4-8 | 71 |
| | Machinery | 2-3 | 31 | 5-3 |
| Operating capital | Livestock | 14-2 | 20-8 | 260 |
| | Working capital | 0-9 | 1-5 | 21 |
| Total capital assets | | 58-6 | 79-4 | 102-9 |
| | | | (64-5) | (64-6) |

• **Consumer Price Index in CSO. *Irish Statistical Bulletin* (June, 1971), p. 98. SOURCE: See Appendix D.**

total for any of these years and it increased by 76 per cent over the decade reviewed. The greater proportion of this increase was due to price inflation. At constant 1960 prices it was approximately 10 per cent between 1960 and 1965, with practically no further increase by 1970.

**Fixed Capital**

The fixed capital in farming in the county increased from £43-5 million in 1960 to £57-1 million in 1965 and £74-8 million in 1970. Land continued to be the greatest single component, while farm buildings and machinery increased as a proportion of the total over the ten-year period.

*Land*

The area of crop and pastureland in the agricultural industry in the county may be considered as being fixed. The quality of some of this land was improved during the 'sixties under the various Land Project schemes. At the same time an unknown but probably significant area of farm land deteriorated under the influence of indifferent management. Consequently, the net acreage of productive farm land is unlikely to have changed very much over the decade.

As seen in table 6-1 the value (at current prices) of land being farmed in the county for the years 1960,1965 and 1970 was estimated at £38-4 million, £49-2 million and £62-4 million respectively. This represents an increase of 25 per cent in land values between 1960

and 1965, followed by a further increase of 20 per cent in the five years prior to 1970.

The increase in the capital assets of Kerry farmers by way of higher land values is of a different nature to that in other investment categories. It is largely automatic, resulting from increased land prices, outside of farmer control and requiring no extra capital to finance it. Despite the obvious benefits of such 'windfall' gains to individual farmers, escalating land values can have less favourable implications for the industry as a whole in the country. Under the owner occupancy system of land tenure which predominates at the moment, higher land prices present obstacles to the transfer of land from older, less efficient farmers to more competent young men who are short of capital.

*Farm Buildings*

The current values of the stocks of farm buildings in the county in 1960, 1965 and 1970 were estimated at £2-8, £4-8, and £7-1 million respectively. The increased values show an even trend, in line with increases in livestock numbers. They are also influenced by rising wage levels as well as rising material costs between 1960 and 1970.

Cow accommodation was the biggest single item of farm building stock in each of the three years under review. It represented approximately 25 per cent of total value of farm buildings in each of these years. Silos were practically non-existent in 1960. The number increased to 240 in 1965 and 950 in 1970. The ratio between the number of roofed to unroofed silos in the county in 1970 was approximately 6 : 1, but in the current silo building programme it is about 50 : 50[1] There were very few milking parlours in the county in 1960. The number increased to 150 in 1965 and 311 in 1970. The ratio between herringbone and abreast type milking parlours in the current building programme is almost 2 : I.[2]

The estimated capital value of silos increased from £0.002 million in 1960 to £0.612 million in 1970. The corresponding aggregate figures for milking parlours and dairies were £0.023 million and £0.299 million respectively.

*Farm Machinery*

Farm machinery is a medium-term item of fixed capital invest-

[1] D. O'Neill, Parish Agricultural Supervisory Officer. Tralee (private communication, June, 1972).

* ibid.

ment. The capital stock of machinery in the county was taken at half its replacement cost in each of the years reviewed and no allowance was made for the fact that at least some of the tractors were secondhand imported ones. It increased slowly from £2-3 million in 1960 to £31 million in 1965. However, by 1970, the stock of machinery had risen to £5-3 million, representing a growth of 80 per cent over the 1965 figure.

The most readily noticeable feature of the capital stock of machinery over the 'sixties was the rate at which horse machinery became obsolete, and the rapid rise in the number of tractors and tractor powered machines. The number of tractors rose from one per ten farms in 1960 to one per six farms in 1965 and one per three and a half farms in 1970. Tractors constitute the greatest single item of machinery in the county in each of the three years under review. The value of tractors increased from £0-375 million in 1960 to £1-083 million in 1965 and to £2-198 million in 1970. It increased as a percentage of the total capital stock of machinery from 16 per cent in 1960 to 42 per cent in 1970.

The number of milking machines showed significant change over the 'sixties. They increased from 1,112 in 1960 to 3,820 in 1970. The number of parlour type milking machines more than doubled—from 150 in 1965 to 311 in 1970. This represented the fastest expanding category of machinery at the end of the decade.

**Operating Capital**

The stock of operating capital almost doubled from £15-1 million in 1960 to £281 million in 1970 (table 61). The rate of increase was greater than that of fixed capital stock. Livestock was by far the greatest item of operating capital and the second largest of all categories of farm capital.

*Livestock*

The value of livestock on the farm fluctuates seasonally, as livestock numbers, maturity and prices change. The figures shown in table 6-1 are for cattle returned in the June livestock enumerations in these years, valued at current prices. They show that the capital value of all livestock in the county almost doubled between 1960 and 1970 rising from £14-2 million to £26-0 million over the decade. Most of this increase, however, must be attributed to increased prices since the total grazing livestock units only increased by 14 per cent while the total pig population declined. Had the valuations in

1965 and 1970 been made at constant 1960 prices[3], they would have read £17-6 million and £18-5 million respectively.

The breeding cow-herd was by far the greatest item of capital in livestock (table 6-2). It was approximately equal to the value of all other grazing livestock in each of the years in question. The

**TABLE 6 2. Capital value of livestock 1960, 1965, and 1970 (£ million).**

| | 1960 | 1965 | 1970 |
|---|---|---|---|
| Cows | 6-4 | 9-6 | 11-5 |
| Other cattle | 5-1 | 8-2 | 11-3 |
| Sheep | 0-7 | 0-7 | 0-9 |
| Horses | 0-9 | 0-8 | 10 |
| Pigs | 0-9 | 1-2 | 1-2 |
| Poultry ... | 0-3 | 0-3 | 0-2 |
| Totals | 14-3 | 20-8 | 26-1 |

SOURCE: AS for table 6-1.

total value of pigs rose by £0-3 million between 1960 and 1965 but remained static in the latter half of the decade. The total value of sheep and horses changed very little during the decade and poultry showed a sharp decline of 45 per cent at current prices over the period.

*Working Capital*

The main items included under this heading are purchased feeds, fertilizers, lime, and seeds. Capital allocated to these farm inputs is usually turned over one or more times within a year depending on the particular enterprise involved. Accordingly, such capital investment is regarded as short term. Current annual expenditure on short-term capital by Kerry farmers increased by 72 per cent from £0-9 million in 1960 to £1-5 million in 1965. This figure increased by a further 38 per cent in the following five-year period, reaching £2-1 million in 1970. If annual expenditure on these items is estimated at constant 1960 prices[4] the real increase is still dramatic at 63 per cent in the 1960-65 period, and much less so at 14 per cent between 1965 and 1970.

The total working capital used in any of the years reviewed is

* Agricultural Price Index in CSO, *Irish Statistical Bulletin* (June, 1971), p. 99.

[4] Materials (for use in agriculture) Price Index in CSO, *Irish Statistical Bulletin* (June, 1971), p. 96.

small by comparison with other forms of capital involved. The increase in working capital, however, especially in the earlier five-year period, is substantial, and represents a positive effort to intensify agricultural production in the county.

**Discussion**

The facts presented up to this point have highlighted the increasing importance of capital as a factor of production in Kerry agriculture. This progressive expansion in the amount of capital involved is clear from the ever-expanding capital assets within the industry as shown in the successive estimates for 1960, 1965 and 1970.

When the capital stock is valued at constant 1960 prices it becomes clear that the expansion is much less spectacular than that indicated by the independent valuations at current prices in 1965 and 1970. Changes in valuations at constant 1960 prices more closely represent the absolute expansion in capital stocks. They do not, however, disclose changes which may have taken place within the capital stock itself. The position in Kerry over the 'sixties was, that some capital stocks such as farm buildings, machinery and cows increased absolutely, pigs fluctuated and horses and ponies declined. It is reasonable to assume that an absolute gain in capital stock was achieved from a general improvement in the quality of livestock in the county.

The estimated value of capital stock existing in the industry at successive periods is subject to three major influences, namely:

*(a)* Price increases in the intervening time resulting in an automatic inflation of the value of capital stocks, this being particularly relevant in the case of land.

*(b)* Depreciation on such items as buildings, machinery and other durables.

(c) Additions to the capital pool in the form of new machinery, buildings, land improvements, extra livestock and extra working capital.

The effects of inflation and depreciation are largely outside farmer control, land price increases being particularly subject to influences unrelated to economic conditions within the industry. However, current expenditure on additional capital items is subject to fanner influence and should reflect the prevailing economic climate in the industry. Furthermore, it is yearly current expenditure on capital formation by farmers which will ultimately decide what real increases or decreases take place in the capital stock within agriculture.

For these reasons, the pattern of current farmer investment in

the different categories of capital inputs is worthy of further investigation.

## Agricultural Capital Formation

The changes in value of the total capital stock in agriculture in County Kerry between 1960, 1965, and 1970 which have been reported in the preceding pages, have resulted to a large extent from inflation of the value of the various items which go to make up these totals. They do not measure the volume of new capital invested in, or released from, the various forms in which it occurs.

Table 6-3 sets out estimates of expenditure in each major category of agricultural investment by Kerry farmers between 1960 and 1970. A more detailed picture of the pattern of such expenditure can be gained by splitting the decade into two five-year periods for which the appropriate estimates are also given in the table. All figures stated are inclusive of grants and subsidies received from the

**TABLE 6-3. Estimate of gross expenditure on agricultural capital formation in County Kerry between 1960 and 1970 (£ million).**

| | | 1960/65 | 1965/70 | Total 1960/70 |
|---|---|---|---|---|
| Fixed capital | Land improvement | 0-9 | 1-3 | 2-2 |
| | Farm buildings | 1-3 | 1-8 | 3 1 |
| | Machinery. . . . . | 1-4 | 3 0 | 4-4 |
| Operating capital | Livestock . . . . . | 1-2 | 0-8 | 2 0 |
| | Increase in working capital . . . . . | 1-2 | 1 1 | 2-3 |
| | | 6 0 | 8-0 | 14-0 |

SOURCE: See Appendix D.

Government or other sources. Estimates of expenditure on land improvement and farm buildings are based mainly on returns for Government grants paid for these works.

### Land Improvement

The Land Project Section of the Department of Agriculture and Fisheries report reclamation work carried out on 52,642 statute

acres of land over the decade at a capital grant cost of £1-318 million and estimated total cost of £1-977 million. Similarly, 12,114 statute acres of hill land were fenced and/or otherwise improved at a total cost of £0-075 million. Both forms of improvement represent an investment of new capital of £2-052 million at current prices. The Irish Land Commission spent over £0-109 million on the land improvement aspect of its land resettlement programme. This latter figure is included in the total figure for expenditure on land improvement shown in table 63.

Farm Buildings

Farmers in County Kerry invested approximately £3034 million in farm buildings between 1960 and 1970. The volume of work carried out was pretty evenly distributed throughout the decade, and differences in expenditure between the first and second half mainly reflect changes in building costs.

Over 25 per cent of all expenditure in the ten-year period was for the replacement or extension of cow accommodation (table 6-4). There were problems in classifying types of cow accommodation

TABLE 6-4. Estimate of expenditure on items of farm buildings —aided by Department of Agriculture and Fisheries grants—1960/65, 1965/79 and total 1960/70 (£ million).

| | | | Total |
|---|---|---|---|
| | 1960/65 | 1965/70 | 1960/70 |
| Cow-byres | 0-363 | 0-309 | 0-672 |
| Loose-byres | 0001 | 0103 | 0-104 |
| Milk parlours | 0002 | 0-032 | 0-034 |
| Dairies | 0-005 | 0054 | 0-059 |
| Hay barns | 0-174 | 0-151 | 0-325 |
| Silos | 0061 | 0-225 | 0-286 |
| Other farm buildings | 0-656 | 0-900 | 1-556 |
| Total | 1-262 | 1-774 | 3036 |

**SOURCE: AS for table 6-3.**

in the 1960/65 period. It is apparent, however, that there was a substantial increase in the amount of loose housing provided for cows in the second half of the decade. Expenditure on milking parlours and dairies also increased sharply.

Expenditure on haybarns declined a little, while that on silos increased at least threefold between the two five-year periods. The trends in expenditure on these items of farm buildings reflects an increasing concern with output per man, and the introduction of labour-saving systems of cow and cattle management towards this end. Expenditure on other items of housing is in line with expansion or contraction of their related enterprises.

The Irish Land Commission spent £0021 million on the farm building aspect of its re-settlement programme over the ten-year period in question.

Machinery

Investment by farmers in machinery in the 'sixties was greater than in any other category of investment, and was only slightly less than the sum of expenditures on other items of fixed capital (table 6-3). It increased sharply between the first and second halves of the decade.

Gross expenditure on tractors alone between 1960 and 1970 exceeded £2 million or 43 per cent of all expenditure on machinery in this period. It increased almost threefold between the earlier and later halves of the decade. Investment in tractor power-take-off (PTO) driven and self-propelled machinery was approximately £1 million, evenly divided between the halves of the same period.

Milking machines constitute the second largest item of capital investment in farm machinery. Farmers in County Kerry spent £0-538 million on additional milking plant in the 'sixties. They spent almost three times as much on bucket type as against parlour type machines over the whole decade. Gross expenditure on bucket type machines declined by 25 per cent between the first and second half of the decade, while expenditure on parlour type milking machines increased by almost 50 per cent in the same period.

This picture of expenditure on machinery illustrates the trends in farming in the 'sixties better than any other category of capital investment. Mechanical and electrical power has been increasingly substituted for a declining farm labour force, while at the same time it enabled output per man, per acre and, consequently, total agricultural output to be increased.

**Livestock**

The trend in net investment in livestock over the 'sixties was at variance with that observed for the different categories of fixed capital investment. It amounted to £1-2 million between 1960 and

1965, and £0-8 million in the second half of the decade (table 6-3). A breakdown of these figures is given in table 6.5. It shows clearly

**TABLE 6 5. Net investment in livestock 1960/65, 1965/70 and total 1960/70 (£ million).**

| | 1960/65 | 1965/70 | 1960/70 Total |
|---|---|---|---|
| Cows .... | + 0-977 | + 0-633 | + 1-610 |
| Incalf Heifers. . . . . | + 0079 | -0-157 | + 0-236 |
| Bulls . . . . . | — 0043 | — 0-007 | — 0-050 |
| Cattle over two years | — 0-113 | + 0-263 | + 0-150 |
| Cattle under two years | + 0-254 | + 0-324 | + 0-578 |
| Sheep . . . . . | — 0040 | + 0012 | — 0-028 |
| Horses. . . . . | — 0-163 | — 0-240 | — 0-403 |
| Pigs | + 0-378 | — 0-264 | + 0-114 |
| Poultry. . . . . | — 0-099 | — 0-123 | — 0-222 |
| Total livestock | + 1-230 | +0-755 | +1-985 |

SOURCE: AS for table 6-3.

where the changes in the pattern of investment took place. Pigs increased by £0-378 million in the 1960/65 period and declined by £0-264 million over the next five years. The rate of investment in cows decreased between the first and second half of the decade. This trend may have been influenced by the introduction of the calved heifer scheme in the earlier period; Foot and Mouth disease in England; problems with the marketing of cattle and, later, milk products; and the introduction of the two tier price system for milk in the latter period. Capital stock in sheep was just about maintained while capital was released consistently from horses and poultry.

**Working Capital**

The increased use of working capital in real termr, is a desirable feature of the capital investment programme pursued by farmers in County Kerry over the 'sixties. It is an indicator of efforts to increase output at county or farm level. It is to be expected, however, that the rate of increase in the use of such capital is greater than the rate of increase in the agricultural output of the county. This is a feature common to most types of industry but it is

particularly true of agricultural production as generally practised. It is common experience in advisory work that the greatest efforts at increasing production take place on only some farms while the potential of others remains relatively untapped.

The balance between the component items of working capital used changed slightly over the decade (table 6-6). Feed continued to be the greatest single item of working capital used. Us decline

TABLE 6.6. Analysis of working capital in agriculture in County Kerry in 1960, 1965 and 1970 (£ million).

| | 1960 | 1965 | 1970 |
|---|---|---|---|
| Feed | .1-206 | 2159 | 2-720 |
| Fertiliser and lime | .0-392 | 0-632 | 1-180 |
| Seeds | .0138 | 0-188 | 0-140 |
| Total | .1-736 | 2-979 | 4-040 |

SOURCE: 1960 and 1965: Adapted from Michael Ross, *County Incomes* 1960 *and* 1965 (Dublin: ESRF, 1969).
1969: Adapted from Michael Ross, *Further Data on County Incomes in the 'Sixties* (Dublin: ESRl., May, 1972). p. 31.

as a proportion of total working capital in 1970 is probably due to the drop in pig production around that time. Fertilisers and lime increased from 23 per cent to 28 per cent of total working capital between 1960 and 1970. This adjustment in farmer spending reflects the strengthening position of the grassland enterprises over the period. The decline in seeds as a proportion of total working capital is in line with the decline in the acreage of arable crops grown in the county.

Increased use of working capital is likely to be a continuing feature of agricultural development. It will be a necessary input in the effort to express the potential for increased output which exists in the land and from the labour force of the county.

Agricultural Wages

The total wages paid to permanent and casual workers in agri-

culture amounted to £0.735[5], £0911[6] and £0-929[7] million in 1960. 1965 and 1969 respectively. It is not feasible to split these yearly totals into their permanent and casual components, thereby allowing them to be classified as fixed and variable costs, as required in farm account keeping. The total sum in any of these years is not great and the life attributable to wages is short. Consequently, agricultural wages do not appear to have been a very significant item of agricultural capital in the 'sixties. The most noteworthy aspect of agricultural wages in the period is the fact that the totals increased so little, even at current wage rates.

## Discussion

It is desirable to reflect a little on some of the facts about investment of new capital over the 1960 to 1970 period. It must be seen against the background of a decade in which the general marketing situation was less than certain. A declining and ageing labour force are among other factors which may have influenced the investment decisions made.

Investment in land improvement and farm buildings was on the lines one might have expected. Increased use of working capital was necessary to provide for increasing livestock numbers. The scale of the increase in working capital, however, needs to be kept in mind when matching it with any increases in output which may have resulted. The comparison may give some indication about how broadly based the increased production has been.

Figures for investment in livestock and machinery are likely to arouse the greatest measure of controversy. The agricultural economy of the county is mainly based on livestock. Yet, investment in increased livestock for the decade is less than that for any other category of development capital. In contrast to these other categories the rate of investment in livestock was less in the second half than in the first half of the decade. The only categories of livestock in which investment was greater in the latter period were in-calf heifers, dry cattle and sheep. That for breeding cows and pigs was substantially less.

Machinery was by far the greatest category of investment of new capital. It amounted to about one-third of all additional investment

[5] Michael Ross, *Methodology of Personal Income Estimation by County* (Dublin: E.S.R.I., 1971), p. 56.

* Ibid., p. 57

[7] Michael Ross, *Further Data on County Incomes in the Sixties* (Dublin: E.S.R.I., 1972), p. 31.

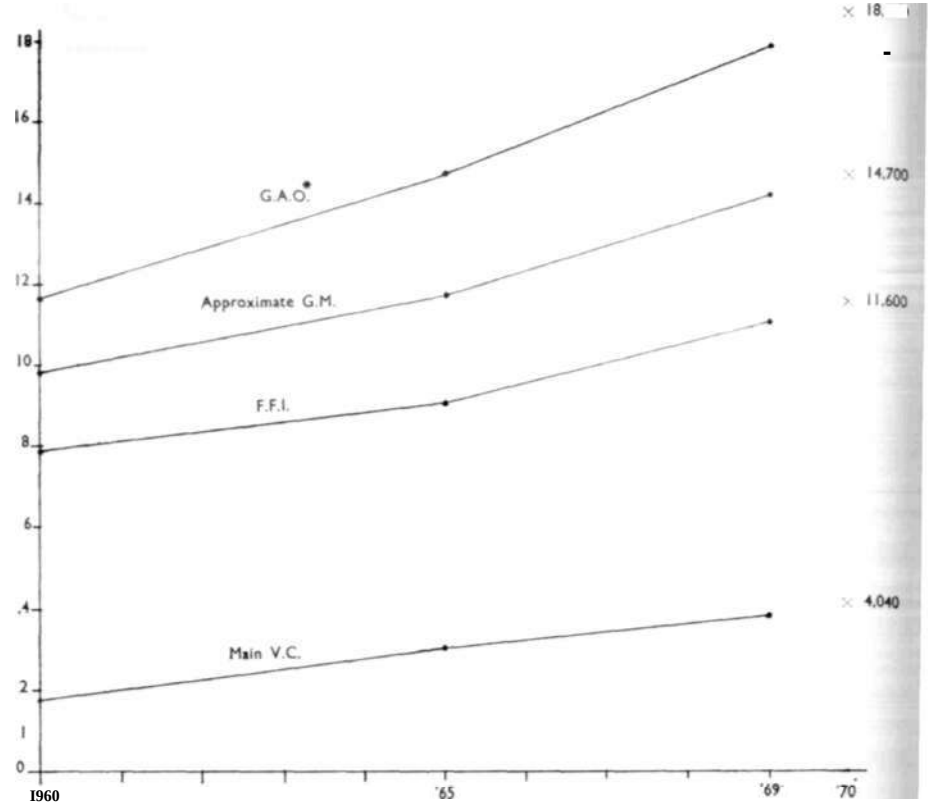
over the period. It may be argued that labour was being replaced on many farms. The output of some farmers increased spectacularly as a result of mechanising their farms. The local agricultural contracting service was less than adequate in many cases. The fact remains, however, that as a category of investment, the financial input seems very large and *luxury* consumption of capital must be suspected in many cases.

## Economic Returns

Gross agricultural output (GAO) measures the total returns from the sale of agricultural products from the agricultural sector of the economy, adjusted for the value of changes in livestock and crops remaining on farms within it. The GAO of Kerry increased from £11-6 million in 1960 to £14-7 million in 1965 and £18-8 million (approximately) in 1970 (figure 6.1). This represents an increase of 61 per cent at current prices over the decade. Purchases of feed, fertilizers and seed, which are the main items of variable costs (VC) or total working capital, more than doubled in the same period. The gross margin (GM), which is the difference between the GAO and the VC, increased by approximately 49 per cent. Family farm income (FFI) is what remains after fixed costs such as rent, rates, and other items of fixed costs have been paid out of the GM. The FFI of farmers in County Kerry increased from £7-9 million in 1960 to £9.2 million in 1965 and £11.6 million (approximately) in 1970. This represents an increase of 47 per cent over the decade of the 'sixties. At constant prices[8], however, FFI dropped slightly between 1960 and 1965. The figure for 1970 shows a net increase of 4 per cent for the decade. This helps to explain why the absolute rate of expansion of the agricultural capital stock of the county was not greater over the period.

Farming is essentially an economic enterprise, using land, labour, capital and managerial skill as components of its production operations. Consequently, it is desirable to be able to make observations about the efficiency, or changes in the efficiency, with which the factors have been, or are being used. An exercise of this nature would be very exacting in the amount of detail required. Much of the necessary information is difficult to assemble and in many cases just not available. This situation places such an effort outside the scope of this study.

[8] Agricultural Price Index in CSO, *Irish Statistical Bulletin* (June, 1971), p. 99.




G.A.O. includes output from forestry and fishing. In this case it approximates to (but is not identical with) gross output (G.O.) as commonly used in farm account keeping.

**FIGURE 61. Economic statistics of agriculture in County Kerry, 1960, 1965, 1969 and trends in 1965-69 period projected to 1970.**

## Capital Requirements in the Seventies

The entry of Ireland into the European Economic Community in January 1973 has far reaching implications for agricultural development in Kerry as elsewhere in the country. One may speculate about the systems of farming which are likely to obtain in Kerry by 1980. The indications are that grassland-based enterprises will be very prominent and dairying is likely to be the chief one.

Lee' places the development of the grazing capacity of the county in 1970 at 65 per cent of its potential under specified conditions

* See **p. 48.**

of fertilizer use. The number of Livestock Units carried then was approximately 299,000 and the potential was estimated at 460,000.

A number of factors are likely to prevent the full grazing potential from being reached by 1980. Among them, demographic, educational and other aspects of the human resources will definitely inhibit its development. Assuming, however, that it is feasible to reach about 50 per cent of this potential it is of interest to project what this will mean in terms of investment of new capital (at constant 1972 prices) in the grassland-based enterprises in the county. A summary of these projections is given in table 6-7.

TABLE 6-7. Basic capital investment requirements of agriculture in County Kerry, 1970 to 1980 (£ million).

| | |
|---|---|
| Fixed capital | |
| Land reclamation and fencing | 40 |
| Farm buildings | 5-5 |
| Machinery | 20 |
| Operating capital | |
| Livestock | 12-1 |
| Working capital | 1-4 |
| Total | 25-0 |

SOURCE: See Appendix D.

Livestock emerges as the most important category of essential investment of new capital if the projected level of development is to be achieved. It is mainly based on a projected increase in cow numbers along with the followers which are likely to be needed for renewal and expansion of cow herds. The breakdown of this projection is shown in table 6-8. It shows a projected increase in cow numbers in the order of 64,000 to a total of about 200,000 cows in 1980. It will require about 25 per cent this number of of female stock to renew and maintain expansion of this total cow-herd. Beef cow-herds will absorb some of the surplus calves from the dairy herds and a certain level of dry stock farming is likely to continue as a feature of the farming pattern in the county.

Of the categories of fixed capital investment, expenditure on additional farm buildings is likely to rise in line with increased livestock numbers. Land reclamation work is projected at about 50 per cent greater than that over the 'sixties. Farm machinery is looked at from the point of view of the most rational co-operative

**TABLE 6·8. Projected change in numbers, value of, and gross margin returns from additional grazing livestock between 1970 and 1980 (at constant 1972 prices).**

| Livestock | No. in 1970 | Projected No. in 1980 | Change in No.s 1970/80 | Average Price (June) 1972 (£) | Value of Change (£ mil.) | GM 1972 (£) | Added GM 1980 (£ mil.) |
|---|---|---|---|---|---|---|---|
| Bulls | 1,200 | 1,200 | Nil | — | — | — | — |
| Cows | 136,200 | 200,000 | 63,800 | 170 | 10·958 | 85·00 | 5·848 |
| Cattle over one year old: | | | | | | | |
| Male | 41,800 | 41,800 | Nil | — | — | — | — |
| Female | 51,200 | 55,000 | 4,200 | 110 | 0·462 | 25·00 | 0·105 |
| Cattle under one year old | 94,700 | 100,000 | 5,300 | 50 | 0·265 | 15·00 | 0·080 |
| Ewes | 106,400 | 156,000 | 50,000 | 5 | 0·250 | 3·50 | 0·175 |
| Lambs | 72,700 | 109,200 | 36,000 | 3 | 0·108 | | |
| Hoggets | 32,976 | 52,000 | 19,000 | 4 | 0·076 | 2·00 | 0·038 |
| Others | 5,224 | 5,224 | Nil | — | — | — | — |
| Horses | 9,400 | 9,400 | Nil | — | — | — | — |
| Total | 551,800 | 759,824 | — | — | 12·119 | — | 6·246 |
| Total LUs (000s) | 299 | 380 | | | | | |

SOURCE: Liv. No. in 1970: *Irish Statistical Bulletin* (September 1971), p. 227.
" : Av. Price (June) 1972: M. Leary, Kingdom Co-Operative Livestock Mart Limited, Tralee
" : G.M., 1972: T. Burke, B.Agr.Sc., Kerry County Committee of Agriculture.

or contract use being made of the existing stock of machinery with additions of the absolute minimum of extra machinery required to operate the new programme at farm level. This would require an additional milking unit and cooling equipment for each additional ten cows. About seventy additional fully equipped forage harvesting and muck-spreading units would be essential, and a small allowance is made for essential yard scraping and other light mechanical equipment. It is apparent, however, that this is unlikely to be the case, and that expenditure on machinery will be quite considerable. Present indications are that the number of tractors alone in the county will exceed 6,000 by 1980 at an additional fixed capital investment of about £4 million.

Increased use of working capital in the order of £2 million represents the minimum required to sustain the additional 81,000 LUs distributed uniformly throughout the county. In practice, however, a large proportion of the increased numbers of grazing livestock is likely to be carried on farms on which a situation approaching zero net marginal returns (increase output equal to increased cost) on extra working capital will obtain.

Investments of the order outlined are substantial and unlikely to be undertaken unless the investors and sources of investment capital are reasonably satisfied about their economic merit. The additional family farm income which is likely to result from them may be regarded as approximately equal to additional gross margin since the fixed costs will have to be met whether or not there is expansion. A rough estimate of the additional gross margin which is likely to accrue to the extra livestock carried is also included in table 6-9. At £6-2 million it represents a return of about 25 per cent on the projected increase in capital investment.

Any one of many factors may intervene at a future date to change the whole basis on which the foregoing calculations are made. Expansion is taking place, however, and is likely to continue in the foreseeable future. These projections may help farmers, farm finance agencies and other interested parties to think about the type of development programme they need to be gearing themselves for in the foreseeable future.

## Discussion

Entry to the EEC is likely to provide economic conditions favourable to the expansion of grassland based enterprises in the county. There was a gap of 40 per cent between the state of utilisation of the county's grassland in 1970 and its potential under specified

conditions of fertilizer use and management. On the assumption that half of this gap may be closed by 1980 it will cost at least £25 million (at constant 1972 prices) to do so.

The indications are that the type of expansion envisaged will result in Kerry agriculture becoming heavily specialised for production of milk. Medium and long-term investments in cows, machinery and plant, mean that it will be harder to change enterprises even if the farmer so wishes. Therefore, not alone because of the county's advantages for milk production, but because of the inflexibility imposed by this pattern of capital formation, income from milk and calves will, if anything, be even more important for the Kerry farmer in the years ahead. Every effort is called for, therefore, to maximise this income.

An expanded farm programme will result in an increased value and volume of assets. Maintenance and depreciation of the farm buildings and machinery stocks especially, will be proportional to their value. Consequently more resources will need to be reserved out of current income to defray these costs.

There is an urgent need to be rational in selecting machinery in the years ahead. Three leading questions must be answered in each case:

1. Is it necessary?
2. Can it be hired or shared?
3. Is it adequate to do the job now, and in the forseeable future?

There must be more machinery. There will be more machinery and more farmers will need to acquire new skills in the maintenance and operation of this costly machinery pool. This will require a concerted effort in the field of education relating to agricultural machinery. The agricultural machinery contractor will be worthy of special attention in this field.

## Sources of Investment Capital

Traditionally, most farmers financed their capital development programmes from farm savings. Evidence, though far from being comprehensive, shows that the position is changing, and an increasing proportion of farm development capital is borrowed. All new investment, whether made from savings or borrowed capital, must ultimately be paid for out of the returns from farming. Consequently one expects some measure of relationship between the rate of investment and current incomes in agriculture. In Kerry this

relationship ran at approximately 15 per cent in the 1960/65 period and 16 per cent between 1965 and 1970.[10]

Assuming that FF1 in 1972 may be running at approximately 50 per cent above the 1970 level, it may be taken at £17 million. Earlier estimates project an increase in FFI from grassland enterprises of £06 million per annum on average over the seventies. This suggests that the average annual FFI of Kerry farmers for the decade may exceed £20 million. If the simple relationship between the average rate of investment and FFI in the 'sixties is preserved in the 'seventies, then Kerry farmers may be expected to invest something over £3 million on average per annum over the ten-year period. In view of the fact that a minimum of £2-6 million per annum will be needed to expand the grassland enterprises alone, the gross expenditure on agricultural capital formation is likely to be substantially greater than the £3 million stated. While the capacity of farmers to invest out of farm savings is likely to increase, at least initially, an increasing proportion of farm development capital is likely to be sought from alternative sources. All investment, whether from private or other source will need to be on a planned basis so that the cash flow at farm level can remain buoyant in the process.

## Farm Credit

There is no published information on the use of credit by Irish farmers on a county basis. Consequently, one cannot be precise in stating the proportion of the capital invested in farming in Kerry over the years which has come from sources other than farm savings.

Information assembled from a few sources allows the approximate situation at national level in selected years to be calculated (table 6-9). Merchants, creameries and co-operative societies are not included since it is difficult to get reliable information on their contribution to the total. The table shows that banks continue to be the main source of credit to Irish farmers. The A.C.C. increased its percentage of the total market for farm credit in the period under review.

It is not possible, on the basis of existing information, to say exactly what proportion of the total of national farm credit was availed of by Kerry farmers. A simple relationship of approximately 6 per cent can be shown to exist between national and Kerry statistics for other economic quantities such as gross output, gross

[10] See table 6-3 (p. 99) for rate of investment, and figure 61 (p. 106) for current incomes (F.F. I.),

**TABLE 6-9. Loans outstanding to Irish fanners from the main sources of farm credit in 1960, 1965, 1969* and 1972 (£ million).**

| | 1960 | 1965 | 1969 | 1972 |
|---|---|---|---|---|
| Banks (April-May) | 30-5 | 48-8 | 62-7 | 85-5 |
| Credit finance houses aggregate instalment credit (April-May) | 8-0 | 9-8 | 17-0 | n.a. |
| A.C.C. including H.P. (March 31) | 3-0 | 11-3 | 22-1 | 37-3 |
| Irish Land Commission (March 31) | 39-6 | 35-1 | 32-9 | 31-9 |
| Land Reclamation Act 1949t (March **31)** | 2-3 | 2-8 | 3-8 | 4-1 |
| TOTAL | 83-4 | 107-8 | 138-5 | n.a. |

* Figures for bank lending in 1970 not available due to bank closure.

t Includes loans outstanding under Land Project (Section B) Reclamation Scheme and Land Project Fertilizer Credit Scheme.

SOIRCE: Banks and Credit finance houses, 1960-69: calculated by Mr. M. Hyland, Chief Agricultural Adviser (B/I), from Central Bank published reports.
Banks, 1972: Central Bank of Ireland, *Quarterly Bulletin* (Autumn, 1972), p. 149.
ACC including HP: The Agricultural Credit Corporation (November, 1972), private communication.
Irish Land Commission and Land Reclamation 1949.
The Irish Land Commission (November, 1972), private communication.

margin and some items of variable costs.[11] Until evidence to the contrary becomes available it is reasonable to assume that a similar relationship exists in the statistics for the use of credit by farmers at national and county level. This means that the total indebtedness of Kerry farmers to sources of farm credit was in the order of £5.0, £6-5, and £8.1 million in 1960, 1965 and 1969 respectively. This gives a debt to asset ratio in the order of 1:12 or 8 per cent over this period. The debt of farmers in the county to financing institutions may be taken to have grown to about £10 million in 1972.

An enquiry in September 1972 sought to throw some light on aspects of the use of credit by Kerry farmers.[12] Selected persons from

[11] Michael Ross, *County Incomes* 1960 *and* 1965 (Dublin: E.S.R.I., 1969). 1969: Michael Ross, *Further Data on County Incomes in the Sixties* (Dublin: E.S.R.I., May 1972), p. 31.

[11] See Appendix D.

within the commercial lending agencies and other bodies who have financial dealings with farmers were interviewed and asked for their general observations on the matter.

The nature of the enquiry made does not allow specific observations to be made. It does allow comment, however, on some aspects of use of credit by Kerry farmers, which, while not surprising, is at least interesting, and may have significance for the type of advisory programme pursued in the county.

*Sources of Farm Credit*

The main sources of credit to Kerry farmers may be grouped in a manner similar to that shown in table 6-9, along with merchants, creameries and co-operative societies. The Irish Sugar Company is an additional source of importance to farmers in particular parts of the county.

Merchant, creamery and co-operative premises are strategically located throughout the county. Two major banking groups, namely Allied Irish Banks (AIB), and Bank of Ireland (B/I) operate through twenty-five premises in ten towns in the county. Both of these groups operate mobile banking units in rural areas. Ulster Bank opened a new premises in Tralee in 1972. Two credit finance agencies, Bowmaker (Ireland) Limited and Lombard and Ulster Banking (Ireland) Limited, have premises in Tralee, while others operate through agents throughout the county. The Agricultural Credit Corporation (ACC), has over the years, serviced applications for loans by Kerry farmers, directly from head office in Dublin, or through its regional offices in Cork and Limerick. It opened an office in Tralee in 1972. The Irish Land Commission and Land Project credit facilities are available through their respective service networks within the county. The Irish Sugar Company provides credit for the main production and transport costs of sugar beet.

*Repayment Period and Credit Accommodation*

Loans are classified as short, medium or long-term depending on the time interval over which repayments are made. These intervals may be arbitrarily taken at less than one year, one to five years and over five years respectively. The period of repayment is a factor in the choice of sources from which a farmer may expect to be able to borrow.

*Short-term Credit.* Kerry farmers have little difficulty in getting short-term credit, usually for items of working capital and frequently for livestock and items of machinery. It builds up over the winter

and spring months, and is repaid over the summer and autumn. It is usually cleared by October. Practically all of the sources mentioned supply it—mainly on the basis of personal trust—with the exception of the Land Project and Irish Land Commission. In addition, livestock marts are frequently forced to accommodate regular customers.

*Medium-term Credit.* Medium-term loans for the purchase of such items as livestock and machinery is mainly restricted to the commercial lending agencies, namely the banks, ACC and the credit finance houses. The latter mentioned have played a particular part in the finance of machinery purchases.

*Long-term Credit.* The field for long-term credit for land-purchase, farm buildings and dwellings is an area of uncertainty in farm credit finance. The ACC is the only agency which advertises a long-term credit service for farmers. Until recently it imposed an upper limit on loans for land purchase. The banks, and to a lesser extent credit finance houses, accommodate farmers with loans for such purposes depending on the merit of each case. Generally speaking, however, long-term credit is not popular with lending agencies. It may be seen as an area of statutory obligation in the field of farm finance, hence the need for the type of service provided by the Irish Land Commission and the Land Project in this connection.

*Changing Features*

The merchant has been a traditional source of short-term credit to Kerry farmers. About 70 per cent of all farmers in the county have availed of Merchant Credit at some time in their lives. As farm incomes increase, the number of farmers availing of merchant credit is declining. This was particularly noticeable over the past two farming years. The position now is, that fewer farmers in Central and North Kerry avail of merchant credit than their counterparts in East, South and West Kerry. The number of farmers availing of creamery or co-operative credit has changed very little but the total volume of credit availed of has increased, in some cases tenfold, over the last ten years.

Up to 50 per cent of all farmers in the county have availed of credit from a commercial lending agency over the past ten years. The number of farmers seeking credit from these agencies and the volume of credit being availed of rose sharply in 1972. There is a noticeable increase in the number of farmers using cheque-books. Depending on the part of the county in question, between 5 and 15 per cent use them regularly.

The movement from borrowing for specific items towards farm development loans is an emerging feature of the farm credit policy of commercial lending agencies. Loan issues and repayments are phased over a period of time for a variety of capital items, as the need for the items, and capacity to repay, arise in the course of the farm development programme. The agencies vary in their insistence on a professionally drawn-up farm development plan. The emphasis on the provision of such plans is growing and they can be expected to play an increasingly important part in the operation of farm credit in the future.

**Discussion**

An improving farm income situation in the 'seventies will support an increased agricultural capital formation programme. The full investment programme cannot be met from farm savings and a substantial increase in the use of farm credit may be expected.

A variety of sources make credit available to farmers but the field of long-term credit is uncertain.

There are noticeable changes in the practice of borrowing by farmers. There is a shift from the traditional merchant credit to borrowing from commercial lending agencies. This feature, along with the use of overdraft facilities and cheque-book accounts has increased very much the use of short-term or inter-seasonal credit by farmers.

The practice of borrowing from commercial lending agencies imposes a discipline on farmers. Terms of loan are usually specific and must be adhered to. The manner in which a farmer conducts his business with such an agency is one factor in determining his credit rating with it.

There is a change from borrowing for specific items, to general purpose, phased, farm development loans.

The features outlined suggest a need for increasing concern with the use of private and borrowed farm development capital in advisory programmes in the 'seventies.

## Summary

The total capital assets of Kerry agriculture increased from £586 million in 1960, to £79-4 million in 1965 and £102-9 million in 1970. Operating capital increased at a faster rate than fixed capital. Land is the greatest single item of capital. Inflation of land prices increases real income returns but inhibits change of ownership of the land factor. The capital stock of machinery more than doubled over the

decade. The number of tractors increased more than threefold and horse machinery became obsolete. Cow accommodation represent 25 per cent of all farm buildings stock. The value of cattle almost doubled in the 'sixties and cows represent almost half of all grazing livestock capital. Working capital increased much faster in the 1960/65 period than in the second half of the decade.

Kerry farmers expended £14 million on agricultural capital formation between 1960 and 1970. Investment in livestock was greater in the first half of the decade than in the second. Total investment in livestock over the ten years was less than half that in machinery. The investment pattern in farm buildings and machinery reflects the changing labour situation on farms. Expansion of the capital stock of milking parlours, silos and loose housing for cows and cattle increased sharply while that of conventional haybarns and cow byres continued but at a reduced rate. Tractor power replaced horse power, and parlour type milking machines became increasingly popular.

The gross value of output including inventory change, increased by 61 per cent at current prices over the decade. Variable costs more than doubled and the gross margin increased by 49 per cent over the same period. Gross expenditure on agricultural capital formation was about 15-5 percent of FF1 on average over the decade. It is not feasible to calculate returns to production factors from the information available.

Entry to the EEC has implications for agriculture in Kerry. It should be feasible to realise half of the untapped potential of the grassland in the county by 1980. Achievement of this target would require essential additional expenditure on capital formation in the order of £25 million (at constant 1972 prices) in the intervening period. Investment in grazing livestock would be in the order of £12 million and the estimated 64,000 extra cows needed in this programme would cost around £11 million. In practice the capital investment which will be made is likely to exceed the figures stated.

Kerry farmers need to invest at least £2-6 million on average per annum over the present decade. A considerable proportion of this investment capital must be borrowed. Total borrowing increased from £5-0 million in 1960 to £8-1 million in 1969 and to about £10 million in 1972. The debt to total assets ratio was approximately 1 : 12. The banks are the main source of farm credit. Merchant credit is declining. Seasonal borrowing from creameries and co-operatives for items of working capital has increased. The ACC has increased its proportion of short and medium-term loans to

farmers. There is little competition in the field of long-term credit. Multi-purpose farm development loans are increasing as a feature of farm credit. While the number of farmers availing of credit has increased over the past decade, it is still far short of what is likely to be needed to meet the capital development programme outlined. Consequently, the rational use of credit must be an important feature of the advisory programme in the 'seventies.

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# *Section 3*

# Agricultural Resource Use

THE total lowland area is devoted to agricultural and horticultural crops, grass and forestry. Horticultural crops and some agricultural crops are sold. The remaining crops are grown for animal feed. The greatest proportion of the land area is devoted to grass. This grass is utilised for milk, cattle, horse and sheep production.

Farmyard enterprises are regarded as the obvious line of agricultural development where land is limited and labour is underutilised. In this situation off-farm employment when available is an alternative means of supplementing farm income.

In this section the history of the development of the various enterprises and the gross output from each is examined. An effort is made to identify the more significant trends and likely developments in the foreseeable future. Labour utilisation and the extent to which off-farm employment is availed of are discussed in detail. The estimated gross margin earnings from full and part-time farming and the income from off-farm employment are also examined.

CHAPTER SEVEN

# CROPS AND GRASSLAND

AN examination of the history of crop production in Kerry presents some very noticeable features as the statistics of crops grown in the county in selected years show (table 71).

These figures show that during the period under review a very high proportion of the land resources of the county has been devoted to grassland. The total area under arable crops has tended to decline, particularly in recent years, and remarkable changes have occurred in the acreage of some particular crops grown.

For a variety of reasons including Government compulsory tillage policy, the total area under arable crops increased sharply during the 1914—*18 and 1939-'45 war years and reached its highest level for this century in 1942. Between the two world wars arable crop production was at its lowest in the early thirties.

Following the 1939-'45 war years, the total acreage of arable crops declined and the rate of decline accelerated sharply in the 1960 to 1970 period. This trend is understandable in the light of improving economic returns from the grassland enterprises, and a growing labour shortage on farms, in the county.

It was government policy in the mid-nineteenth century to grow beans and peas, as a source of protein supplement in animal feed, hence the acreage recorded in 1851. These crops have made little impression on the acreage of crops grown in the county since that time.

Flax was traditionally grown in Kerry as a source of fibre for the home or cottage linen industry. The mechanisation of the industry in the second half of the nineteenth century rendered cottage plants throughout the county obsolete, so acreage declined gradually over this period. The traditional flax-growing and linen industry survived longer in Dingle than in any other part of the county. Flax growing was revived in the county during the 1914-18 war when a lucrative export trade developed for linen as one of the raw materials used in the construction of the wings of wartime aircraft.

Commercial fruit growing in Kerry commenced in the early decades of the present century due mainly to the operation of the One Acre Orchard Plot Scheme which was discontinued in 1940.

**TABLE 7-1. Statistics of statute acres of crops and pasture grown in Kerry in selected years 1851-1970.**

| Years | *Cereal, root and green crops* | *Beans and peas* | *Flax* | *Fruit* | *Total arable and fruit crops* | *Pasture* | *Total crops and pasture* | *Total crops as a %of total crops & pasture* |
|---|---|---|---|---|---|---|---|---|
| **1851** | 99,351 | 839 | 678 | Nil | 100,868 | 509,924 | 610,792 | 16-52 |
| **1901** | 61,409 | 1 | Nil | Nil | 61,410 | 618,613 | 680,023 | 905 |
| **1917** | 86,098 | 2 | 143 | 369 | 86,614 | 572,448 | 659,062 | 1314 |
| **1918** | 85,017 | 6 | 501 | 305 | 85,829 | 574,318 | 660,147 | 1301 |
| **1930** | 56,409 | 14 | 1 | 423 | 56,847 | 540,589 | 597,436 | 9-52 |
| **1942** | 93,158 | 19 | 1 | 519 | 93,697 | 466,649 | 560,346 | 16-72 |
| **1950** | 64,004 | 5 | 2 | 580 | 64,591 | 489,820 | 554,411 | 11-65 |
| **I960** | 50,182 | 1 | Nil | 364 | 51,462 | 456,127 | 507,809 | 1018 |
| **1965** | 42,071 | Nil | Nil | 383 | 42,454 | 493,200 | 535,654 | 7-93 |
| **1970** | 31,600 | Nil | Nil | 200 | 31,900 | 504,400 | 536,300 | 5-95 |

SOURCE: Central Statistics Office.
[1851-1960: Kerry County Committee of Agriculture, *Annual Report* 1965, pp. 164-169 and 182.
1965: *Statistical Abstract of Ireland* 1968, pp. 72-73.
1970: *Irish Statistical Bulletin* (September 1971), p. 226.]

Apples were the main trees planted under the scheme. Fruit production reached its peak in the fifties due to increased demand for home-grown fruit during and after the war. It has declined gradually since that time due to a drop in the world price of fruit and concentrated fruit juice. About 65 statute acres of blackcurrants were grown specially for the Brosna Fruit juice factory in the fifties.

The oustanding feature of the present use of arable land is the diminishing acreage of arable crops grown, due to increased competition from grassland farming. The only new agricultural crop on the horizon is maize. At present there is an increasing interest in maize growing in the county, but, as yet, there isn't sufficient experience of this crop to judge its impact on farming in future years.

## ARABLE CROPS

The growing of arable agricultural crops has always been and still is an important aspect of farming in the county. The crops grown may be broadly grouped into cereals, roots and potatoes. Sugar beet, malting barley and wheat are grown for direct cash sale. Swedes, mangels, fodder beets and some green crops are produced for direct consumption by livestock on the farm. Feeding barley and oats may be disposed of in either manner. Potatoes occupy a special position. In addition to the outlets stated for the other crops, a proportion of the potato crop has always been used for consumption by members of the household on the farm on which it is produced and in many cases just enough for "home" use is grown.

### Cereals

There has been a dramatic change in cereal growing in the past twenty years. The acreage of all cereals except barley declined substantially in this period (figure 7-1).

In 1944 oats was the predominant cereal and occupied almost 62 per cent of the total cereal acreage grown. By 1970 the percentage had dropped to less than 35 per cent. This change reflects the replacement of the horse by the tractor and the shift from oats to barley as the main cereal feed for all livestock.

The wheat acreage has also shown a drastic reduction over the same period. It has decreased from over 16,000 acres in 1944 to 800 in 1970. Poor sowing and harvesting conditions, susceptibility to soil-borne diseases and improved profit margins from barley have been mainly responsible for this decrease.

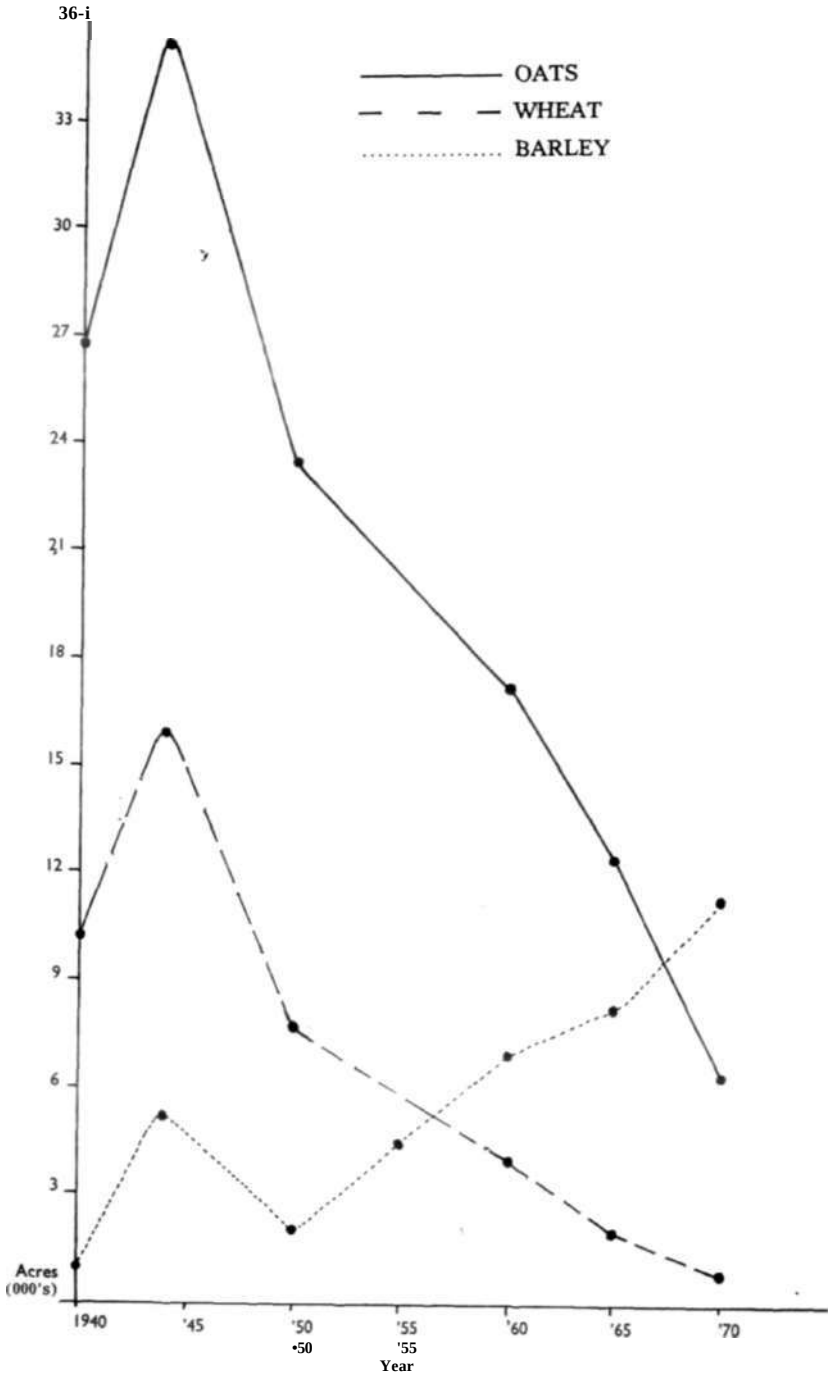



**FIGURE 7 1. Trends in acreages of cereal crops grown in the 1940 to 1970 period.**

SOURCE: AS for table 71.

Barley acreage has increased to more than five times the 1950 figure. Increased profit margins due to higher yields from improved varieties, availability of ground limestone and increased fertilizer use have resulted in an increase in barley acreage at the expense of oats and wheat in recent years. Of the 11,300 acres of barley grown in 1970, two thousand acres were grown for malting and 294 acres of certified seed barley were grown under contract in the county. The malting barley is mainly concentrated in an area stretching from Fenit to Ballyduff.

*Husbandry Practices*

All aspects of cereal growing changed after World War two. New cereal varieties with desired characteristics, such as strong straw, high yield and resistance to disease were introduced. Trials in which new varieties were tested for suitability in the county were a feature of the work of the County Committee of Agriculture. The pre-war varieties of oats gave way to stronger strawed varieties such as Sun II and Condor. Atle wheat which was grown on trial in the county in 1939, was grown widely in subsequent years. It has now been replaced by Quern. Feeding Barley varieties such as Ymer and Herta which were popular in the fifties were replaced by Banba in the mid sixties. In the last two seasons Nessa has grown in popularity as a substitute for Banba. Malting Barley varieties such as Spratt Archer, Beorna and Proctor have been replaced by Hunter and to a lesser extent Emma, at the present time.

The growing of strong strawed varieties of cereals has facilitated higher use of fertilizer on cereals. The combined corn drill which appeared in the early fifties and the change to granulated compound fertilizer reduced seed and fertilizer requirements, especially in the less fertile soils and eased the labour problem at sowing time. In the early fifties also the combine harvester began to replace the travelling thresher. Selective weedkillers, the use of which has becomewidespread since the introduction of the combined harvester, were practically non-existent 25 years ago. Today the spraying of cereals is standard practice.

In recent years an increasing percentage of growers are commercial producers and most of the work in saving and harvesting is done by the agricultural contractor. The emerging pattern is one of fewer growers, well mechanised and growing increased acreages. At present it is common in some areas to find part-time farmers devoting whole farms to continuous commercial barley growing.

Some owners of combine harvesters rent land in excess of 100 acres for 3 years or more for cereal growing.

*Pests, Disease and Vermin Control*

In Kerry the problems are no different from elsewhere in the country. The major pests (in cereal growing) are still the leatherjacket and wireworm.

Dual purpose seed dressings which were introduced in the fifties have helped to control wireworm attack. The sowing of dressed seed is now routine procedure. Chemical pesticides are also freely available for the control of leatherjacket. Of the fungus diseases which attack cereals, eyespot and take-all, both of which have become quite widespread since the fifties, are the most serious. Proper rotation and the introduction of cycocel and increased Nitrogen use have helped to control these diseases. Birds, chiefly the woodpigeon, are becoming a serious menace at harvest time in well-sheltered and wooded areas. The only effective deterrent to date is the carbide or gas bird scarer.

*Marketing of Cereals*

The bulk of the oats and barley sold is marketed within the county. The main buyers are the local ration compounders. The remainder is sold by growers to neighbouring farmers. In 1971, 340 tons of wheat, 10,342 tons barley, 1,112 tons of oats were purchased by compounders within the county. Approximately 2,000 acres of malting barley is grown under contract for brewing. Certified seed barley (294 acres in 1970) and oats (406 acres in 1970) grown under contract is sold the following year to farmers as certified seed. All the wheat grown in the county is sold to the flour millers in Cork and Limerick.

*Cereals as a Cash Crop*

Individual returns from grain crops vary widely, depending upon yield and quality of the grain.

The average gross margin per acre for the various cereals grown in the county in 1971 was as follows:

| *Wheat* | *Malting Barley* | *Feeding Barley* | *Oats* |
|---|---|---|---|
| £40 | £35 | £30 | £25 |

The gross margin for wheat is attractive but farmers prefer barley because of its shorter growing period. Although the contract price

for malting barley is higher than that for feeding barley yields are lower as less nitrogen is used on the crop.

While the gross margin for oats is low, there is a keen demand for contracts to grow certified seed oats.

**Potatoes**

The acreage of potatoes grown in 1970 was approximately one-third of that grown in 1942 (table 7-2). This is partly due to the

**TABLE 7-2.** Acreage **of** potatoes grown, **1940-1970.**

| Year | 1940 | 1942 | 1950 | 1960 | 1965 | 1970 |
|---|---|---|---|---|---|---|
| Acres | 18,361 | 21,907 | 16,567 | 10,570 | 8,140 | 5,600 |

**SOURCE as for Table 71.**

improvement in the quality of human diet, which is reflected in the substitution of protein foods for starchy ones. Another factor is the change by farmers to concentrated rations for pigs and poultry. In addition potatoes demand a high labour input at all times from sowing to harvesting and, as farm labour becomes scarce and expensive, less potatoes are grown.

*Husbandry Practices*

Husbandry practices in potato production have changed significantly only in the last fifteen to twenty years. High starch varieties of potatoes were introduced at the end of the fifties but were not grown widely within the county. The growing labour shortage accelerated the adoption of modern, proven production techniques. At present production is completely mechanised by the progressive potato grower. Farmyard manure is ploughed in, the seed is planted mechanically, moulding is dispensed with and weeds are controlled by pre-emergence sprays. The old Burgundy and Bordeaux sprays for the control of Blight are replaced by the more convenient commercial ones. However, the crop is still harvested by the tractor digger. Due to the small acreage grown, the modern potato harvester is not used to any extent.

Despite these changes, however, the old varieties of Kerrs Pink and Arran Banner are still grown and ridges (lazy beds) are still widely used in the South and West of the county for potato growing.

*Pests and Diseases*

Blight is still the most serious disease of potatoes. Spraying

two to five times in the June to August period and the burning of haulms before harvesting are widely practised as control measures. Sowing of disease-free seed and following a good rotation reduces the risk of serious loss from disease.

*Marketing*

Potatoes can be a very attractive cash crop for those who have a guaranteed market. At the present time gross margins approaching £200 per acre can be realised in areas where there is large urban or tourist population. The expenses involved are very high so a farmer must be assured of a market before attempting to grow much more than his own requirements. It must also be remembered that large quantities of potatoes are coming in from outside counties. Farmers in these counties grow big acreages. Production is completely mechanised and the growers are prepared to accept lower prices than producers in Kerry.

**Root and Green Crops**

Like cereals and potatoes there has also been a big decline in the acreage under root and green crops in recent years (table 7-3).

**TABLE 7-3- Acreage of roots and green crops grown in specified years, 1940-1970.**

| *Year* | *Turnips {and Swedes)* | *Mangels and fodder beet* | *Green crops* |
|---|---|---|---|
| 1940 | 5,566 | 5,921 | 2,774 |
| 1941 | 6,052 | 6,201 | 3,378 |
| 1950 | 4,703 | 4,879 | 2,551 |
| 1960 | 4,183 | 4,440 | 1,108 |
| 1965 | 4,048 | 3,756 | 1,638 |
| 1970 | 2,900 | 2,109 | 1,000 |

**SOURCE: AS for Table 71.**

*Husbandry Practices*

Apart from the introduction of the turnip seeder before the turn of the century, varieties of swedes which are fairly resistant to "finger and toe" (clubroot) disease in the forties, and fodder beet with a high dry-matter content in the fifties, root crop production did not change to any significant extent up to 1960. Since then, as in the case of potatoes, much of the farmyard manure is ploughed in. The introduction of the precision seeder, graded seed in the case of swedes, and pre-emergence sprays for weed control help to reduce the labour requirements enormously. These modern techniques, however, are not widely used due to the small acreage grown.

Feed roots are now confined to farms where silage has not yet become the main winter feed. These are mainly small farms but there is still a big acreage of roots grown on a number of the larger farms in North Kerry.

*Disposal of Root and Green Crops*

Only a very small quantity of roots are fed sound to livestock or folded in the field. They are mainly harvested and pulped before feeding to livestock in the farmyard. Most of the green crops are strip-grazed in the field.

Roots and green crops are not generally grown as a cash crop. However, individual farmers sell small quantities, which are in excess of their own requirements, to other farmers and shopkeepers.

*Pests and Diseases*

The most common fungus disease of root crops is Clubroot or "Finger and Toe" in swedes. Control measures include the growing of resistant varieties such as Wilhelmsburger and Bangholm and the following of a suitable rotation. Boron deficiency which causes Crown Rot in mangolds and fodder beet and Brown Heart in swedes has been quite common. The inclusion of Borax in fertilizer dressings is now widely practised to overcome these problems. Seed dressing to control the turnips flea beetle (turnips fly) were introduced about twenty years ago and dressed seed is now commonly used.

**Sugar Beet**

Sugar beet is grown on contract for the Sugar Company. While

the acreage varies somewhat from year to year it is generally fairly constant at 1,300 to 1,600 acres (table 7-4).

**Table 7.4. Details of sugar beet crop grown in specified years, 1940-1971.**

| *Year* | *Number of growers* | *Acreage sown* | *Average yield* | *Average sugar %* |
|---|---|---|---|---|
| 1940 | 1,002 | 1,555 | 12.99 | 17-7 |
| 1950 | 970 | 1,493 | 9-91 | 17-6 |
| 1960 | 701 | 1,310 | 14-74 | 15-9 |
| 1965 | 672 | 1,627 | 13-29 | 16-6 |
| 1970 | 510 | 1,440 | 1315 | 15-9 |
| 1971 | 454 | 1,569 | 17-21 | 15-6 |

SOURCE: AS for Table 71.

The number of growers has decreased by over 55 per cent since 1940, while the average acreage per grower has increased from 1£ to 3| acres. Down through the years the districts around Ardfert and Abbeydorney continued to be the main beet growing areas. The main decrease in acreage took place in south and west Kerry. In the Killarney, Killorglin and Castleisland areas, the acreage decreased from 182 acres in 1940 to just over 5 acres in 1971.'

At present, most of the sugar beet in the county is still grown in the traditional tillage areas around Ardfert and Abbeydorney. Labour shortage, the small acreage grown, lack of machinery and high transport costs from the south and the west of the county are mainly responsible for this position.

***Husbandry Practices***

In the early forties the beet crop was sown with the turnip seeder.

[1] Comhlucht Siuicre Eireann—private communication.

It was thinned and harvested by hand. Weeds were controlled mainly by use of the saddle hoe and inter row cultivator. The introduction of mechanical harvesting around 1950 marked the beginning of a new era in sugar beet growing. These harvesters were usually owned by contractors. They helped to reduce the labour requirement in harvesting considerably. It wasn't until the early sixties that the main labour-saving innovations were introduced. The precision seeder, monogerm seed and band spraying with herbicides in more recent years have played a major role in reducing the labour requirements of sugar beet production.

At present all the sugar beet seed sown in the county is monogerm. It is sown mainly on contract with precision seeders. Weeds are controlled by band spraying and thinning is done with a "swan neck" hoe. Almost all the beet is harvested by the beet harvester. Mechanical loading has increased significantly in the last five years.

*Economics of Beet Growing*

Marketing presents no problem as the Sugar Company takes all the roots at a guaranteed price. The gross margin per acre realised for the 1971 crop was approximately £80. Beet crowns are a by-product and constitute a valuable food for livestock. Growers also have the option of purchasing calculated quantities of pulp at preferential price rates. An attractive feature of sugar-beet growing is the fact that the sugar company provide credit facilities for all expenses except for labour and machinery hire.

*Pests and Diseases*

Prevention or control measures are possible for all beet diseases that are encountered in the average year. Crown Rot due to Boron deficiency was very widespread, but prevention is now taken care of by incorporating Boron in the special fertiliser beet compound supplied to growers by the Sugar Company. Manganese deficiency as with Boron deficiency, shows up in areas high in lime. This is evident when the plant is young and is cured by an application of Manganese Sulphate.

The main pests of sugar beet are Mangel Fly, Flea Beetle, Aphids, Leatherjackets and Wireworm. They can be effectively controlled by seed dressing or by spraying the crop with suitable pesticides when the attack occurs. In recent years the Pigmy Mangel Beetle has appeared as a pest in the traditional beet growing

areas. Various chemicals are being tested as control measures.

Maize

There is an increased interest in maize growing at both national and county level. In 1970 there were 50 acres grown in the country. In 1972 somewhere in the region of 4,000 acres were grown. The major maize growing area at present is in the southern counties of Cork, Waterford, Wexford and Kilkenny, because of their relative freedom from frost after the month of April.

To-date, Maize has only been grown on a trail basis in Kerry. In 1971 the Committee of Agriculture carried out a trial with the variety Ingrid 200. The Agricultural Institute and the Committee of Agriculture are experimenting with different varieties in the county.

Future Trends

Under EEC conditions there will be very little change in the price of wheat while there will be a significant increase in the price of barley.[2] The price of oats is also expected to rise. Because of this there is likely to be an increase in the acreage of barley and oats and a further decrease in wheat.

However any significant increase in the cereal acreage in the county is unlikely due to the higher input costs in tillage and the more attractive prices for milk and cattle and possible changes in government policy regarding conacre under EEC conditions. The agricultural contractor will play an ever-increasing role in the cereal growing as labour becomes scarce.

It is difficult to forecast what effect the EEC will have on potato production—if any.[3] Potato acreage in the county will continue to decline as labour gets scarce. More and more potatoes are expected to come into the county from those areas where production is specialised. The decrease in acreage under swedes, mangolds and fodder beet is likely to continue as the acreage under silage increases.

At present, growers of small acreages are changing from sugar beet production. With increased milk and cattle prices the mixed tillage and dairy farmer is increasing cows and cattle at the expense of tillage. If milk and cattle prices continue at present level and if there is not a corresponding increase in sugar beet prices, there will be a definite decline in Kerry's beet acreage.

It is probable that farmers in the tillage areas of the county will

[2] **Department of Agriculture and Fisheries, *Irish Agriculture and Fisheries in the EEC* QDublin: The Stationery Office, April 1970), P.P. 7-8.**

• ***Ibid.*, P.P. 10-11.**

grow maize in the near future as a break in the crop rotation. However it is unlikely that it will be grown outside the tillage areas.

## Summary

The acreage of arable crops declined significantly since the early forties. Beans, peas and flax which were grown to a limited extent have now disappeared. Fruit crops which reached a peak in the early fifties, declined gradually since then. The acreage of all cereals with the exception of Barley declined substantially in the past 20 years. Increased profit margins, due to higher yields, have resulted in an increase in barley at the expense of oats and wheat. A diminishing farm labour force and the introduction of innovations have led to a pattern of fewer cereal growers, well mechanised and growing increased acreages. Pest and disease problems in cereal growing are similar to those encountered elsewhere in the country. Wood pigeons are becoming a menace at harvesting time in sheltered and wooded areas. The bulk of the oats and barley grain sold is purchased by local farmers and compounders within the county. The wheat is sold to flour millers in Cork and Limerick.

The acreage of potatoes in 1970 was only one-third of that grown in 1942. This is mainly due to the decline in the use of potatoes for human and animal feed and the high labour demands in production. In the past 10-15 years potato production has become almost completely mechanised. Blight is still the most serious disease affecting potatoes. The burning of haulms before harvesting is widely practised. Potatoes can be a very attractive cash crop for those who have a guaranteed market. At present large quantities of potatoes are coming in from outside counties where production is well mechanised and costs are low.

Crops for animal feeding have decreased sharply since 1940, due to the high labour requirement in growing and feeding, and the substitution of silage for hay as a winter-feed. Modern techniques are not widely used in the county because of the small acreage grown. The usual range of diseases and pests of root crops is encountered and standard preventative measures are adopted.

Sugar beet is grown on contract for the sugar company. The acreage grown in the county is fairly constant at 1,300 to 1,600 acres per year. The number of growers has declined by 55 per cent since 1940. The Ardfert-Abbeydorney districts have been and continue to be the main beet growing areas. In these areas production is highly mechanised. In recent years the Pigmy Mangel Beetle has

appeared as a pest and various chemicals are being tested as control measures.

Maize is being grown on a trial basis at the present time.

**Future Trends**

The total cereal acreage will decline further in the years ahead. The acreage of Barley is likely to increase at the expense of Oats and Wheat.

The potato, root and green crop acreage will continue to decline as labour becomes scarce, and silage acreage increases. There will be a decrease in the acreage of sugar beet, if milk and cattle prices continue at present level and if there is not a corresponding increase i n sugar beet prices. The acreage per grower will continue to increase.

Maize is likely to be grown in the tillage areas only, as a break in crop rotation.

## GRASSLAND

In 1970, ninety-four per cent of the total arable crop and pasture land in Kerry was devoted to grass production. This leaves little room to doubt the importance of grassland in farm production in the county.

Kerry has a natural advantage over most parts of Ireland in the production of grass. This is made clear in Chapter two, dealing with climate in which it is pointed out that, on average, the county has an advantage in length of grazing season over the greater part of the country.

The central place of grassland in economic farming in the county may be seen in Table 7-5. It shows that in 1969 grassland-based

**TABLE 75. Statistics of grassland enterprises, 1969.**

| | *Dairying (Cows and Bulls)* | *Cattle [including cows in Beef Scheme]* | *Sheep* | *Horses* | *Total* |
|---|---|---|---|---|---|
| Total number | 126,200 | 196,200 | 196,900 | 9,900 | 525,100 |
| Total L.U.s | 126,200 | 115,733 | 25,951 | 14,850 | 282,734 |
| Total Output | £6,893,000 (milk only) | £5,554,000 | £433,000 | £110,000 | £12,990,000 |

**SOURCE: (Total Number)** ***Irish Statistical Bulletin*** **(March 1970), P.81.**
**(Total Output) Michael Ross,** ***Further data on County Incomes in the Sixties*** **(Dublin: E.S.R.I., May 1972), P. 27.**

farm enterprises accounted for almost £13 million or practically four-fifths of the gross agricultural output in that year. Of those enterprises, dairying is by far the most important, followed by catile, sheep and horses in that order.

It needs to be emphasized that the figure for output from dairying in the table refers to milk only. When adjustments are made by transferring the value of dropped-calves from cattle to dairying, the true merit of the latter enterprise comes more clearly into focus (figure 7-2). Dairying can then be seen to contribute more than three-quarters of the total output of the grassland enterprises in the county.

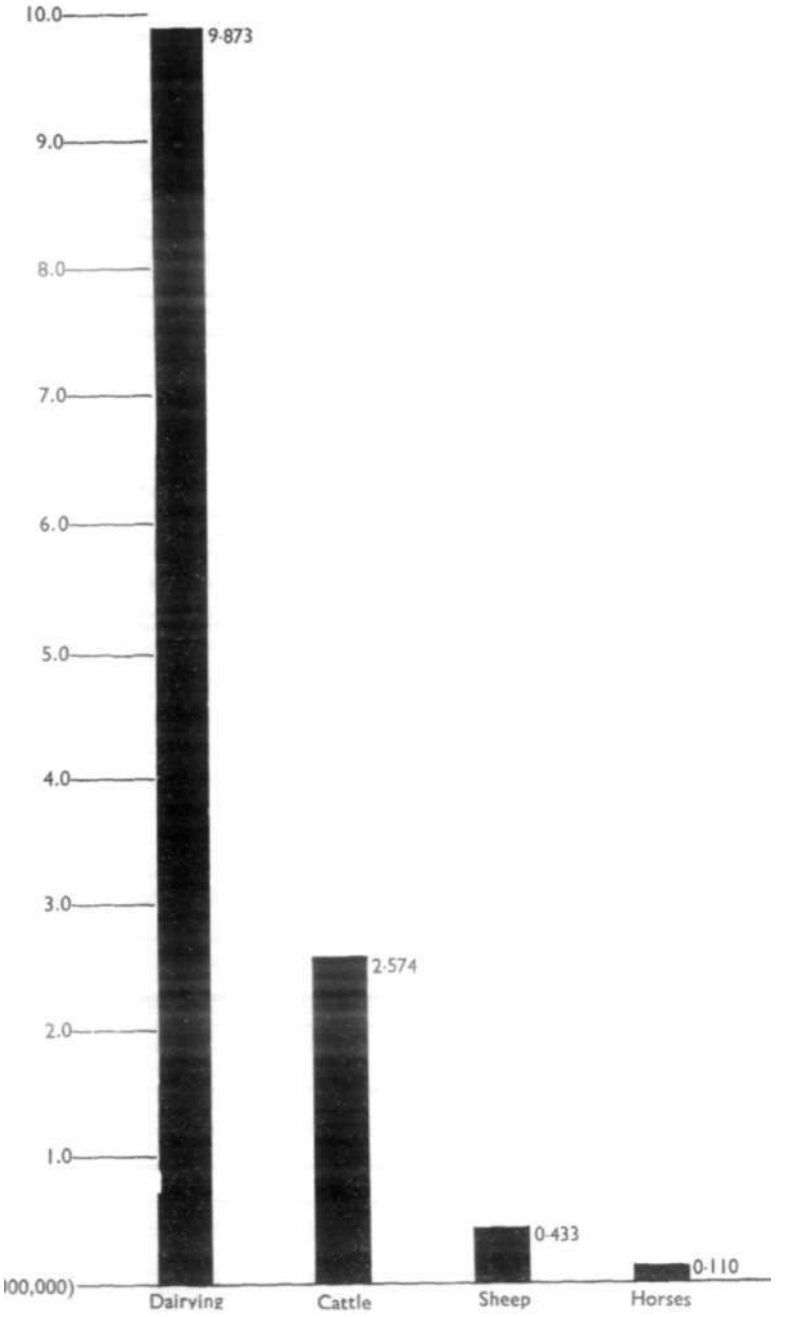
**Types of Grassland**

The grasslands of the county vary considerably in quality and potential for output. This is quite understandable in the light of the physical nature of the soils and the history of the management they have received.

More than half of the approximate 600,000 acres of lowland mineral soils in the county are wet and production from them is seriously limited. They support low-grade pastures and a substantial proportion of old meadow hay is produced on them. The balance of 250,000 statute acres of dry mineral soils embraces the better grasslands of the county.

Ninety per cent of the better grassland in the county could be described as permanent pasture or meadow, since it had not been ploughed or reseeded within the past ten years. Indeed, up to 20 per cent of this acreage has never been ploughed within the memory of their present owners. The average age of those grasslands which have been renewed in more recent times is increasing. With the decline in the total area of arable cropping in the county, these pastures are gradually becoming part of the permanent grassland area.

Young and old leys occupy the remaining 10 per cent of the grassland of the county. By far the greatest proportion of these occur in the Ardfert-Abbeydorney and Killarney-Killorglin areas where arable cropping still forms a significant part of the land-use programme. Pasture renewal in these areas is much more frequent than for the remainder of the county. Sixty per cent of pastures in the Ardfert-Abbeydorney area and 30 per cent of Killarney area could be classed as leys.




**GURE 7.2. Relative output from grassland enterprises in 1969.**

## Grassland Management

Much variation exists in the manner in which farmers in any part of the county manage their grasslands. This variation may also be found on a regional basis within the county. For that reason opinions of advisers were sought regarding features of grassland management in their respective advisory areas. From their observations it was possible to develop a general picture of grassland management practice in the county.

### Fertilizer Use

**In** South Kerry (Kenmare, Caherciveen areas) approximately half of the pastures are treated with some form of fertilizer each year. In the remainder of the county fertilizers are applied on 80 per cent of the pastures yearly; the percentage is as high as 98 per cent in the Central Region where the land is very good. The reason why fertilizer usage is so low in the Southern region is that the land is of poor quality with low stocking density and a relatively low potential. The pastures in those districts are also less accessable for mechanical spreading of fertilizer than elsewhere in the county.

The use of nitrogenous fertilizers on pastures varies with grazing intensity. Nitrogen is usually included in the basic fertilizer dressing, but is frequently applied separately and about 80 per cent of all pastures fertilized receive Nitrogen in some form.

Forty-five per cent of farmers in the East Region, compared to 10 per cent in the South, apply nitrogen to the same pastures twice a year, while no more than 5 per cent in any region apply nitrogen more than twice.

### Grazing Management

Management of the grazing sward falls very broadly into two phases, namely the production of early grass and management during the main grazing season. Systems have evolved over time to suit local conditions and individual needs of farmers. In more recent years, systems which have been developed elsewhere, and proved to have advantage under local conditions, have been adopted by farmers in the county.

*Early Grass*

Production of the early grass sward commences with the removal of grazing stock, particularly cows, from the fields in early winter.

In a typical year this happens in early November on the heavier lands of the Listowel and Tralee-Castleisland areas. Farmers throughout the county, who stock their farms intensively, do likewise unless the soils on part or all of their farms are exceptionally free-draining.

Very few Kerry farmers follow the generally recommended fertilizer programme for the production of early grass. Less than 5 per cent of all farmers apply phosphorus and potash fertilizers in the November-December period and nitrogenous fertilizer in mid-February. The use of 10:10:20 compound fertilizer in the late February-early March period is much more widely practised.

The time at which grazing normally begins varies from the second week in March to the first week in May in the different areas. This difference is due to variations in the type of soil, the pasture-resting and fertilizer programme followed, and prevailing weather conditions. In the better free draining soils there is an earlier response to nitrogen fertilizers, consequently grazing can start earlier without poaching or damage to the soil.

Throughout the county early grass is first grazed by day only, while the animals are housed at night. This continues for about ten days or longer, depending on weather conditions.

*Grazing Systems*

Three basic grazing systems are practised in Kerry and a combination of two of these is encountered so frequently that it warrants inclusion as a fourth. They may be listed as follows:

(1) Set Stocking or Uncontrolled grazing.
(2) Rotational Grazing.
(3) Combination of 1 and 2.
(4) Paddock Grazing.

In uncontrolled grazing, the animals have access to all the grazing area at any one time. This is the least productive system. It may be encountered on low-intensive farms in any part of the county, but is particularly frequent in the South Kerry Region due to the layout of farms there and the inadequacy of fencing.

In rotational grazing the stock are moved around from field to field, thus giving each field grazed a rest period before being grazed again. This system varies in intensity according to the number of fields in the rotation. An electric fence is used on some farms under this system to divide the bigger grazing fields or to ration grass, particularly in the earlier part of the season when grass is scarce.

A combination of rotational grazing and uncontrolled grazing is followed on many farms; here the animals are rotated around the fields early in the season and are given free access to all the grazing fields later.

Paddock grazing is very similar to rotational grazing. The main difference is that the total area is divided into a number of equal sized paddocks and the animals are rotated around them. A farm roadway is made to give access to the paddocks and the fencing is mostly by a mains electric fence. At present less than 1 per cent of farmers in the county have a paddock grazing layout in its pure form. These may be found in any area throughout the county, but the greatest concentration of them occurs in the Abbeydorney, Listowel, Castleisland and Killarney areas.

One-day-paddocks are a refinement of the paddock grazing system, involving division of the grazing area into about twenty equal parts. Each paddock provides sufficient grazing for the cows for a twenty-four-hour period. Less than ten farmers in the county have adopted it to date.

The two-sward system combines paddock grazing with permanent meadowing or silage cutting. Very few Kerry farmers have adopted it to date.

**Conservation of Winter Feed**

Hay has been and still is the predominant form in which winter-feed is conserved. Ninety-seven per cent of all hay saved in the county is from old leys and permanent meadows. The area closed for hay varies from about one-third of the grassland area in the north to one-quarter in the south. The practice of grazing meadows before closing varies throughout the county. Mountain sheep-farmers in South and West Kerry do it. It is done to some extent around Tralee, Ardfert and Abbeydorney. Elsewhere in the county it is very seldom practised.

In recent years, with increasing fertilizer use, there is a trend in some areas towards earlier cutting and saving. Baling of hay has become very popular due to labour shortage.

The number of farmers making silage has increased sharply in recent years (table 7-6).

The number increased by about 200 each year over the past two seasons. This represents an annual increase in the order of 1 -6 per cent of all farmers in the county. A number of factors helped to bring about this change. On the one hand there were the problems with haymaking under unpredictable weather conditions. These

TABLE 7-6. Number of fanners making silage, and tons of silage made, 1965-1971.

| *Year* | *No. of Farmers* | *Total Silage tons* |
|---|---|---|
| 1965 | 425 | 37,251 |
| 1966 | 614 | 58,447 |
| 1967 | 648 | 73,639 |
| 1968 | 678 | 77,904 |
| 1969 | *111* | 104,262 |
| 1970 | 963 | 120,538 |
| 1971 | 1,166 | 149,796 |

SOUKCE: Kerry County Committee of Agriculture, Annual Reports, 1965-1971.

problems became more acute in recent years as farmers used more fertilizers, carried more stock and consequently had to save more hay. On the other hand there were the comparatively recent innovations which made silage-making attractive and feasible. The most significant of these were the ease of harvesting with the forage harvester; the labour-saving merit of the self-feed silage system, and the use of polythene as a covering material. The introduction of the Forage Harvester Grant Scheme in 1964. and the expansion in the contract silage-making service since that time have helped to make the benefits of these developments available at farm level.

Farmers who make silage conserve about one-third of their total grassland area. Approximately three-quarters of these obtain all their silage requirements from one cut. More than two cuts in any one year is very rare. At least three-quarters of all of the grassland area devoted to silage is grazed before closing.

Additives are used to a limited extent in the making of silage in the county. They are used chiefly in the autumn. Molasses is used more frequently than any other type of additive and at low rates of about one gallon per ton of grass ensiled. Of the other additives used, formic acid is becoming the most popular, because it has the

advantage of being easily applied through an applicator attached to the forage harvester.

### Problems

The recurring problems of grassland management continue to be fencing, perennial grassland weeds and poaching.

With the intensification of stocking rates on farms throughout the county the capacity of fences to retain grazing animals has been increasingly tested. The mains electric fencer provides a cheap and effective answer to this problem.

Thistles, docks and ragwort are on the increase. Chemical control is possible but results vary and there is usually a temporary deterioration of the pasture for the remainder of the growing season after spraying. Consequently farmers do not generally practise chemical control until the weed problem is serious. Rushes continue to dominate a high proportion of heavier soils in Kerry.

Poaching of grassland, which aggravates the rush control problem, has decreased somewhat as a grassland management problem. Farmers tend to rest their pastures for longer periods in the winter months and as more farm roadways are constructed, stock are channelled to the more distant parts of farms without trespassing on the intervening fields.

### Tapping the Potential

Output from grassland may be measured in physical terms such as numbers of grazing livestock carried; weight gains in cattle and sheep; gallons of milk produced and other such data. Alternatively it may be measured in terms of financial returns from the various grassland enterprises. Such measures may equally be taken as indicators of the general standard of management of the county's grassland.

It can be seen in the chapter on soil resources that, in 1970, the land of the county—which is predominantly grassland—was stocked at 65 per cent of its potential stock-carrying capacity. This estimate is consistent with the fact that the stocking rate of the county was approximately 200 adjusted acres per livestock unit carried in that year, which is low by current standards. This is not surprising in view of the level of grassland management practised which in turn is aggravated by the demographic situation.

Stimulus for improvement in grassland management practice has come in recent years with the greater financial returns from the grassland enterprises. The foreseeable future appears particularly

bright for these since the principle of greatest comparative—particularly climatic—advantage appears to operate in their favour. Increased output, however, will come only from the adoption of better grassland management practices.

## Summary

In 1970 ninety-four per cent of the total arable land in Kerry was devoted to grassland. Practically all the pastures in the county, with the exception of the tillage areas in Ardfert-Abbeydorney and Killarney, are of a permanent nature.

In Caherciveen and Kenmare areas, approximately half the grassland area is fertilized each year. In the remainder of the county, fertilizers are applied on eighty per cent of the pastures. Only five per cent in any region apply nitrogen more than twice to the same pasture in any one year.

The time at which grass is grazed varies from the second week in March to the first week in May. The grazing system most extensively practised in the county is a combination of rotational grazing and set stocking. Only about 1 per cent of farms have a paddock grazing layout.

The area of grassland closed for hay by individual farmers varies from 33 per cent of their total acreage in North Kerry to 25 per cent in the South. Ninety-seven per cent of all hay saved is from permanent meadows. Baling of hay is becoming more widespread due to labour shortage. There is a one to two per cent annual increase in the number of farmers making silage. This change is mainly due to uncertain hay-making weather, a higher stocking rate on farms, the introduction of self-feeding of silage by stock, polythene covering, the Forage Harvester Grant Scheme, and an improved and expanded contracting service. Farmers making silage conserve approximately one-third of their grassland area. Seventy to eighty per cent of all farmers get their total silage requirements in one cut.

Weeds in grassland such as ragwort, thistle and docks have become a major problem in recent years. Rushes are a problem in heavier soils. However, poaching, which increases the rush population has decreased somewhat in recent years.

The future for the grassland enterprises appears particularly bright. Increased production, however, can only be expected to result from adoption of approved grassland management practices.

AcKNowLEDGEME/'nts: The authors wish to acknowledge help received from other members of the advisory service in compiling this article.

CHAPTER EIGHT

# DAIRY FARMING

ROUGHLY half of the 200,000 Irish farmers engage in dairying. The total national herd amounted to 1-7 million cows in 1970, producing milk for processing (excluding that fed to livestock) valued at one quarter of the gross agricultural output.

The total milk intake at creameries in the country in 1970 was 514,100,000 gallons which was utilised as follows[1]:

| | |
|---|---|
| Butter | 356,400,000 gls. |
| Cheese | 60,900,000 gls. |
| Whole milk powder | 33,500,000 gls. |
| Chocolate crumb | 29,100,000 gls. |
| Cream (all types) | 16,500,000 gls. |
| Butter oil | 10,200,000 gls. |
| Milk sold by creameries for liquid consumption | 6,700,000 gls. |
| Condensed milk | 600,000 gls. |
| Other products | 200,000 gls. |

In the same year 140,000,000 gallons were utilised in the liquid milk trade for human consumption.

## Dairy Farming in County Kerry

This enterprise makes a major contribution to farm incomes in the county and in this respect it is the most important single source of farm income. Sixty-one million gallons of whole milk was delivered to creameries in the county in 1970. This is conservatively valued at £6 million. In addition to this, dairy herds provide calves for the store trade and skim milk for calf and pig raising. Of the 12,333 farmers in the county, 11,131 delivered milk to creameries in 1968. Therefore 90-25 per cent of all farmers in the county were engaged in dairying in that year. The economic well-being of the county must be closely related to the prospect for future development in this enterprise.

An increase in cow numbers and in milk yield per cow, with the resultant increase in annual milk supply are the best indicators

[1] **E. M. Magner, "Quality Control of Milk and Dairy Products in the Republic of Ireland", *Farm Bulletin*, (October, 1971). 11.**

of progress either on a county or individual farm basis. The changes in the county cow population and milk deliveries for the 1960 to 1970 period are presented in table 8-1.

Milk delivered to creameries increased by 43-5 per cent in the 1960 to 1970 periods. A total of 12,000 cows suckled calves under the Beef Cattle Incentive Scheme in 1970. This is mainly responsible for the decrease in milk delivered to creameries in 1970 compared with 1969.

The combined growth in cow and incalf heifer numbers for the '60 to '70 period was 22-3 per cent. The greater relative percentage increase in milk supply compared with cow numbers is due to improved milk yield per cow which reflects improved husbandry and higher dairy merit in cow herds.

### Milk Yield per Cow

The efficiency of dairy farming depends on the annual quantity of milk produced per acre of land devoted to dairy cows. The level of milk production achieved is determined by stocking rate and milk yield per cow. It is not possible from the data presented in table 8-1 to calculate the average full lactation milk yields for the county, since a proportion of the milk produced is utilised for calf rearing and domestic consumption. However, it is possible to calculate the average milk intake per cow by creameries in the county by using the data presented in table 81. The total cow population in the county was 130,700 in 1969. The total milk intake by creameries in that year amounted to 63,067,446 gallons. If allowance is made for 5,600 cows suckling calves under the Beef Scheme in 1969 and if it is assumed that the remaining 125,100 cows were used for creamery milk production, then the average creamery milk intake per cow was 504 gallons. This figure corresponds with that found in a survey conducted by the Kerry County Committee of Agriculture in 1969 on 300 dairy farms in one creamery area in the county. A similar calculation for 1970 shows that the average creamery milk intake per cow was 491 gallons. This figure will be used subsequently in the text for estimating herd sizes from milk supplied to creameries, and the term "average cow" is used in the text to represent 491 gallons of milk supplied to creameries.

### Dairy Herd Size

A characteristic feature of dairy farming in the Republic of Ireland is the small average size of dairy herd (10 cows in 1970) resulting in a small annual milk delivery (5,300 gallons in 1970). A similar

**TABLE 81. Aggregate and percentage changes in cows, in-calf heifers, stock bulls and gallons of milk delivered to creameries, 1960 to 1970 (1960 = 100).**

| *Year* | *Cows* | | *In-calf heifers* | | *Stock Bulls* | | *Milk intake at creameries (gallons)* | |
|---|---|---|---|---|---|---|---|---|
| | *No.* | *%* | *No.* | *%* | *No.* | *%* | *No.* | *%* |
| COL. 1 | COL. 2 | | COL. 3 | | COL. 4 | | COL. 5 | |
| 1960 | 112,926 | 1000 | 6,538 | 100-0 | 1,981 | 100-0 | 42,496,298 | 100-0 |
| 1961 | 114,000 | 101-0 | 6,700 | 102-5 | 1,800 | 90-9 | 42,500,000 | 1001 |
| 1962 | 116,700 | 103-3 | 6,700 | 102-5 | 1,800 | 90-9 | 45,000,000 | 105-8 |
| 1963 | 114,500 | 101-4 | 8,700 | 1331 | 1,700 | 85-8 | 45,200,000 | 106-3 |
| 1964 | 118,500 | 104-9 | 9,600 | 146-8 | 1,400 | 70-7 | 44,900,000 | 105-6 |
| 1965 | 127,652 | 113-0 | 7,778 | 119-0 | 1,295 | 65-4 | 48,125,821 | 113-2 |
| 1966 | 128,200 | 113-5 | 9,400 | 143-8 | 1,100 | 55-5 | 50,261,691 | 118-3 |
| 1967 | 126,300 | 111-8 | 8,200 | 125-4 | 1,000 | 50-5 | 53,396,338 | 125-6 |
| 1968 | 129,500 | 114-7 | 8,200 | 125-4 | 1,000 | 50-5 | 59,159,013 | 139-2 |
| 1969 | 130,700 | 115-7 | 9,000 | 137-7 | 1,100 | 55-5 | 63,067,446 | 148-4 |
| 1970 | 136,200 | 120-6 | 9,900 | 151-4 | 1,200 | 60-6 | 60,966,764 | 143-5 |

SOURCE: Cols. 2-4. Central Statistics Office. [1960-'63: Kerry County Committee of Agriculture, *Annual Report* 1965, p. 177. 1964-'66: *Statictical Abstract of Ireland* 1967, p. 77; 1967-'68: *Statistical Abstract of Ireland* 1969, p. 79.
1969: *Irish Statistical Bulletin* (March 1970) p. 81. 1970: *Irish Statistical Bulletin* (September, 1971) p. 227]
Col. 5. Kerry County Committee of Agriculture (assembled from data supplied by each central creamery in Kerry).

**TABLE 8·2. Distribution of milk producers according to creamery milk supply for 1968 and 1970.**

| *Year* | *Annual Milk Supply (gals.)* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Less than* 7,000 | | 7,001 – 14,000 | | 14,001 – 20,000 | | over 20,000 | | *Total No. of Milk producers* |
| | *Number* | *% of total producers* | *No.* | *% of total producers* | *No.* | *% of total producers* | *No.* | *% of total producers* | |
| 1968 | 8,196 | 73·63 | 2,204 | 19·80 | 541 | 4·86 | 190 | 1·71 | 11,131 |
| 1970 | 7,010 | 68·43 | 2,362 | 23·06 | 582 | 5·68 | 290 | 2·83 | 10,244 |

SOURCE: 1968: Dept. of Agriculture and Fisheries (Private communication), 1970: data supplied by Dairy Disposal Co. and Co-operative Creamery.

pattern of production is found in Kerry and is summarised in table 8-2.

For the year 1968, 73-6 per cent of milk producers had an annual milk supply to the creamery of 7,000 gallons or less which is equivalent to the produce of herds of 14 "average cows" or fewer. This percentage had dropped to 68-4 in 1970 and in addition the number of milk suppliers decreased by 887. The average size of dairy herd per milk supplier increased from 11-2 cows in 1969 to 121 in 1970.

Dairy farmers producing 7,000 gallons of milk annually are regarded as having potentially viable dairying units. The equivalent of 7,000 gallons in terms of gross margin was initially used on a farm basis for eligibility in the Small Farm Incentive Bonus (I.B.) Scheme. Therefore, a high percentage of dairy farmers in the county are not presently earning a satisfactory income from dairying and are earning an adequate family income only if they are engaged in additional farm enterprises or if they are receiving remuneration from a non-farm activity.

*Small Herds*

Because of the preponderance of small dairy herds in the county it is necessary to examine in greater detail the range of production in these herds and any differences occurring on a regional basis within the county. A more detailed breakdown of milk suppliers into different supply categories for the years 1968 and 1970 is presented in table 8-3.

This table shows that 13-8 per cent of dairy farmers in the county supplied less than 1,000 gallons of milk to the creamery in 1970, which is equivalent to the produce of herds of 2 "average" cows or fewer. A similar percentage of milk producers supplied between 1 and 2 thousand gallons of milk and are therefore in the 3 to 4 cow herd category. This means that 27 per cent of all dairy farmers in the county had an annual milk production of 2,000 gallons or less in 1970 which represents 4 cows or fewer. The farm income derived from this size of dairy enterprise is very low. Unless substantial additional farm enterprises are engaged in, or employment outside of farming is available, a serious low income problem exists on these farms at present. Furthermore, if they do not have land resources which will allow them to expand their dairy herds, or cannot obtain capital to finance other farm enterprises, then their future as farmers must be in doubt.

Over one quarter of all dairy farmers (28 per cent) had herds of

**TABLE 8-3. The distribution of milk producers according to creamery milk supply and herd size based on average supply for 1968 and 1970.**

| YEAR | | | YEAR | | | | Change in producers |
|---|---|---|---|---|---|---|---|
| | 1968 | | | 1970 | | | |
| Milk supply (000 gals.) | No. of producers | Herd size No. of cons | % of total producers | No. of producers | Herd size No. of cows | % of total producers | 1968 to 1970 |
| 1,000 or less | 1,463 | 2 or less | 13-14 | 1,416 | 2 or less | 13-82 | — 47 |
| 1,001 to 2,000 | 1,754 | 3 to 4 | 15-76 | 1,358 | 3 to 4 | 13-26 | —396 |
| 2,001 to 5,000 | 3,460 | 5 to 10 | 31-08 | 2,874 | 5 to 10 | 28-05 | —586 |
| 5,001 to 7,000 | 1,519 | 11 to 14 | 13-65 | 1,362 | 11 to 14 | 13-30 | —157 |
| 7,001 to 14,000 | 2,204 | 15 to 28 | 19-80 | 2,362 | 15 to 28 | 2306 | + 158 |
| 14,001 to 20,000 | 541 | 29 to 40 | 4-86 | 582 | 29 to 40 | 5-68 | + 41 |
| Over 20,000 | 190 | Over 40 | 1-71 | 270 | Over 40 | 2-83 | + 100 |
| Total Producers | 11,131 | | 100-00 | 10,244 | | 10000 | —887 |

SOURCE: Compiled from data supplied by each central creamery. Dairy Disposal Company and Dept. of Agriculture and Fisheries.

5 to 10 cows in 1970. Many of these can increase their herd size, but it is significant that although this did occur in the 1968 to '70 period a big proportion changed from dairy farming to beef production. Most of those who were dairy farmers in 1968 and who participated in the Beef Scheme in 1970, were in the smaller herd range (2 to 10 cows), and this accounts for the fall in the number of milk producers in the county in the 1968 to '70 period. However, despite the decline in the total number of milk producers in this period, farmers supplying 7,000 gallons of milk and upwards annually increased numerically (2,935 in 1968 to 3,234 in 1970). Similarly dairy farmers with an annual milk production of 14 thousand gallons ormore increased in number from 731 in 1968 to 859 in 1970.

*Geographic Distribution*

A more detailed breakdown of milk producers in the county, into different milk supply categories, together with the estimated average herd sizes and cow population for each creamery area (figure 8-1 p. 152), for the year 1970 is presented in table 8-4. The average herd size for each creamery area was calculated by dividing the average annual milk supply per milk producer in each of the creamery areas by the county average creamery milk intake per dairy cow (491 gallons). The estimated dairy cow population for each of the above areas is the product of average herd size and total milk producers. In both Tralee and Killarney areas dairy farmers are engaged in winter milk production for the liquid milk trade. Since milk yield per cow is expected to be higher than average in these areas, the actual average herd sizes may be less than that calculated by using the average county yield figure.

With the exception of Killarney Milk Suppliers Ltd., which has only 50 milk suppliers, the greatest concentration of larger herds (annual milk delivery of 7,000 gallons or over) is found in the Dicksgrove, Newtownsandes and Abbeydorney creamery areas in that order; the greatest average herd size being in the Abbeydorney area. Milk suppliers in the Kenmare and Caherciveen areas have very small dairy herds; approximately 23 per cent of all herds under 4 "average cows" in the county being in these two areas. (See table 8-5).

This table shows the very great difference in dairy herd size between the North and South Kerry areas. In the South Kerry area only 3-04 per cent or 38 suppliers from a total of 1,248 had milk supplies greater than 7,000 gallons. In the North Kerry area (1,858 suppliers) 41-3 per cent had milk supplies greater than this

***Continued on page 154***

**TABLE 8·4. Distribution of milk producers according to annual milk supply, for each creamery area in the county for year 1970 average milk supply per producer, estimated average herd size and number of cows (% of total producers in brackets).**

| | *ANNUAL MILK SUPPLY (Gals.)* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *CREAMERIES* | 1,000 or less | 1,001–2,000 | 2,001–5,000 | 5,001–7,000 | 7,001–14,000 | 14,001–20,000 | over 20,000 | *Total Suppliers* | *Av. milk Supply per Supplier (gals.)* | *Estimated Av. herd size. No. of cows* | *Estimated Cow No's. for each Creamery Area* | *% of Suppliers less than 7,000 (gals.)* |
| Ardfert | 52 (8·9) | 71 (12·1) | 152 (25·9) | 96 (16·4) | 156 (26·6) | 39 (6·7) | 20 (3·4) | 586 (100) | 6,749 | 13·75 | 8,058 | 63·3 |
| Castlemaine | 192 (14·4) | 210 (15·8) | 421 (31·7) | 166 (12·5) | 259 (19·5) | 60 (4·5) | 21 (1·6) | 1,329 (100) | 5,302 | 10·80 | 14,353 | 74·4 |
| Caherciveen | 145 (19·3) | 185 (24·6) | 387 (51·5) | 13 (1·7) | 20 (2·7) | 1 (0·1) | Nil(—) | 751 (100) | 2,330 | 4·75 | 3,567 | 97·1 |
| Dingle | 84 (9·2) | 70 (7·6) | 350 (38·1) | 199 (21·7) | 197 (21·5) | 10 (1·1) | 7 (0·8) | 917 (100) | 5,327 | 10·85 | 9,950 | 76·6 |
| * Dicksgrove | 104 (10·58) | 108 (10·99) | 128 (13·02) | 145 (14·75) | 348 (35·40) | 101 (10·27) | 49 (4·99) | 983 (100) | 7,821 | 15·93 | 15,659 | 49·3 |
| Kenmare | 183 (37·0) | 115 (23·1) | 173 (34·8) | 9 (1·8) | 16 (3·2) | Nil (—) | 1 (0·2) | 497 (100) | 1,929 | 3·93 | 1,953 | 96·7 |
| Listowel | 211 (13·3) | 190 (11·9) | 330 (20·8) | 218 (13·7) | 420 (26·4) | 147 (9·3) | 74 (4·6) | 1,590 (100) | 7,300 | 14·87 | 23,643 | 59·7 |
| Rathmore | 141 (11·1) | 131 (10·3) | 381 (30·0) | 224 (17·6) | 326 (25·6) | 51 (4·0) | 18 (1·4) | 1,272 (100) | 5,812 | 11·84 | 15,060 | 69·0 |
| Abbeydorney | 20 (7·5) | 45 (16·8) | 42 (15·7) | 34 (12·7) | 77 (28·7) | 29 (10·8) | 21 (7·8) | 268 (100) | 8,556 | 17·43 | 4,671 | 52·7 |
| Ballinclemisig | 17 (10·3) | 32 (19·4) | 54 (32·7) | 18 (10·9) | 38 (23·1) | 5 (3·0) | 1 (0·6) | 165 (100) | 4,878 | 9·93 | 1,639 | 72·3 |
| Ballyduff | 22 (10·4) | 18 (8·5) | 60 (28·3) | 33 (15·6) | 51 (24·0) | 15 (7·1) | 13 (6·1) | 212 (100) | 7,039 | 14·34 | 3,040 | 62·8 |
| Brosna | 32 (24·0) | 15 (11·3) | 21 (15·8) | 13 (9·8) | 41 (30·8) | 11 (8·3) | Nil(—) | 133 (100) | 6,130 | 12·48 | 1,660 | 60·9 |
| Fealesbridge | 63 (15·5) | 37 (9·1) | 132 (32·5) | 56 (13·8) | 92 (22·7) | 21 (5·2) | 5 (1·2) | 406 (100) | 5,616 | 11·44 | 4,645 | 70·9 |
| Killarney | Nil (—) | 1 (2·0) | Nil (—) | 4 (8·0) | 17 (34·0) | 17 (34·0) | 11 (22·0) | 50 (100) | 12,000 | 24·44 | 1,222 | 10·0 |
| Newtown-sandes | 31 (12·4) | 16 (6·4) | 49 (19·5) | 32 (12·7) | 91 (36·3) | 24 (9·5) | 8 (3·2) | 251 (100) | 7,228 | 14·72 | 3,695 | 51·0 |
| Lee Strand | 52 (12·2) | 54 (12·7) | 98 (23·0) | 60 (14·1) | 107 (25·1) | 29 (6·8) | 26 (6·1) | 426 (100) | 7,368 | 15·01 | 6,394 | 62·0 |
| Lixnaw | 67 (16·4) | 60 (14·7) | 96 (25·5) | 42 (10·3) | 106 (26·0) | 22 (5·4) | 15 (3·7) | 408 (100) | 5,987 | 12·19 | 4,974 | 64·9 |
| COUNTY | 1,416 (13·83) | 1,358 (13·25) | 2,874 (28·05) | 1,369 (13·30) | 2,362 (23·06) | 582 (5·68) | 290 (2·93) | 10,244 (100) | 5,961 | 12·12 | 124,183 | 68·43 |

* A total of 485 milk producers delivered 7,000 gallons or less to this creamery. The breakdown of this figure into the four categories under 7,000 had to be estimated, since this information was not forthcoming.

SOURCE: Calculated from data supplied by each central creamery.


**FIGURE 81. Location of central creameries, County Kerry.**

TABLE 8-5. Distribution of milk producers according to milk supply to creameries in North and South Kerry (1970).

| *Annual Milk Supply (gallons)* | *CREAMERIES* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *South* | | | | *North* | | | |
| | *Kenmare* | | *Caherciveen* | | *Listowel* | | *Abbeydorney* | |
| | *No. oS Suppliers* | *%oS total* | *No. oS Suppliers* | *%oS total* | *No. oS Suppliers* | *%oS total* | *No. oS Suppliers* | *%oS total* |
| 1,000 or less | 186 | 37-0 | 145 | 19-3 | 211 | 13-3 | 20 | 7-5 |
| 1,001 - 2,000 | 115 | 23-1 | 185 | 24-7 | 190 | 11-9 | 45 | 16-8 |
| 2,001 - 5,000 | 173 | 34-7 | 387 | 51-5 | 330 | 20-8 | 42 | 15-7 |
| 5,001 - 7,000 | 9 | 1-8 | 13 | 1-7 | 218 | 13-7 | 34 | 12-7 |
| 7,001 - 14,000 | 16 | 3-2 | 20 | 2-7 | 420 | 26-4 | 77 | 28-7 |
| 14,001 - 20,000 | Nil | — | 1 | 0-1 | 147 | 9-3 | 29 | 10-8 |
| Over 20,000 | 1 | 0-2 | NU | — | 74 | 4-6 | 21 | 7-8 |
| Total | 497 | 1000 | 751 | 1000 | 1,590 | 100-0 | 268 | 100-0 |

SOURCE: Data supplied by selected creameries in South and North Kerry.

figure. The very high percentage of suppliers in the Kenmare area with annual deliveries of 1,000 gallons or less was partly due to a decrease in total number of suppliers from 497 to 362 during the 1970 milk year.[2] These suppliers who changed from dairying apparently switched to suckling in the spring of 1970, having delivered a small quantity of milk during the previous autumn and winter. The downward trend in milk suppliers continued in the Kenmare area during 1971.

**Gross Margin from Dairy Farming in the County**

It is estimated that the average gross margin per dairy cow amounted to £55 in 1970. This figure is used in table 8-6 to estimate the county gross margin earned from dairying. The gross margin per dairy cow was calculated as follows:

| | | | | |
|---|---|---|---|---|
| | (Value of milk | + | value of calf at birth) |
| | £55.50 | | £22 |
| *less* (—) | (Cow depreciation | + | variable costs) |
| | £8 | + | £14.50 |

The gross margin per cow in 1972 is approximately 50 per cent higher than the above figure, due to the unprecedented rise in the price of milk and calves.

**TABLE 8-6. Number of milk producers; estimated average herd size; gross margin per supplier and total county gross margin by milk supply category 1970.**

| *Annual milk supply (gals.)* | *No. of milk producers* | *Estimated average herd size (no. of cows)* | *Estimated average gross margin per milk producer* (£) | *Estimated total gross margin for all producers* (£) |
|---|---|---|---|---|
| 1.000 or less | 1,416 | 1 | 55 | 77,880 |
| 1.001 to 2,000 | 1,358 | 3 | 165 | 224,070 |
| 2,001 to 5,000 | 2,874 | 7 | 385 | 1,106,490 |
| 5,001 to 7,000 | 1,362 | 12 | 660 | 898,920 |
| 7,001 to 14,000 | 2,362 | 21 | 1,155 | 2,728,110 |
| 14,001 to 20,000 | 582 | 34 | 1,870 | 1,088,340 |
| over 20,000 | 290 | 44 | 2,420 | 701,800 |
| County | 10,244 | 121 | 666 | 6,825,610 |

[2] **September 1st 1969 to August 31st 1970**

The estimated total gross margin earned from dairy-farming in the county for 1970 amounted to £6,825,610, giving an average gross margin of £666 per milk producer. The corresponding figures for 1972 are approximately £11 million and £1,000 respectively. It is of interest to note from table 8-6 that dairy farmers with an annual milk supply greater than 7,000 gallons totalled less than one-third of all milk suppliers in the county and earned two-thirds of the total estimated county gross margin derived from dairying. This emphasises the necessity for an increase in herd size, especially on the smaller dairy farms and the necessity for additional farm enterprises on these farms.

Dairy farmers with herds of four cows or fewer form a substantial proportion (28 per cent) of the total milk suppliers in the county. Land is often the limiting factor on these farms. Many of these, therefore, cannot expand their dairy herds. This small-scale dairying does not justify full-time farming and unless the necessary capital, confidence and initiative to engage in more intensive farming systems are available, then alternative sources of income are essential.

**Buildings and Milking Equipment on Dairy Farms**

Cow accommodation for the winter period, milking facilities and storage accommodation for hay or silage are required on all dairy farms. Traditionally cows were accommodated in a tie up cow byre where milking also took place either by hand or by a bucket milking machine. Hay was stored in the open or in a hay-barn. This management system had a high labour content and severely limited the number of cows handled per man. Quite often, because of poor building layout and design, much labour time was also absorbed in unproductive activities. In addition these buildings were in the past often placed in unsuitable sites convenient to the dwelling house but inconvenient for dairy farming.

Since the late fifties radical changes have taken place in cow feeding, housing and milking systems, with the introduction of loose housing, self feeding of silage and parlour milking. These developments have greatly reduced the labour content of herd management resulting in greater productivity per man. Silage making continued to replace hay-making in the sixties and 1,000 farmers in the county made silage in 1970. Of these nearly 300 had installed cubicle housing and practised self-feeding of silage. Self-feeding of silage is also found on a number of farms where the cubicle housing system is not yet installed.

*Milking Systems*

Mechanical milking equipment is generally installed on farms with herds of 12 cows or more. There were 3,600 such herds in the county in 1968 and up to that year 3,400 milking machines had been installed.

A survey conducted by the Kerry County Committee of Agriculture in 1969 established that 300 herds in the county were milked in parlours, and the remainder of the mechanically milked herds were milked in the cow byre by means of bucket plants and round the stall pipe lines. From the available information it appears that two-thirds of all herds in the county are hand-milked. Only 3 per cent of all herds are milked in parlours and a similar percentage are managed in a self-feed silage cubicle system. The high percentage of herds housed in tie-up byres and milked by hand or by means of bucket plants results in a high labour input on these farms. In a situation where labour is declining on farms, this often militates against an increase in herd size. The mechanical condition of milking installations can affect milk yields and influence the incidence of mastitis. Research has shown that vacuum fluctuations during milking caused by inadequate vacuum pump capacity, narrow bore vacuum and milk lines, or poor vacuum controllers are undesirable. Many of the older milking machines had major installation faults. Many of these installations have been improved in recent years, but many are still defective. In general, maintenance and servicing of milking machines are neglected on many dairy farms.

Water Supplies

An adequate supply of piped water is now considered to be essential for livestock farming and particularly for dairying. Dairy farming has a high water requirement. Water needs on a dairy farm are approximately 30 gallons per cow daily for drinking purposes, milk cooling, cleaning of milking equipment and buildings. On highly stocked dairy farms this amounts to 30 gallons daily per acre of land.

The Western Farm Survey shows that only 33-4 per cent of farms in the county had a piped water supply in 1967 (table 8-7). The availability of piped water is less on farms in the South than in any of the other regions.

Dairy Breeding

The ability of cows to convert feed into milk is dependent on their genetic makeup. Even though the potential milk yield is

TABLE 8-7. Percentage distribution of farms according to source of farm water supply, by survey region.

| *Survey Region* | *Water supply source* | | | | *Total* |
|---|---|---|---|---|---|
| | *Regional supply or group scheme* | *Private piped supply* | *Other source* — *Within farm* | *Outside farm* | |
| South | 6-8 | 14-6 | 75-4 | 3-2 | 1000 |
| West | 29-3 | 14-2 | 43-4 | 131 | 1000 |
| North | 5-7 | 41-4 | 48-3 | 4-6 | 1000 |
| East | 6-2 | 25-3 | 55-0 | 13-5 | 1000 |
| Central | 10-8 | 26-9 | 48-6 | 13-7 | 1000 |
| County Kerry | 10-4 | 230 | 571 | 9-5 | 1000 |

SOURCE: Western farm survey.

determined by the dairy merit of the cow, this potential is very often not fully achieved due to nutritional and husbandry limitations. Milk yield improvement through breeding is a slow process due to the low heritability of this trait.

The average milk yield per cow in the county is low and can be improved on many farms by means of improved nutrition and husbandry. It is important, however, that cow replacements and additional cows on farms are of high dairy merit; artificial insemination (A.I.), because of its widespread use, will play a vital role in this by providing fully proven sires. Over 80 per cent of the cows in the county were mated artificially in 1970. All inseminations are done from the Castleisland Cattle Breeding Centre (CBC).

In the 1958 to '70 period, there was a strong trend towards Friesian and Hereford inseminations and away from Shorthorn and Kerry Breeds (table 8-8).

TABLE 8-8. Percentage distribution of annual artificial inseminations according to dairy breed, 1958 to 1970.

| Year | Breed | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Short-horn* | *Friesian* | *Kerry* | *Here-ford* | *Aber-deen Angus* | *Charo-lais* | *Others* | *Total* |
| 1958 | 30-7 | 19-2 | 5-7 | 12-7 | 31-6 | — | 0 1 | 100-0 |
| 1967 | 22-5 | 32-7 | 1-9 | 30-5 | 11-4 | 0-5 | 0-5 | 1000 |
| 1968 | 148 | 43-2 | 1-5 | 26-9 | 11-3 | 1-9 | 0-4 | 100-0 |
| 1969 | 11-7 | 42-3 | 10 | 300 | 12-0 | 1-9 | 11 | 1000 |
| 1970 | 11-3 | 42-0 | 0-9 | 30-8 | 12-7 | 2-2 | 0 1 | 100-0 |

SOURCE: Castleisland Cattle Breeding Centre (private communication).

Friesian and Shorthorn type dairy cows are the chief dairy breeds in the county; Friesian type being the dominant commercial dairy breed.

Diseases and Parasites

Brucellosis and mastitis are two of the more serious diseases affecting dairy herds in the county.

***Brucellosis***

This disease can cause severe losses on dairy farms as a result of low percentage of live births, loss of milk yield and infertility.

During the past year the Milk Ring Test has been used at all creameries to determine the incidence of brucellosis at individual farm level. Milk suppliers whose milk has proved positive are notified as also is their veterinary surgeon. Under a scheme currently in operation[3], farmers may have their maiden heifers (which have not previously been vaccinated with Strain 19) vaccinated free of charge by their veterinary surgeon with 45/20 vaccine. This vaccination is particularly urgent on farms where an outbreak of brucellosis has occurred.

***Mastitis***

Surveys in this and other countries have shown that 50 per cent of the cows on average in each herd have subclinical mastitis. This infection is undetected by the farmer but depresses milk yields

[3] See "Specially for the Farmer" for further details of Brucellosis eradication schemes.

by about 10 per cent. Clinical mastitis, which develops from subclinical infection is found in only 1 to 2 per cent of cows at any one time. This form, often considered as the most serious by the farmer is only a small part of the mastitis problem in a herd.

Control programmes, with the objective of reducing the level of subclinical infection and the prevention of new infections, have now been developed and have proved to be effective for mastitis control on a herd basis.

Mastitis can have serious economic effects in a dairy farm as a result of reduced milk yield and high culling percentage due to damaged udders. Modern mastitis control methods are not as yet widely practised on dairy farms in the county.

*Parasites*

Worm parasites may cause considerable internal disorders in dairy cows which can lead to reduced performance. The financial losses caused by external and internal parasites can be quite substantial on some dairy farms. It has been estimated that the national loss in milk production alone from liver fluke infestations is over £2*h* million per annum.

The incidence of lice can also be somewhat of a problem during the winter months when cows are housed, because they cause irritation which leads to general unthriftiness of animals.

**Milk Processing in the County**

Milk for manufacturing purposes in the county is purchased by creameries operated either by the Dairy Disposal Company or co-operative societies (figure 8-1). There are eight central creameries owned by the Dairy Disposal Company and nine owned by co-operative societies.

The distribution of milk supplies between the Dairy Disposal Company and co-operative creameries for the 1960 to 1970 period is presented in table 8-9. In this period the annual intake of milk by the Dairy Disposal Company consistently remained at roughly three times the amount taken by Co-operative Creameries.

A bigger percentage of small herds supply milk to Dairy Disposal creameries than to co-operative creameries in the county. In 1970, 70-4 per cent of milk producers supplying milk to Dairy Disposal creameries supplied less than 7,000 gallons of milk, while 61-8 per cent of suppliers to co-operative creameries supplied less than this quantity, (table 8-10).

TABLE 8-9. Distribution of milk between the Dairy Disposal and co-operative creameries, 1960 to 1969.

| *Year* | *Creameries* | | *Total* |
|---|---|---|---|
| | *Dairy Disposal* | *Co-operative* | |
| 1960 | 32,437,704 | 10,058,504 | 42,496,208 |
| 1965 | 36,738,299 | 11,387,522 | 48,125,821 |
| 1966 | 38,215,794 | 12,045,897 | 50,261,691 |
| 1967 | 40,561,083 | 12,835,255 | 53,396,338 |
| 1968 | 44,679,277 | 14,479,736 | 59,159,013 |
| 1969 | 47,372,828 | 15,694,618 | 63,067,446 |
| 1970 | 45,285,359 | 15,681,405 | 60,966,764 |

SOURCE: Kerry Co. Committee of Agriculture (compiled from data supplied by each central creamery in Kerry).

The Creamery structure for the county is presented in table 8* 11. This table shows that there are 70 milk intake points, each with an average intake of 870,954 gallons in 1970.

***Milk Assembly***

The branch creamery system is the predominant method of milk intake by creameries in the county.

In this system farmers either individually or as a group deliver milk in cans to the creamery where it is separated. The cream is taken to the central creamery for churning and in some cases skim is returned to the farm. Three creameries in South Kerry and one in North Kerry operate a multican haulage system for part of their areas as an alternative to branch creameries. Here milk is delivered by farmers to a central point for collection and transportation to the creamery branch at which the producers are registered suppliers.

In order to minimise washing and handling, many of the bigger

**TABLE 8 10. Distribution of milk producers according to quantity of milk supplied to co-operative creameries and Dairy Disposal creameries (1970).**

| | *Gallons* | | | | | | | | *Total number of suppliers* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Less than* 7,000 | | **7,000-** 14,000 | | **14,001** 20,000 | | *Over* 20,000 | | | |
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Co-operative creameries 1970 | 1,426 | 61-49 | 620 | 26-74 | 171 | 7-46 | 100 | 4-31 | 2,319 | 100-0 |
| Dairy Disposal creameries 1970 | 5,584 | 70-40 | 1,742 | 22-00 | 409 | 5-20 | 190 | 2-40 | 7,925 | 100-0 |
| Total suppliers | 7,010 | 68-43 | 2,362 | 23-06 | 582 | 5-68 | 290 | 2-83 | 10,244 | 100-0 |

**SOURCE: Calculated from data collected from central creameries in the county.**

**TABLE 811. Creamery structure for County Kerry 1970-**

| *CENTRALS* | *No. of branches* | *No. of intake points* | *Total Milk intake 1970 (gals.)* | *Average milk supply per intake point* | *Total No. of Suppliers* | *Average milk delivery per supplier* |
|---|---|---|---|---|---|---|
| **Dairy Disposal** | | | | | | |
| Ardfert | 6 | 7 | 3,954,997 | 565,000 | 586 | 6,749 |
| Castlemaine | 8 | 9 | 7,046,651 | 782,961 | 1,329 | 5,302 |
| Cahirciveen | Nil | **1** | 1,750,000 | 1,750,000 | 751 | 2,330 |
| Dicksgrove | **7** | 8 | 7,688,409 | 961,051 | 983 | 7,821 |
| Dingle | 9 | 10 | 4,885,491 | 488,549 | 917 | 5,327 |
| Kenmare | Nil | 1 | 958,856 | 958,856 | 497 | 1,929 |
| Listowel | 10 | 11 | 11,607,000 | 1,055,182 | 1,590 | 7,300 |
| Rathmore | 8 | 9 | 7,393,955 | 821,551 | 1,272 | 5,813 |
| **Co-Operatives:** | | | | | | |
| Abbeydorney | 1 | 2 | 2,292,886 | 1,146,443 | 268 | 8,556 |
| Ballinclemesig | Nil | 1 | 804,937 | 804,937 | 165 | 4,878 |
| Brosna | Nil | **1** | 815,318 | 815,318 | 133 | 6,130 |
| Fealesbridge | **1** | 2 | 2,280,098 | 1,140,049 | 406 | 5,616 |
| Lee Strand | **1** | 2 | 3,138,938 | 1,569,469 | 426 | 7,368 |
| Lixnaw | 2 | 3 | 2,442,793 | 814,264 | 408 | 5,987 |
| Newtownsandes | Nil | **1** | 1,814,148 | 1,814,148 | 251 | 7,228 |
| Rattoo | Nil | **1** | 1,492,287 | 1,492,287 | 212 | 7,039 |
| Killarney Milk S. **Ltd.** | Nil | **1** | 600,000 | 700,000 | 50 | 12,000 |
| COUNTY | **53** | 70 | 60,966,764 | 870,954 | 10,244 | **5,951** |

**SOURCE: Data supplied by each central creamery in the county and Killarney Milk Suppliers Ltd.**

milk producers are at present contemplating a change from churns to bulk tanks for milk storage. The correct choice of bulk tank will, however, depend on the future methods of milk assembly to be adopted by creameries in the county.

*Milk Quality*

The quality bonus payable to farmers whose milk is of the required standard has an important incentive effect in stimulating the production of high quality milk. As recent as 1965, only 39 per cent of the milk delivered to creameries was of this standard. In the meantime, the situation has improved, but further improvement is still possible. In 1969/70, some 65-6 per cent of total milk supplies qualified for the bonus. But this amount was still delivered by a minority of suppliers (table 8-12). There are no specific figures available which show a relationship between quality of milk and herd size. Observations, however, suggest that many small milk producers fail to produce top quality milk.

**TABLE 8-12. Percentage distribution of milk and suppliers paid the Quality Milk Bonus, 1967/68 to 1969/70.**

| *Year (ending August* 31) | *per cent of milk* | *per cent of suppliers* |
|---|---|---|
| 1967/68 | 67-6 | 48-7 |
| 1968/69 | 68-7 | **49-3** |
| 1969/70 | 65-6 | 48-8 |

SOURCE: Department of Agriculture and Fisheries (private communication).

*Dairy Products*

Butter is the chief dairy product in this country. In recent years, however, an increasing quantity of milk is manufactured into products other than butter. In Kerry, 77 per cent of all whole milk purchased by creameries in 1970 was manufactured into butter (table 8-13).

Approximately 21 per cent of the total whole milk intake was sold for manufacture into products other than butter. The Fry

ABLE **8-13. Utilisation of whole milk by** creameries **in the** county **(1970).**

| | *Pasteurised milk sold for liquid consumption (gals.)* | *Whole milk sold for processing (gals.)* | *Milk manufactured into butter and sold as fresh cream (gals.)* | *Total milk intake by creameries* |
|---|---|---|---|---|
| No. of gals. | 1,247,387 | 12,770,711 | 46,948,666 | 60,966,764 |
| % of total | (2-1) | (20-9) | (770) | 100 0 |

SOURCE: Calculated from data supplied by central creameries and milk processing firms.

Cadbury Company purchased 90 per cent of this for their factory in Rathmore; the remainder was purchased by processors outside the county.

The method of disposal of skim milk remaining after whole milk separation is presented in table 8-14. Due to the absence of skim processing facilities 91 per cent of all skim milk was used as animal **feed.**

**TABLE 814. Disposal of skim milk in County Kerry 1970.**

| *Skim available after whole milk separation (80 % of whole milk) (gals.)* | *Skim milk sold for processing (gals.)* | *Skim milk available for animal feed (gals.)* |
|---|---|---|
| 37,558,933 (1000) | 3,415,176 (9-1) | 34,143,757 (90-9) |

SOURCE: Calculated from data supplied by central creameries and milk processors.

## Summary

Dairy farming is the major contributor to farm incomes in the county with over 90 per cent of all farmers having dairy herds.

In the 1960 to '70 period milk supply increased by 43-5 per cent while the total cow population increased by 21 per cent. Since the introduction of the Beef Cattle Incentive Scheme in 1969 the number of milk suppliers decreased by 887. One of the chief

features of dairying in the county is the high percentage of small herds. In 1970, 68-5 per cent of herds had annual supplies of less than 7,000 gallons, with 20 per cent of these herds or 13-83 per cent of all herds under 1,000 gallons. In the South Kerry area small herds predominate. The average herd size in 1970 was 12-1 cows with an average yield delivered to the creamery of 491 gallons per cow. The estimated county gross margin from dairying amounted to £6,823,000 in 1970.

Two-thirds of herds are hand-milked and 97 per cent of herds are housed in tie-up byres. The trend towards cubicle housing and parlour milking is desirable as it increases labour productivity per man.

There are seventeen central creameries in the county operated by the Dairy Disposal Company (8) and co-operative societies (9) with a total of seventy intake points. Milk is delivered by the producers to these intake points except in four areas where multican haulage has replaced the branch creamery. Milk assembly is mainly by producer delivery to the branch creamery. Butter is the chief dairy product utilising three-quarters of the total whole milk intake. The resulting skim milk available after milk separation, was fed to livestock, due to lack of skim milk processing in the county up to 1970.

ACKNOWLEDGEMENTS: Thanks are due to the following: The Department of Agriculture and Fisheries; Dairy Disposal Board; Central and branch creamery managers and the managers of processing units for supplying data requested. Mr. P. Sayers for his invaluable help in collecting and compiling this data. Messrs. M. Stack, J. C. Daly, P. O'Sullivan and B. Shanahan for their assistance and helpful suggestions. The author is grateful for this assistance.

CHAPTER NINE

# OTHER GRASSLAND ENTERPRISES

THE main grassland enterprises, apart from dairying, are cattle, sheep and horses. Of these cattle is the largest contributor to farm income. Cattle production is a very important enterprise for old and part-time farmers and also those in remote areas with poor land and who are a long distance from creameries. In the past, cattle production and dairying were carried out on the same farm side by side. The most recent trend is towards specialisation in either dairying or cattle production.

Sheep are mainly confined to the mountains and foothills of South and West Kerry, where they are the main contributors to farm income on many farms. The sale of wool accounted for the major proportion of the sheep output in the past. Man-made fibres have resulted in poor demand and low prices for wool in recent years. At present sheep farmers depend mainly on the sale of lambs, old ewes and wethers for farm income.

Horses were kept as draught animals on farms. While this is still true on many farms, the introduction of the tractor has to a large extent changed the role of the horse at the present time. They are now mainly kept for breeding and pleasure purposes.

Down through the years, breeding, marketing and management patterns in these enterprises have changed significantly. In the following chapter these trends and the present practices are examined in detail.

## CATTLE

Beef and store cattle production is of major importance to the national economy. The value of cattle and beef exports amounted to £115 million in 1971.[1]

The national cattle and beef industry is growing. Output from cattle increased by 84 per cent from £56-494 million in 1960 to £104-121 million in 1969 (table 91). At constant prices[2] this represents an increase of 35 per cent over the nine-year period.

[1] C. B. F. (Irish Livestock and Meat Commission) Dublin, December, 1971 (Press Release)

* *Irish Statistical Bulletin* (June 1971), p. 99.

**TABLE** 9 1. **Output of cattle in the Republic of Ireland** and **Kerry 1960-1969.**

| | 1960 (£000) | 1965 (£000) | 1969* (£000) |
|---|---|---|---|
| Republic of Ireland | 56-494 | 84-783 | 104-121 |
| Kerry | 3-104 | 4-783 | 5-554 |

SOURCE: Michael Ross, *County Incomes* 1960 *and* 1965 (Dublin: E.S.R.I. 1969).
*Michael Ross, *Further Data on County Incomes in the Sixties* (Dublin: E.S.R.I., May 1972), P. 27.

## Cattle Production in Kerry

Cattle and beef production is an important aspect of the farming industry in Kerry. It contributed about one quarter of all output from grassland in 1969. The total value of output from cattle increased by 78 per cent between 1960 and 1969.

The overall trend in cattle numbers over the past twenty years has been one of expansion in all age categories (table 9-2).

The figures in this table show that the total cattle population dropped slightly between 1950 and 1955. Subsequently the number of cattle in all age categories increased. The steady trend of growth was upset in the 1966-'67 period when stock were retained on farms for longer than usual, due to difficult marketing conditions and the outbreak of foot and mouth disease in England. The number of heifers in calf more than doubled in the 1955-'70 period.

### Herd Size

The average size of calf (cattle under one year old) and cattle herds in the county is small. This is evident from the total number of cattle carried on farms in the county over the past twenty years. In June, 1970, there were 94,700 calves and 94,000 cattle[3] on about 12,000 farms.

The Western Farm Survey showed that in January of 1967 almost 87 per cent of calf herds and 81 per cent of store cattle herds contained less than 10 animals. The pattern of small cattle-herd size was pretty consistent throughout the different survey regions. **It** was

[3] **See table** 9-2.

**TABLE 9-2- Distribution of cattle according to age in specified years, 1950-1970 (Male and female store cattle, 1970 in brackets).**

| | *Heifers in-calf* | *Over 2-year-old* | *1 year old and under 2 years* | *Under 1 year including total calves* | *Total cattle* | *Total Cows* | *Cattle under 1 year as a % of total cow population* |
|---|---|---|---|---|---|---|---|
| COL. 1 | *2* | 3 | 4 | *5* | 6 | | 7 |
| 1950 | 6,438 | 25,080 | 44,148 | 81,861 | 157,527 | 111,821 | 73-20 |
| 1955 | 4,139 | 25,955 | 41,898 | 78,926 | 150,918 | 110,664 | 71-32 |
| 1960 | 6,538 | 30,340 | 45,047 | 79,309 | 161,234 | 112,926 | 70-23 |
| 1965 | 7,778 | 29,552 | 46,825 | 88,055 | 172,210 | 127,652 | 68-98 |
| 1966 | 9,400 | 34,600 | 51,100 | 91,300 | 186,400 | 128,200 | 71-21 |
| 1967 | 8,200 | 36,900 | 55,300 | 88,900 | 189,300 | 126,300 | 70-38 |
| 1968 | 8,200 | 33,000 | 49,300 | 89,200 | 179,700 | 129,500 | 68-88 |
| 1969 | 9,000 | 32,200 | 50,200 | 89,600 | 181,000 | 130,700 | 68-55 |
| 1970 | 9,900 | 32,900 | 50,200 | 94,700 | 187,700 | 136,200 | 69-53 |
| | | M. F. | M. F. | M. F. | | | |
| | | (19,600 13,300) | (22,200 28,000) | (42,600 52,100) | | | |

SOURCE : Cols. 2-5: Central Statistics Office.

[1960-'62: Kerry County Committee of Agriculture, *Annual Report* 1965, p. 177. 1964-'66: *Statistical Abstract of Ireland* 1967, p. 77. 1967-'68: *Statistical Abstract of Ireland* 1969, p. 79. 1969: *Irish Statistical Bulletin* (March 1970), p. 81. 1970: *Irish Statistical Bulletin;* (September 1971), p. 227J.

noticeable, however, that calf herds in South Kerry were particularly small while the greater proportion of larger herds of more than 20 store cattle were in the North and Central regions of the county.

## Breeding

Since the dairy herd is the main source of calves for the cattle enterprise, it is not surprising that breeding practice seeks a compromise between the requirements of dairying and beef production. Over the years it has generally favoured the dual-purpose type Friesian or Shorthorn dam. Choice of bull at the time of mating usually reflects trends in the prices of cattle or confidence in the future of the dairy industry. This was particularly evident in the summer of 1972 when due to the high price of breeding heifers, demand for Friesian bulls was greater than it has been at any time in the past.

Breeding is controlled by Government Statute. A variety of cattle breeding schemes have been operated over the years and these have been supervised by officers of the Department of Agriculture and Fisheries.

### *Artificial Insemination (A.I.)*

Eighty-five per cent of all calves born in Kerry in 1971 were bred from A.I. Bulls. The A.I. Service commenced in the county in 1951 and is operated by the Dairy Disposal Board. The Cattle Breeding Centre (C.B.C.) is based in Castleisland with sub-stations throughout the county. In addition there is a sub-station in Castletownbere. The Millstreet and Cullen areas of Cork and parts of West Limerick are also served by sub-stations in Co. Kerry. The service is operated through the creamery network in these areas.

The number of bulls of the various breeds standing at the Castleisland Station in 1972 was as follows:

| | | | | |
|---|---|---|---|---|
| Beef breeds: | Hereford | (9) | Aberdeen Angus | (6), |
| | Charollais | (2) | and Semental | (3). |
| Dual Purpose: | Friesian | (18), | Shorthorn | (7). |
| Dairy Breeds: | Kerry | (3), | Jersey | (1). |

Semen is available through the station for the following breeds :- Red Dane, Jersey, Ayrshire, Guernsey and South Devon.

Ten of the Friesian bulls and one Shorthorn are proven for milk production. All new bulls coming into the station, with potential

for beef production are progeny tested through the Department of Agriculture and Fisheries progeny testing service.

There are two types of A.I. service available. Firstly, the ordinary service whereby the farmer has a limited choice between whatever bulls are available on the day. The other is the nominated service. In this case the farmer requests semen from a special bull. This amounts to 3 or 4 services per day at peak. This type of service extends to bulls outside the Castleisland Station. The charges for these services at present—1972—is £1*50 for ordinary service and £2-50 for nominated service.

*Variation in Breeding Pattern.* An analysis of insemination returns by breed, for selected years since the introduction of A.I. in the county shows some interesting features (table 9-3). The beef breeds between them accounted for 23 per cent of all inseminations in 1952. This figure increased sharply to a peak of 57 per cent in 1955 and was maintained at a little below this level for three years. It dropped sharply again to 21 per cent in 1960. Since then it has gained steadily to reach its second highest peak of 45 per cent in 1971. This spectacular variation in breeding practice is remarkable. It may be explained by the equally spectacular changes in the prices of beef and store cattle, and wavering confidence in the future of milk production in these periods. The most recent rise in the rate of use of beef-type bulls in the 1969—'71 period can be seen to coincide with the operation of the Beef Scheme and the two-tier price system for milk.

*Hereford versus Aberdeen Angus.* Taking the Hereford and Aberdeen Angus as representing the beef breeds, it is interesting to note how their popularity at any one time varies through the years.

The Hereford started at 17 per cent, increased to 24 per cent the following year, but then lost ground until 1957 when it began to increase slowly but steadily at the expense of the Aberdeen Angus, reaching its highest peak of 33-2% in 1971. This variation in the rate of use of Hereford bulls in the breeding programme is a reasonably good indication of the way beef-type calf prices ran during these years. The Aberdeen Angus started at 6 per cent in 1952 and reached its highest peak of 38-4 per cent in 1957. Its popularity at this time was linked with consumer demand for the smaller type of beef-joint. Its rate of use declined sharply over the following three seasons. The main reason appears to have been that farmers

**TABLE 9-3. Statistics of Inseminations by Castleisland C.B.C. in selected years, 1951-'71.**

| *Year* | *S.H.* | *H.* | *A.* | *A.* | *Fr.* | *K.* | *Others* | *Total* |
|---|---|---|---|---|---|---|---|---|
| '51 | 1,748 (76-2%) | Nil | Nil | | Nil | 543 (23-8%) | Nil | 2,291 (100%) |
| '52 | 4,997 (60%) | 1,427 (17%) | 562 (6%) | | Nil Nil | 1,435 (17%) | Nil Nil | 8,421 (100%) |
| '55 | 8,031 (27-1%) | 6,710 (22-6%) | 10,169 (34-3%) | | 2,009 (6-9%) | 2,712 (8-8%) | Nil Nil | 29,632 (100%) |
| '57 | 11,189 (25-1%) | 5,674 (12-5%) | 17,072 (38-4%) | | 6,823 (15-3%) | 3,674 (8-2%) | Nil Nil | 44,432 (100%) |
| '60 | 28,182 (53-5%) | 7,569 (14-3%) | 3,503 (6-6%) | | 10,490 (19-9%) | 2,889 (5-4%) | 7 (0-3%) | 52,640 (100%) |
| '65 | 16,291 (17-35%) | 13,886 (14-78%) | 10,613 (H'3%) | | 50,980 (54-29%) | 1,962 (2-08%) | 160 (0-2%) | 93,892 (100%) |
| '66 | 19,753 (20-83%) | 22,302 (23-51%) | 9,868 (10-4%) | | 40,226 (42-42%) | 1,898 (2-01%) | 792 (0-83%) | 94,839 (100%) |
| '67 | 22,795 (22-5%) | 30,952 (30-5%) | 11,635 (H'48%) | | 33,125 (32-7%) | 1,922 (1-89%) | 824 (0-93%) | 101,253 (100%) |
| '68 | 16,037 (14-8%) | 28,693 (26-7%) | 12,014 (H-2%) | | 46,389 (43-2%) | 1,702 **d-5%)** | 2,308 (2-6%) | 107,143 (100%) |
| '69 | 13,153 (H-6%) | 33,801 (29-9%) | 13,547 (12%) | | 48,857 (43-3%) | 1,180 (1-04%) | 2,246 (2-16%) | 112,784 (100%) |
| '70 | 13,055 (11 34%) | 35,503 (30-82%) | 14,279 (12-67%) | | 48,339 (42-01%) | 1,033 (0-89%) | 2,585 (2-27%) | 114,794 (100%) |
| '71 | 10,022 (8-8%) | 37,807 (33-2%) | 13,883 (12-2%) | | 49,103 | not available | not available | not available |

SOURCE: Castleisland Cattle Breeding Centre (C.B.C).

were disappointed with the smali size and slow growth rate of the Angus.

Since that time its rate of use has risen and settled at around 12 per cent. This is linked with insemination of breeding heifers.

*Other Cattle Breeding Schemes*

Before the advent of A.I. a number of cattle breeding schemes were operated in the county, some of which continue to be operated up to the present time. The purpose of these schemes was to improve the quality of cows and cattle for the production of milk, beef or both. All were controlled by Government statute. All except one such schemes were operated directly by officers of the Department of Agriculture. The Premium Bull Scheme[4] was operated by the Kerry County Committee of Agriculture and the Department of Agriculture and Fisheries. It was discontinued in 1967 and no further applications were accepted after that date.

Of the other cattle breeding schemes still in operation, the Licensed Bull Scheme[5] and the Special Term Bull Scheme[6] are of interest.

**Management**

The management of cattle may be taken to include all practices and operations which affect the number, weight or quality of animals which are eventually sold off the farm or retained as replacements for the dairy or beef-herd.

*Age at Sale*

In the Killarney and Rathmore areas 80-90 per cent of the calves are sold in the one to four week period. The owners of small herds sell most of their calves. They only keep sufficient heifer calves for herd expansion and renewal. In some herds half the calves are reared to six months. Those not needed for replacements are then sold off at this stage. Some larger farmers keep all their calves, and sell at the one to two year old stage.

In the Dingle Peninsula most of the calves are reared. Sixty per cent of these are sold from August to December, depending on their condition, the prevailing prices, and the winter feed supply. The remainder are carried over until the spring, a small proportion being sold as yearlings, and the rest held as replacements.

* A. A. Mescal, "Some Aspects of Beef Cattle Breeding in Ireland" in *Farm Bulletin* (October 1970). p. 8.

[6] *Ibid,* p.5.

• *Ibid,p.9.*

In the North Kerry and Killorglin area, calves were traditionally kept to the 1-2 year old stage. Cattle were housed over their first winter and were fed meals, roots and hay. On the larger farms they were carried over the second winter. This pattern is gradually changing and approximately half of the calves are now being sold at the one to four week stage. Half of the remainder are sold at from 6 to 12 months of age, leaving one-quarter of the total calf population being retained for sale as yearlings or for herd replacements and increases. Most of the Friesian heifers offered for sale as weanlings and as yearlings are bought by farmers within the county.

In the Kenmare and Caherciveen districts the vast majority of farmers keep their calves to the one to two year old stage. The pattern is now changing for two reasons; first, farmers who are intensifying their dairy enterprises sell off most of their calves, only keeping enough for herd replacements; secondly, there is a large number of participants in the Beef Scheme in these areas. Many of these now keep the maximum number of cows and sell the calves, except those needed for replacements, at six months. Approximately half of all farmers still carry their calves over the first winter. A small proportion of these rear them over the second winter.

There are a number of farmers with large areas of rough land. These farmers buy in two year old bullocks and keep them six to twelve months, and sometimes longer, before offering them for sale again.

*Calf Rearing*

The general pattern in the county is that calves are housed from birth in what used to be the old produce house, cow byre or dwelling. Within these houses they are tethered or penned in groups. They are generally bucket-fed with whole milk for three weeks. Over the following three weeks they are gradually changed to skim (milk) feeding, supplemented with meals and hay. They remain on this diet until going onto pasture in May/June period. Calves continue to be fed skim milk while on grass, supplemented in the majority of cases with crushed grain or other concentrate feed.

On farms in practically any part of the county where livestock accommodation of the conventional type is limited, the open hay-barn has become a popular calf house, particularly since the introduction of the high density straw bale. The roofed silo is generally used for the purpose where the cow-feeding system allows it.

Traditionally calves were fed on average of about 35 gallons of

whole milk during the first six weeks of their lives, and up to 300 gallons of skim milk during their first grazing season. With the development of industrial outlets for skim, farmers are switching to alternative feeding systems for the calves they wish to rear. Interest by farmers in these systems has grown sharply this year in practically all creamery areas from which skim is being delivered to milk factories. This is particularly so in North, Central and East Kerry. By use of a milk substitute from about the tenth day of the calf's life they have reduced the amount of wholemilk fed to less than 10 gallons and dispensed with skim feeding completely. Calves are fed on meals, hay and water from the tenth week of age until going out on grass.

Calves, once they are left out, are generally grazed in fields adjacent to the house. They are driven to the farmyard once or twice daily for the feeding of skim. Consequently rotational grazing for calves is practised to a limited extent only.

The practice of dehorning calves has grown over the past decade. It was usually done in the first week of the calves life with the caustic Potash "pencil." Since the practice became compulsory, the electric dehorner is frequently used. Many farmers choose to have their cattle skulled by a veterinary surgeon at the one year old stage. Castration of bull calves not retained for breeding is generally carried out at the 6-9 months stage.

*Calf Health.* The predominant problem in calf rearing is scour of one nature or another. Cases of nutritional scour are a perennial occurrence on practically all farms. They occur among bucket-fed calves indoors, and constitute an acute problem for single-suckled calves where the mothers are grazed on good pastures. Bacterial scours, chiefly of E. Coli type, have become endemic in some old calf rearing premises and have become a problem for the owners of such units. Farmers tend not to differentiate between the causes of scours and generally administer antibiotics as part of standard treatment. The dilution with water of the whole milk fed, is a widely practised precaution against nutritional scour and many farmers with the endemic bacterial scour problems have changed their calves to the healthier environment of the hayshed or silo.

Virus Pneumonia frequently causes problems among calves which are overcrowded in damp, poorly ventilated houses. Hoose causes trouble, especially in late-born calves, let out on grass in the June to August period. Pasture infestation with Hoose larvae is reaching its seasonal peak during this period and the calves

have not had an opportunity to build up natural immunity. The condition is prevalent among calves left on pasture too late in the autumn and particularly in parts of the county with a high rainfall.

Blackleg has caused death in calves on most farms at some time over the years. Vaccination against this disease is now standard practice. Similar measures are now also taken against Brucellosis in heifer calves intended for breeding; a free vaccination scheme is available and participation is voluntary.

*Wintering of Weanlings*

Up to 60 per cent of all calves born in the county are held on the farms of birth for the first winter, and the greater proportion of these are heifer calves which are retained in the county for herd expansion or replacement.

The first winter is critical in the life of all cattle. It can decide whether a beast is ready to be absorbed into the breeding herd or slaughtered at two years old or have to remain relatively unproductive for a third season or more. Over one-sixth of all "dry" cattle[7] in Kerry are in the latter (over 2-year-old) category, and this situation can be attributed to the poor standards of cattle housing, feeding or both.

Practically all farmers in the North, Central and Eastern parts of the county, and at least 60 per cent of farmers in the South and West house their calves in winter. This is necessary where the soil is heavy, and particularly where increased amounts of fertilizer are applied. About 1 per cent of all calves in the county are accommodated in cubicle and self-feed silage systems. Generally speaking, housing does not appear to be the main limiting factor in the wintering of weanlings.

The bulk of the maintenance part of the diet of weanlings is supplied by hay, though an increasing proportion of it is now being supplied by silage. Research evidence assembled from a number of hay-feeding trials by An Foras Taluntais shows that it takes almost 21 lbs. of dry matter (D.M.) from poor quality hay to give 1 lb. liveweight gain (L.W.G.). By comparison, 8 lbs. of D.M. from top quality hay gives an equivalent L.W.G.[8] The position is approximately the same regarding silage quality.

General observation at farm level suggests that one of the main reasons so many cattle are found in the older age category, is the feeding of hay or silage of low nutritive value to weanlings, as the

[7] See table 9-2.

[8] A. V. Flynn, *Production of Winter Feed,* Paper read at Cattle Production Seminar, Grange, Dunsany, Co. Meath (May 1970), p.l.

main part of their winter diet. Consequently liveweight gain is very poor and it is not uncommon to see calves which appear to have lost weight over the winter period.

Most farmers supplement hay and silage feed with sufficient meals to keep their weanlings thriving satisfactorily.

*Rearing of Breeding Heifers*

Breeding heifers form at least 60 per cent of all weanlings wintered on farms in the county whether retained on the farms on which they were produced or purchased. The aim is to get them in-calf in the May/June period of the second grazing season. Consequently, an effort is made to have cows calving early so that breeding heifers will reach 5i-cwt. in May of the following year. At least 50 per cent of breeding heifers going through the marts from Central and North Kerry reach or exceed this body weight. A decreasing percentage of breeding heifers in East, West and South Kerry, in that order respectively, reach this desired body weight on May 1.

Breeding heifers are usually grazed separately from the cows in the spring. They are run on good quality pastures until they go in-calf. Once in-calf they are put onto poorer quality pastures. These could be marshy lowlands or dry uplands which are adequate to maintain them in a moderately thriving condition. Should such second quality pastures not be available they are rotated after the cows in the grazing management system. They come into the wintering quarters at the end of the season at 7-8-cwt.

In the second winter the breeding-heifers are treated as dairy cows. They take up their permanent positions in cow-byres on the tie-up system. Farmers operating the loose house or cubicle and self-feed system prefer to keep them separate from the main herd, but are frequently forced for lack of alternative accommodation to run them along with the cows.

*The Suckling Herd*

The predominant management system adopted by participants in the Beef Scheme is single suckling. Participants on good land in any part of the county, but particularly in Central and North Kerry, tend to run more than one calf with mature cows. Multiple suckling with more than two calves per cow is very infrequent.

The main calving period is similar to, but tends to run somewhat later than that on dairy farms.

The grazing system practised is mainly of the uncontrolled or

set-stocking type with portion of the grassland area being closed, mainly for hay, but to an increasing extent for silage.

Calves have to be retained until two inspections of the herd have been carried out by officers of the Department of Agriculture. Consequently they suckle their mothers for the greater portion of her lactation period.

Cows in the smaller herds, particularly in South Kerry, are frequently wintered out-of-doors on rough grazing or 'winterage', supplemented with hay. Larger herds are mostly housed in loose cubicle systems and fed on self-feed silage.

*Problems with the System.* The first problem with the system is the high incidence of nutritional scour among calves single-suckled on cows being grazed on good pasture. Mastitis in cows is frequent under the same circumstances. This calls for constant supervision, and grass-intake by the cows has to be restricted in many cases. "Silent heat" among cows being suckled is a further problem which makes it difficult to manage a satisfactory calving programme. Owners of larger herds get over this problem by running a bull with the cows, while smaller farmers are forced to house their calves except at feeding (suckling) time or revert to hand-milking.

*Other Features of 'Dry' Stock Farming*

Very few farmers in the county consciously operate what may be regarded as approved cattle systems. The general pattern of "dry" stock farming—as elsewhere in the country—has developed under conditions of seasonal cattle and beef price fluctuation from spring peaks to late autumn troughs.

*Wintering Bullocks.* Those who most closely approximate to the operation of approved beef systems on a whole farm basis appear to be part-time farmers whose main occupation frequently lies outside farming. Occasionally they are encountered among full-time farmers and on out-farms owned by dairy farmers. They may be found on less than 1 per cent of all farms in the county and the most readily recognisable system is as follows:-

(a) One cut of silage from 40-60 per cent of the total grassland area.
(b) Purchase of 7-8 cwt. l£-year-old bullocks in autumn, put on aftermath of silage.

(c) Self-feeding these cattle on silage with or without meals, for sale from the yard or from grass in May/June.

The more backward cattle are retained for grazing on the non-silage area, for a longer period.

*'Stall-feeding'.* Down through the years farmers in the tillage areas of Central Kerry, particularly, and occasional farmers in other parts of the county practised "stall-feeding" of cattle in the winter on hay, swedes, mangels and meal as one of their farmyard enterprises. A considerable quantity of yellow (maize) meal was fed. They mainly fattened heifers for the local butcher trade. Most of the bullocks fattened went to meat factories. This enterprise continues to be operated up to the present time in a modified form. Fewer farmers are involved, but they fatten larger numbers of cattle. They are distributed over basically the same areas as formerly. Cattle are more frequently housed loose or in cubicles than heretofore. Beet-tops and grass-silage forms an increasing proportion of the maintenance diet and barley forms the main cereal component of the concentrate ration.

*Low Intensive Cattle Production.* Throughout the county many ageing farmers engage in low-intensive cattle production enterprises. They are particularly frequent in the South and West and many of them formerly supplied milk to the creamery.

Cattle are generally run on the set-stocking grazing management system, and from 10 to 15 per cent of the total grassland area is shut off for hay in late winter. Weanling cattle are generally purchased in early spring and 'foddered' out of doors on hay until late April when grass is fit to graze. The best of the cattle are generally sold in the autumn and the less forward ones are retained and fed out-of-doors until late winter or spring.

The greater part of the early winter-feed for cattle held on low-intensive cattle production farms is got from 'winterage'. This is usually ungrazed aftermath on land which has not been limed in recent years and has a tough 'skin' (surface layer). The greater proportion of such aftermath lies lodged, and once the green "foliage" is grazed off the remainder is very lacking in nutritive value. Cattle require supplementary fodder from February onwards and frequently lose weight over the whole of the wintering period.

*The Kerry Bullock.* The four-year-old Kerry **bullock** was a feature of the grazing livestock scene along the foothills of South

Kerry and to a lesser extent on the Dingle Peninsula. This hardy black beast was easily maintained on the coarse herbage of these foothills with a minimum of supplementary feed. Once advanced to this age he was easily finished on better quality pasturelands. Demand for this type of animal has diminished in recent years, and he has now become a rare sight.

*Cattle Disease and Parasites*

Of the diseases and parasites affecting cattle, fluke, worms and lice constitute the greatest source of economic loss to the cattle and beef industry in the couniy. The remarkable thing about them is that infestation is generally at a level where visible symptoms do not show themselves on the live animals. Infestation with such parasites varies between years. Of the forty head of cattle approximately, currently being killed each week at the abbatoir in Tralee. fluke-infestation of livers is running at 25 per cent, whereas in 1966 90 per cent of such livers were unusable.

Isolated cases of death or distress due to Redwater are encountered in cattle on old pastures in the springtime, while occasional cases of summer mastitis in replacement heifers turn up on most farms at one time or another.

Marketing

Traditionally the bulk of cattle in Kerry were sold at fairs which were usually held at regular intervals in the towns and villages throughout the county. The largest of these fairs were held in the autumn.

The general movement of cattle sold at these fairs was towards the West of Ireland where they were fed or 'stored' for about a year before moving on to be finished on the plains of Meath and Kildare. A feature of the cattle trade in the early sixties was the strong demand for 'blacks' (Aberdeen Angus cross) from Mayo and Roscommon farmers.

The growth in motorised transport in the fifties gave impetus to the practice of buying in the field which was always a feature of the cattle trade. The introduction of cattle marts in the late fifties was a significant development in the cattle trade in the county.

*Marketing Systems*

There are three systems of marketing cattle within the county[9]:

[9] Kerry County Committee of Agriculture, "Cattle Marketing Survey", March 1972 (private enquiry).

1. livestock marts within the county;
2. fairs;
3. sales on the farm.

The regular sale of cattle from Kerry at two centres immediately outside the county's border is an additional feature of the local cattle trading pattern.

All the livestock marts in the county were opened in 1959—Tralee, Listowel, Castleisland and Milltown. It required some time before the system became popular among the general body of farmers. By 1965, however, 50 per cent of all cattle sales in the hinterlands of these towns was through the mart system. In 1971, 95 per cent of all cattle sales in these areas was through this system. Calf sales at marts did not commence until the 1967/'68 period, but in 1971 the percentage of calves sold through the marts was the same as that for cattle.

Cattle fairs are held regularly in Dingle, Kenmare, Caherciveen, Killorglin and Killarney and other smaller towns and villages throughout South and West Kerry.

Selling on the farm is a very strong feature of the cattle trade in parts of the county. Up to 50 per cent of all cattle are sold in this manner in areas west of Annascaul in the Dingle Peninsula; South and West of Killarney and Killorglin in South Kerry. About 5 per cent of calves are sold this way in North Kerry. Farmers, especially those with small numbers of animals to sell at any one time, and living in areas between twenty and fifty miles from the nearest mart, find the system sufficiently attractive to do business in that way. The system leads to constant selection of the best animals on the farm, leaving the poorer ones to be disposed of by other means. Between the marts on the one hand and selling off the farm on the other, the supply of cattle remaining to be sold at the fair is being gradually eroded.

Young calves are frequently taken for sale outside the county. About 6,000 calves are sold at Abbeyfeale calf fair each year, while the number sold at Millstreet Mart in 1971 was approximately 600.

Each mart and fair centre draws its supply of cattle from a reasonably well defined catchment area.[10] As one would expect, for reasons of location, convenience and inclination, farmers in certain localities vary in their choice of sale venue. Consequently, places such as Ardfert, BallymaceHigott and Rathmore are listed in more than one catchment area.

A fair measure of agreement exists in the counties mentioned as

[10] See Appendix E.

being the main destinations of cattle purchased in Kerry. The greater proportion of the flow of cattle still appear to go West of the Shannon and Mayo and Roscommon farmers appear to be the greatest customers for cattle from Kerry.

*Some Details of Particular Cattle Trades*

Enquiries at cattle marts, abattoirs, among butchers and other focal points of information on cattle allow some interesting observations to be made about aspects of the cattle trade in the county.

*Suckled Calves.* In 1971, 4,906 calves suckled on some of the 12,000 odd cows qualifying for bonus payment under the Beef Scheme, are recorded as having been sold through the marts. They came on the market in the late September to November period. The best of these, weighing about 5£ cwt. were bought for immediate slaughter by local butchers. The remainder went outside the county for further fattening. In parts of the county outside of the mart catchment areas, they were mostly sold before the winter. A small percentage of them was retained over the winter on the farms where they were produced.

*Fat Cattle.* The abattoir in Tralee caters for the meat requirements of all butchers in that town, one in Ardfert and one in Castlegregory. Enquiries there show that about 40 cattle on average are killed each week and 95 per cent of these are beef-type heifers. They kill out at 4£ to 5 cwt. dressed carcase weight or 55 to 58 per cent of liveweight. The winter-fed animal kills out heavier than the grazing animal. The worst period for killing out weight is during the month of May when the percentage is about 50.

*In-Calf Heifers.* The number of in-calf heifers coming on the market is relatively small since the greater proportion are retained for herd renewal or expansion. They come on the market from mid-November to mid-May. Ninety per cent of those offered for sale are bought locally and the remainder go to Tipperary, Limerick and Cork. Special sales for in-calf heifers are held at the marts from mid-October to January. Some of these sales are for 14-day tested brucellosis free heifers only.

**Physical Output and Economics at Farm Level**

There is a wide variation in type and quality of animal to be seen in cattle herds in the county. This is to be expected in view of

the breeding pattern followed, the prolonged calving period and the wide variation in herd and grassland management practised between farms. This results in a wide variation in physical output and economic returns.

*Physical Output*

Variation in physical output from cattle occurs throughout the country. This is shown in surveys made by the Department of Agriculture, 1966-1968 period, on range and average weight gains by cattle, during different management periods.

TABLE 9-4. Representative weight gains of cattle during specified management periods.

| *Type of Animal* | *Management Period* | *Weight gain during management period* | |
|---|---|---|---|
| | | *Range (lb).* | *Average (lb).* |
| Calf | Calf—to weanling 1st Grazing Season | 200-350 | 300 |
| Weanling | Weanling—yearling 1st winter. | 50-150 | 100 |
| Store | Yearling—1.5 y.o. 2nd Grazing Season. | 300-450 | 350 |
| Store | Store—Bullock 2nd winter. | 50-200 | 100 |

SOURCE: Figures based on data at farm level recorded jointly by County Advisory Service and Department of Agriculture.

The Survey shows that variations of 50 to 400 per cent were recorded in weight gains of cattle on different farms during the specified management periods. It is reasonable to assume that at least as much variation would be found in weight gains of cattle within the county during that period.

It is apparent that in more recent years as cattle prices increased that a marked improvement in quality and standardisation has been achieved. Judging by observations at farm level and at cattle sales, it is reasonable to say that the birth weight of the majority of calves in the county is satisfactory and that a large number of the cattle population are reaching the upper limit of the range of weight gains recorded in the national cattle weighing survey. Observations

on particular farms where cattle are purchased and resold through marts and where grassland management is at a satisfactory level, show that beef-cattle are making weight-gains of *3l* to 4-cwt. during the second grazing season, and 1 i-cwt. on good quality grass-silage only during the (five-month) second winter. These represent rates of weight gain in the order of 21 -lbs. per day on grass and 1 -1 -lbs. per day on silage.

*Economic Returns*

Due to the general structure of the cattle industry in the county and its close association with dairying, it is difficult to be precise in calculating economic returns from it at farm level.

The most reliable and representative figures available on the economics of cattle production in the county are those compiled by An Foras Taluntais in conducting the National Farm Management Survey in the three years 1966-69 period. Information was assembled for the cattle enterprises on sixty-nine farms in the county during the three year period of duration of the Survey.

Generally speaking the Survey shows that:[11]

1. Gross margins fluctuate more from year to year in the small herds, namely those having less than five livestock units, than in the larger herds. These small herds seem to consist mostly of dairy herd replacements, in which case they are not beef production enterprises in the true sense of the word.
2. The levels of returns achieved by the cattle enterprise in Kerry in the years of the survey were lower than those achieved in the country generally on lowland farms either per livestock unit or per acre.

Some figures from the Survey relating to cattle enterprises in the county are given in table 9-5. The outstanding feature which emerges from these figures is the wide variation which exists between the achievements of farmers with cattle on the best farms compared with the general body of farmers, not to mention the bottom of the league. It also shows that high outputs and gross margins are only achieved at higher levels of stocking rate. Farmers with smaller herds tend to use more concentrates per livestock unit than those with larger herds. Individual farmers are encountered who feed very large quantities of concentrates without any significant increase in their gross margins per acre.

[11] B. Hickey, Farm Management Department, An Foras Taluntais, July 1972 (private communication).

**TABLE 9 5- Selected farm management details of the cattle enterprise in Kerry, 1966-69, on all farms surveyed and on farms achieving highest gross margin per acre,[41] by enterprise size group.**

| *L.U. size group* | *All farms surveyed* | | | | | *Farms with highest G.M./ac.* | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0·0 to 5·0 | 5·1 to 10·0 | 10·1 to 20·0 | 20·1 and over | All farms | 0–5 | 5–10 | 10–20 | 20+ |
| No. of farms .... .... | 30 | 16 | 16 | 7 | 69 | — | — | — | — |
| Per farm: .... .... | | | | | | | | | |
| av. no. of livestock units | 2·6 | 7·1 | 14·5 | 28·1 | 8·9 | 4·2 | 5·4 | 11·0 | 29·2 |
| Av. forage acreage (st.) .... | 5·8 | 15·2 | 30·8 | 48·5 | 18·0 | 6·9 | 10·4 | 16·6 | 30·1 |
| Per L.U.: | | | | | | | | | |
| Forage acres (st.) .... | 2·21 | 2·14 | 2·12 | 1·73 | 2·02 | 1·64 | 1·93 | 1·51 | 1·03 |
| Concentrates (cwt.) .... | 2·6 | 1·8 | 1·6 | 1·8 | 1·8 | 1·4 | 1·85 | 1·36 | 7·6 |
| Per forage acre (st.): | | | | | | | | | |
| Output (£) .... .... | 15·0 | 10·8 | 10·4 | 16·5 | 12·7 | 20·6 | 22·0 | 20·3 | 42·7 |
| Direct costs (£) .... | 9·1 | 5·9 | 4·4 | 6·7 | 6·0 | 8·0 | 8·1 | 4·7 | 27·2 |
| Gross margin (£) .... | 5·9 | 4·9 | 6·0 | 9·8 | 6·7 | 12·6 | 13·9 | 15·6 | 15·5 |

* Simple average of gross margin per acre from cattle over the three years.

SOURCE: B. Hickey, Farm Management Department, An Foras Taluntais, July 1972 (private communication).

It is of interest to note the breakdown of direct costs in the cattle enterprise. Table 9-6 gives these for the most recent year of the National Farm Management Survey. They show that on average, over all farms, the main direct costs were whole milk, purchased concentrates, skim milk and forage crop costs. The farmers who achieved the highest gross margins per acre tended to feed more whole milk and had higher forage crop costs.

The prices of cattle and the costs of inputs, particularly fertilizer and feed, in the 1966-69 period bear little relationship to their equivalents in more recent years. The substitution of 1971 prices for those of 1968-69 shows, that on average over all farms, gross output direct costs and gross margins would have increased by 23 per cent, 15 per cent and 23 per cent respectively in the intervening three-year period.[12] A similar calculation using representative 1972 prices when they become available should show further substantial percentage changes in these figures.

*Output from the Suckling Herd*

The physical output from the suckling herd is generally one 5—5i cwt. suckler per cow, for sale at the end of the lactation period which up to now has tended to be late autumn or early winter. In a minority of cases more than one suckler per cow is produced.

The gross margin realised from the production of single suckled calves in the first two seasons of operation of the Beef Scheme was much lower on average per cow in the herd than that obtained in dairying. The non-payment of subsidy on the first two cows in the herd acts as a barrier to the owners of very small herds from becoming involved.

For the general run of herds of low-yielding cows on poor type soils, double suckling appears to have shown little advantage over the single calf system.

Multiple suckling is encountered so infrequently as not to be of economic significance at this time.

## Trends for the Future

The whole cattle industry in the county appears to be in a state of rapid transition or active adjustment to changing circumstances.

Various projections have been made regarding the likely output of cattle at national level in the years ahead in the light of impending

[M] *Ibid.*

**TABLE 9 6- Breakdown of direct costs in the cattle enterprise in Kerry, 1968/69, on all farms surveyed, and on farms achieving highest gross margin per acre*, by enterprise size group.**

| | *All farms surveyed* | | | | | *Farms with highest G.M.jac.* | | | |
|---|---|---|---|---|---|---|---|---|---|
| *L.U. size group* | 0 0 to 5 0 | 5-1 to 100 | 10-1 to 20-0 | 20-1 and over | All farms | 0-5 | 5-10 | 10-20 | 20+ |
| No. of farms . . . . . | 35 | 12 | 15 | 7 | 69 | | | | |
| Per farm: . . . . . | | | | | | | | | |
| av. no. of livestock units | 2-6 | 7-0 | 14-3 | 25-9 | 8-3 | 1 1 | 3-5* | 11-2 | 25-9 |
| Av. forage acreage | 6-3 | 16-9 | 30-1 | 44-4 | 17-2 | 1-5 | 7-3 | 18-3 | 28-7 |
| Per L.U.: | | | | | | | | | |
| Purchased concentrates | 4-4 | 2-1 | 2-9 | 3-2 | 3 1 | 1-00 | 3-60 | 1-18 | 8 0 0 |
| Purchased bulky feed | 0-2 | — | — | 0 1 | 0 1 | 9-55 | — | — | — |
| Home-grown concentrates | — | 0-4 | 0-3 | 0-4 | 0-3 | — | — | 0-45 | 2-10 |
| Milk, whole . . . . . | 7-3 | 3-2 | 2-8 | 2-9 | 3-5 | 10-90 | 14-85 | — | 6-00 |
| Milk, skim . . . . . | 5-9 | 2-6 | 1-9 | 2-4 | 2-8 | 14-50 | 2-00 | — | 4-90 |
| Vet. and medicine | 0-8 | 0-9 | 0-5 | 1 1 | 0-8 | 0-45 | 0-29 | 0-83 | 1-40 |
| Forage crop costs | 2-9 | 2-3 | 1*8 | 4 1 | 2-8 | 4-32 | 5-10 | 2-72 | 6-80 |
| Other costs . . . . . | 0 1 | 0-1 | — | 0 1 | 0-1 | — | — | — | 0-20 |
| Total direct costs | 21-6 | 11-6 | 10-2 | 14-2 | 13-5 | 40-77 | 25-84 | 5-18 | 29-40 |

* The number of livestock units in this farm in 1968-69 was less than five but the average over the three years was 54 (see table 9-5.)
SOURCE: As for table 9-5.

entry to the EEC.[13] They project increases in output ranging from 40 to 100 per cent or more by 1980.

The soil potential of the county would suggest that an increase of over 50 per cent is possible. In the light of the demographic and land tenure situation, however, it is unlikely that the increase in Kerry will exceed that indicated by the lower figure in the range for the national projection.

The increase in the price of milk, the new and expanded outlets for skim milk, and the higher price for sucks are resulting in a higher percentage of calves from a wider area in the county being sold as sucks within a few weeks of birth. Some of the calves being retained on the farms from which the skim is being sold are being fed on milk replacer diets. This practice is likely to expand in the years ahead.

While the price of cattle has increased dramatically over the last year, the profitability of beef-farming, irrespective of system of production, has not advanced as quickly as that of dairying. Consequently some of the larger farmers who turned to the Beef Scheme over the past two seasons may return to dairy farming again in the future.

## Summary

Beef and store cattle production is of major importance to the National Economy. The value of cattle and beef exports amounted to £115 million in 1971. The overall trend in cattle over the past 20 years has been one of expansion. Output increased by 84 per cent from 1960-'69.

The average size of calf and cattle herds is small—less than 10 animals.

Breeding is controlled by Government statute. Breeding practice has been one of compromise between dairying and beef. Artificial Insemination commenced in Kerry in 1951. By 1971, 85 per cent of all calves born in Kerry were bred from A.I. bulls. From an analysis of A.I. returns, it is apparent that the demand for beef or dairy bulls rose or dropped in line with prices of cattle and the confidence in the dairy industry.

From 40-90 per cent of the calves born per herd are sold in the one to four week period, depending on size of farm and location.

[13] **R. O'Connor, "Projections of Irish Cattle and Milk Output under** EEC **conditions,"** ***The Economic and Social Review,*** **HI, (April 1972), 469-471.**

Calves are reared indoors on a milk diet for the first 2-3 months before going to grass. Scour is a major health problem in the rearing of calves. The first winter is critical in the life of all cattle. Over one-sixth of all dry cattle in Kerry fare badly in this period. The maintenance part of the diet is supplied from hay or silage. Most farmers supplement hay and silage feed with meals for younger cattle.

Since the introduction of the Beef Scheme in 1969 the number of suckling herds has increased steadily.

Less than one per cent of all farmers in the county operate approved beef systems.

There are three systems of marketing cattle in Kerry: (1) marts. (2) fairs. (3) sales on the farm. There is a wide variation in type and quality of animal to be seen at cattle sales in the county. This results in a wide variation in physical output and economic returns. Due to the close association of the cattle industry with dairying it is difficult to be precise about the economic returns from it at farm level.

While the projected increase in cattle output for the country varies between 40 and 100 per cent by 1980, it is unlikely that the increase in Kerry will exceed 40 per cent.

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## SHEEP

SHEEP (including Wool) contribute between 4 per cent and 5 per cent of our Gross National agricultural output. Gross output from Mutton and Lamb increased from £9-5 million in 1960 to £12-9 in 1970, while the value of wool output decreased from £3-5 million to £1-8 million over the same period.

Sheep production in Kerry is mainly confined to mountains and hills in the South and West—making use of land unsuitable for other farm enterprises. Traditionally sheep has been a low cost system, being low because of the hardiness of the mountain breed, the small returns accruing, and the relatively small amount of capital involved in increasing flock size. Although total sheep numbers have increased since 1930, growth has been somewhat uncertain

and appears to have alternated between small increases and small decreases in successive years (table 9-7). However, between 1969 and 1970, sheep numbers in the county increased by over 10 percent.

**TABLE 9-7. Distribution of rams, ewes, and other sheep in specified years, 1930-'70.**

| *Year* | *Rams* | *Ewes* | *Other sheep* | | *Total* |
|---|---|---|---|---|---|
| | | | 1 *year and upwards* | *Less than* 1 *year* | |
| 1930 | 2,879 | 31,399 | 23,483 | 56,214 | 163,976 |
| 1935 | 2,524 | 63,142 | 21,778 | 45,324 | 132,768 |
| 1940 | 2,870 | 77,694 | 24,640 | 60,869 | 166,035 |
| 1945 | 2,499 | 76,574 | 28,081 | 43,001 | 155,155 |
| 1950 | 2,694 | 82,422 | 28,151 | 57,220 | 170,487 |
| 1955 | 2,859 | 100,918 | 37,253 | 64,756 | 205,687 |
| 1960 | 3,006 | 99,000 | 56,834 | 67,511 | 222,351 |
| 1963 | 3,000 | 100,400 | 44,000 | 65,700 | 213,000 |
| 1968 | 2,400 | 98,800 | 34,700 | 57,500 | 189,400 |
| 1969 | 2,400 | 96,000 | 35,200 | 63,300 | 196,900 |
| 1970 | 2,400 | 106,400 | 35,800 | 72,700 | 217,300 |

SOURCE : Central Statistics Office.

[1960-'63: Kerry County Committee of Agriculture, *Annual Report* 1965, p. 179. 1964-'66: *Statistical Abstract of Ireland* 1967, p. 79. 1967-'68: *Statistical Abstract of Ireland* 1969, p. 81. 1969: *Irish Statistical Bulletin* (March 1970), p. 82. 1970: *Irish Statistical Bulletin* (September 1971), p. 227].

The Scottish Blackface is the main breed in the county because of their suitability for the rugged terrain. Approximately 99 per cent of total ewes are of this breed. There has been very little cross-breeding.

**Flock Size and Distribution**

Only 18 per cent of the farmers in Kerry keep sheep.[14] In the North, East and Central Regions sheep farming is practically non-existent (table 9-8). Approximately 84 per cent of flocks contain fifty or less ewes (table 9-9).

**TABLE 9 8. Percentage distribution of sheep flocks and of farms with and without sheep, by survey region.**

| *Survey region* | *Flock distribution* | *Farms with sheep* | *Farms without sheep* | *Total farms* |
|---|---|---|---|---|
| South | 47-1 | 29-2 | 70-8 | 100-0 |
| West | 33-8 | 46-5 | 53-5 | 100-0 |
| North | 0-7 | 1-1 | 98-9 | 100-0 |
| East | 9-6 | 7-3 | 92-7 | 100-0 |
| Central | 8-8 | 6-9 | 931 | 1000 |
| Co. Kerry | 100-0 | 17-9 | 82-1 | 1000 |

SOURCE: Western Farm Survey.

**TABLE 9 9. Percentage distribution of sheep flocks according to size.**

| *Flock size (No. of ewes)* | 20 *or less* | 21-50 | 51-100 | *Over* 100 |
|---|---|---|---|---|
| Percentage of total Sheep flocks | 59-5 | 24-3 | 9-6 | 6-6 |

SOURCE: Western Farm Survey.

" Western Farm Survey.

This shows that the contribution made by sheep to the income of these farmers is generally small. In the past wool has contributed very substantially to the output from sheep. The price of wool has dropped by almost 50 per cent since I960.[15] The price of sheep on the other hand has not increased. In contrast to other livestock enterprises the returns from sheep have decreased down through the years. Competition, therefore, between sheep and other livestock has generally acted to the detriment of sheep. The estimated gross margin in 1972 (including subsidy) is £3-50 per ewe. allowing a lambing percentage of 70 per cent.

**Breeding**

The County Committee of Agriculture operates a Premium Ram Scheme[16] in addition to the Ram Location Scheme[17] operated by the Department of Agriculture. The aim of these schemes is to improve the breeding flock in hill areas, by encouraging farmers to purchase high grade rams. The rams must be bought at a recognised ram sale and must be passed for premium by the Department of Agriculture. In the Ram Location Scheme the Department of Agriculture purchases the rams and distributes them to selected applicants at approximately one-third of the cost. Applicants under the county committee's Premium Ram Scheme must purchase their own rams. The premium offered is £10 per ram.

In the last 2 years there has been an increasing demand for Cheviot rams. This increased demand is reflected in the number of applications for rams under the Department Ram Location Scheme because this scheme offers much better conditions for the purchase of costly rams.

The Kerry Blackface Sheep Breeders' Association holds a recognised Ram sale in the county each year. The entries, especially by the smaller breeders have increased steadily over the years.

Management

Sheep are confined to mountain pasture except for a short period in mid-winter and again in late spring. Supplementary feeding is rarely if ever given, mainly because of cost. Our traditional hill

[15] NFA Wool Prices 1960-1971, quoted by An Comhairle Olla (Private communication, December 1971).

[16] For further details of scheme, see "Specially for the Farmer."

[17] *Ibid.*

sheep farmers have acquired a very high level of stockmanship over the years in dealing with this hardy breed. However, losses have been considerable down through the years. A survey carried out by advisers in the county in 1960/'61 shows that losses among sheep and lambs are distributed as follows:-

| | |
|---|---|
| Ewe Mortality | 4% |
| Lamb Mortality | 17% |
| Ewes Barren | 5% |

It must be remembered that the Winter and Spring of 1960/'61 was very mild and losses would almost certainly be higher in other years. Much higher rates of barrenness and mortality have been reported in a survey carried out by the Agricultural Institute in the Galway/West Mayo region.

The main causes of deaths in hill sheep are malnutrition, accidents, disease and vermin attacks. Over 70 per cent of the losses occur in spring just prior to and immediately following lambing.

**Nutrition**

Many of our mountains are now understocked so a plentiful supply of fodder is available on most hills except in late Winter and early Spring, when the unimproved hills provides very little keep. Hill improvement is not carried out due to the fact that many of the hills and mountains grazed by sheep are commonages. Many of these commonages could benefit from fencing and manuring, giving the farmers control of their stock and extra fodder when most needed in Spring.

*Supplementary Keep Scheme and Fencing Scheme for Mountain Grazing*

The aim of these schemes is to encourage farmers to fence and manure their hills and mountains. A large area of land in the county, owned both privately and as commonage is suitable for improvement under these schemes.[18] However, only a little more than 12,000 acres have been fenced under these schemes since 1961. This is mainly due to the high cost of fencing material in relation to the grant available, and the heavy manual labour involved in carrying out the fencing and manuring.

Even where these improvements have been carried out, in the majority of cases cow numbers have been increased in preference to sheep. This is understandable in view of the economics of both enterprises.

[18] See Appendix I.

**Sheep Subsidy Schemes**

The introduction of the Mountaim Lamb and Hogget Ewe Subsidy Schemes[19] has been responsible for the increase in sheep numbers in recent years.

Between 1968 and 1971 the number of mountain lambs presented for inspection for subsidy increased by 30-8 per cent. At the same time the number accepted for subsidy increased by 34 per cent, while the percentage qualifying for subsidy increased from 96-3 in 1968 to 98-5 in 1971 (table 910).

**TABLE 9 10. Details of Mountain Lamb Subsidy Scheme, 1968 to 1971.**

| *Year* | 1968 | 1969 | 1970 | 1971 | ***Per cent** increase* 1968/'71 |
|---|---|---|---|---|---|
| Number presented | 64,514 | 73,242 | 77,033 | 84,342 | 30-8 |
| Number accepted | 62,099 | 72,922 | 75,972 | 83,240 | 34-0 |
| Percentage accepted | 96-3 | 99-5 | 98-6 | 98-5 | |

SOURCE: Department of Agriculture and Fisheries.

The Hogget Ewe Subsidy Scheme has been in operation only since 1969. Between 1969 and 1971 the number of animals presented for inspection increased by 21-3 per cent while the number accepted for subsidy increased by 19-4 per cent (table 911).

**TABLE 9 11. Details of Hogget Ewe Subsidy Scheme, 1969 to 1971.**

| ***Year*** | 1969 | 1970 | 1971 | ***Per cent Increase*** 1969/71 |
|---|---|---|---|---|
| Number presented | **28,319** | 32,976 | **34,342** | 21-3 |
| Number accepted | 27,860 | 32,108 | 33,272 | 19-4 |
| Percentage accepted | 98-4 | 97-4 | 96-9 | |

SOURCE: Department of Agriculture and Fisheries.

" See 'Specially for the Farmer'.

Of the hoggets presented for subsidy in 1970, 497 were of the lowland breeds, 465 of which were accepted for subsidy. These were owned by 60 farmers in the Tralee, Killarney, Listowel and Milltown districts.

The response of sheep farmers to these two schemes shows that it is the economics of sheep production that has limited expansion down through the years, and not the inability of sheep farmers to intensify.

## Marketing

In the past, sheep offered for sale were mainly 2-3 year old wethers and cull ewes. Lambs were seldom if ever sold—the ewe lambs were retained for breeding and the wethers kept mainly for wool production. More recently, with poor prices for wool, the position has changed and at present farmers sell most of their wether lambs.

Lambs are not fattened to any extent in the county. Sheep farmers, therefore, depend mainly on midland fatteners to purchase their lambs at traditional fairs in the period from the end of August to October.

From observations and discussion with midland fatteners of mountain lambs by the Kerry Advisory Service, it is obvious that the after sale management of these mountain lambs has not been good. Returns have been poor and consequently fatteners have been slow to purchase these lambs again. Where management has been good profit margins have been excellent. An additional problem is that until very recently factories were not too interested in handling mountain lambs except for a very short period. In recent years the demand and prices for sheep and lambs has been very variable.

### *Sheep Sales*

During the past three years agricultural advisers in co-operation with the Kingdom, Cork and Milltown Marts have been trying to improve the marketing of lambs through the holding of sales at different centres (table 9-12).

The holding of these sales has been widely advertised with a view to getting as many midland fatteners as possible to attend. These marts have been quite successful as a result. While there has been an increase in the number of good quality lambs in the county,

**TABLE 9 12. Details of special sheep sales, 1969 to 1971.**

| Centre and Year | Number of farmers | Sheep on offer | Sheep sold - Number | Sheep sold - % | Total Value (£) | Average price (£) |
|---|---|---|---|---|---|---|
| **1969** | | | | | | |
| Cloghane | 58 | 2,172 | 1,581 | 73 | 4,558 | 2-88 |
| Annascaul | 72 | 2,265 | 1,476 | 65 | 4,354 | 2-95 |
| **1970** | | | | | | |
| Cloghane | 65 | 2,400 | 2,110 | 88 | 4,958 | 2-90 |
| Annascaul | 69 | 2,050 | 1,996 | 98 | 7,303 | 313 |
| **1971** | | | | | | |
| Cloghane | 72 | 2,975 | 2,422 | 82 | 5,950 | 2-46 |
| Annascaul | 95 | 2,822 | 2,045 | 73 | 6,000 | 2-93 |
| Camp | 53 | 1,381 | 1,034 | 75 | 2,800 | 2-71 |
| * Milltown | 78 | 1,600 | 1,200 | 75 | 2,880 | 2-40 |
| 1972 | | | | | | |
| Cloghane | 67 | 3,368 | 3,157 | 94 | 10,062 | 3-18 |
| Annascaul | 94 | 3.538 | 3.443 | 97 | 16,120 | 4-68 |
| Camp | 53 | 2,050 | 1,810 | 88 | 6,983 | 3-85 |
| f Milltown | — | 3,824 | 3,059 | 80 | 14,010 | 4-58 |

* A second sale held on September 21 in Milltown was not very successful as it was held too late in the season,

f Average of two sales on 25th August and 7th September.

SOURCE: Kerry County Committee of Agriculture, assembled from Kingdom and Milltown marts.

there is not a corresponding increase in the number of feeders to fatten these lambs.

*Wool*

In the past wool has been a very variable product. This was mainly due to the use of unscourable branding fluids, very little care of wool at shearing time, and poor storage of this wool between shearing and sale. However demand was good and prices high. In fact wool was the main contributor to sheep output. In recent years the position has changed with a much reduced price for wool. Although the presentation of wool for sale has improved somewhat this price reduction has not encouraged farmers to make any significant improvement. Nowadays wool competes with keenly priced man-made fibres, whose manufacturers employ the most modern techniques of production, advertising and marketing. To hold its place as a manufacturing fibre, wool must therefore be shorn, stored and marketed in the best possible condition. The grading of wool and the registration of wool buyers as recommended by An Comhairle Olla (The Wool Council), is a positive step in this direction.

**Disease and Vermin**

Despite losses, little attention is paid to parasite and disease control. The poor returns from sheep, the lack of proper handling facilities and the high cost of drugs are no doubt among the reasons for this lack of attention.

Foxes and grey crows are a menace to young lambs. Fox poisoning campaigns are carried out each year throughout the county in an effort to reduce the fox population. Gun clubs and organised hunting parties also play their part in the control of both grey crows and foxes.

**Organisation of Producers**

Over the years various associations and organisations representing sheep farmers were formed in different areas of the county; each one aimed to improve the lot of the local farmer, but there was little co-ordination between the different groups. In 1971, however, representatives from all groups came together to co-ordinate and consolidate their efforts. They decided to hold on to the name Kerry Blackface Sheep Breeders' Association—a body that was formed 20 years previously but had become localised around the

Killarney area and which successfully held a ram sale annually since then.

**Summary**

Sheep production is an important enterprise in the mountain and hill areas of South and West Kerry. However, sheep numbers have not increased to any extent down through the years. Sheep are mainly confined to unimproved mountain pasture. This results in high mortality and low output.

The decrease in wool prices has resulted in an increase in the number of wether lambs coming on the market. One of the major problems is that the demand for these lambs has not increased to any significant extent.

The subsidy scheme for mountain lambs and hoggets has shown that it is the economics of the sheep enterprise and not the inability of sheep farmers to intensify which has limited the expansion in sheep numbers down through the years.

ACKNOWLEDGEMENTS: The authors wish to thank Mr. D. O'Neill, Mr. Casserly and Mr. Maurice Begley of Department of Agriculture; Mr. O'Leary of Kingdom Mart and Mr. O'Riordan of Mid-Kerry Mart who supplied data. Mr. P. Sayers who helped in collecting and compiling this data and Messrs. M. O'Toole and V. Timon, An Foras Taluntais for helpful advice.

## HORSES

With the advent of the tractor and the decline in tillage, there has been a general decline in the number of horses for agricultural work in the county (table 9-13). This decline has mainly been in the

**TABLE 9 13- The number of horses and ponies in the County in specified years, 1960-1970-**

| *YEAR* | *Working Horses Broken and Unbroken* | | *Thoroughbreds Broken and Unbroken* | *Other Horses and Ponies (including half-breds)* | *Total Horses and Ponies* |
|---|---|---|---|---|---|
| i960 | 12,855 | | 78 | 3,303 | 16,236 |
| :963 | 10,700 | | 100 | 3,500 | 14,300 |
| 966 | 8,400 | | 200 | 3,200 | 11,800 |
| | Horses | Ponies | | | |
| 968 | 7,200 | 2,900 | 100 | 300 | 10,500 |
| 970 | 8,700 | | 100 | 600 | 9,400 |

OURCE: Central Statistics Office.

heavier type horse, rather than the smaller cob type, which is still found useful in many farms for the smaller type of farm activity.

But as the draught and farm horse continues to decline, there is an increasing demand for half-breeds for sporting and pleasure purposes. Today, when there is little work for a horse, it is still profitable to keep a brood mare for breeding, on land which is unsuitable for other stock. The rougher terrain appears to produce a half-breed sports animal with better conformation, and gives the animal a natural agility which is much needed in present day equestrian sports. These half-breeds are in good demand in both the export and home market for hunts and show jumping.

### Riding Stables

There is a growing demand for riding horses. Outside the enjoyment that can be derived from this type of activity there is a certain status attached to being able to ride a horse competently. Owners of riding stables find that the most suitable type of animal for this purpose is the Cob.[20] They are a very strong and sturdy type of animal and people are not intimidated by their size. Business is seasonal. The peak months are July, August and September. The cost of keeping a stable-fed horse is about £3 per week. Because of this and the seasonal nature of the business, profits are negligible. Riding stables are, therefore, usually incorporated with a hotel to provide an extra amenity. However, outside the initial outlay, money earned by grass-fed horses may be regarded as profits. Prices charged are about £1-50 for 2 hours or £3-50 for a whole day. One of the secrets of success in running a riding stable is to realize that even though people may be attracted visually to ponies they demand horses and cobs for riding. These, therefore, should comprise 80 per cent of the animals kept by riding stables.

### Jarveying and Pony-Trekking

The greatest concentration of both jarveying and pony-trekking is in the Killarney area. Sixty-five people hold jarveying licences in Killarney. These comprise 26 farmers and 39 urban dwellers. They have between them about 200 horses. Forty-two farmers have 130 riding ponies for hire at the Gap of Dunloe. There are over 30 other riding stables scattered throughout Kerry, using over 300 horses and ponies.

[20] A cob is defined as a horse that stands between 14 hands and IS hands 1 inch high.

### The Kerry Pony Society

In recent years, ponies for pleasure are on the increase. The Kerry Pony Society which was formed in 1968, has as its aim the improvement of the quality of Kerry ponies. Only members of the Society can have their ponies registered. In order to be eligible for entry into the register, ponies must be inspected and passed as suitable. The Society encourages the breeding of Kerry ponies in an organised fashion by the nomination of pony mares to registered pony stallions. The improvements aimed at are carried out in conjunction with the County Committee of Agriculture and the Department of Agriculture.

ACKNOWLEDGEMENTS: The authors wish to thank the Killarney Jarveymens' Association, the Gap of Dunloe Ponymens' Association and Monica Clieves of Glenbeigh for supplying requested information.

CHAPTER TEN

# FARMYARD ENTERPRISES

SMALL-SCALE farmyard enterprises have been a traditional feature of Kerry farming. They generally consisted of keeping a small number of breeding sows, fattening pigs and an admixture of a variety of small-scale poultry flocks such as laying hens, turkeys and geese. They were relatively independent of farm size or land quality and were frequently the prime responsibility of the farm housewife.

Over the past two decades the picture has changed remarkably. The number of farms with yard enterprises has declined noticeably. The range of enterprises has narrowed and their scale has increased appreciably. At present pig and poultry units are being developed as large-scale co-operatives and commercially controlled enterprises in places far removed from the farmyard.

## PIGS

Pig production is the third largest contributor to National Agricultural output. In 1970 farmers received approximately £39 million for pigs. Exports of pigmeat were worth £15 million. Total pig numbers in County Kerry increased from 69,400 in 1960 to 75,400 in 1970—approximately 8| per cent (table 10.1). Despite this increase, however, considerable fluctuation has occurred in the interim years. The 1970 figures are lower for total pigs than in any of the years from 1961-65 inclusive (table 10.2).

### Pig Production by Region

Pig production is popularly regarded as an enterprise which provides an extra source of income on farms where land is limited and where the labour available is not fully utilised. In practice, however, the facts do not support this assumption. The Western Farm Survey showed that only thirty per cent of farmers in the county keep pigs (breeding or fattening) and in South Kerry where small farms predominate only ten per cent of farms have pigs

**TABLE 101. Distribution of pigs, by category, 1960 and 1970.**

| *Category* | 1960 | 1970 |
|---|---|---|
| | (Number in thousands) | |
| Boars | 01 | 01 |
| Gilts in-pig | 6-8 | 0-8 |
| Sows in-pig | | 4-0 |
| Other sows for breeding | | 30 |
| Pigs six months and upwards | 30-9 | 4-9 |
| Pigs three months and under six months | | 29-7 |
| Pigs under three months including suckling bonhams | 31*6 | 32-9 |
| *Total* | 69-4 | 75-4 |

SOURCE: Central Statistics Office.

**TABLE 10-2. Distribution of** sows **and gilts and total pigs, 1958 to 1970.**

| *Year* | *Sows and Gilts* (000's) | *Total Pigs* (000's) |
|---|---|---|
| 1958 | 60 | 66-4 |
| 1959 | 6-2 | 64-3 |
| 1960 | 6-8 | 69-4 |
| 1961 | 80 | 82-7 |
| 1962 | 7-7 | 84-6 |
| 1963 | 7-5 | 85-7 |
| 1964 | 8-7 | 88-4 |
| 1965 | 9-4 | 980 |
| 1966 | 6-6 | 73-6 |
| 1967 | 7-2 | 69-1 |
| 1968 | 7-1 | 73-3 |
| 1969 | 7-1 | 71-4 |
| 1970 | 7-8 | 75-4 |

SOURCE: Central Statistics Office.

TABLE 10-3. Percentage distribution of farms according to whether or not they have pigs, and pig production system, by survey region.

| Survey Region | Farms with Pigs: Breeding Only | Farms with Pigs: Pig Production System: Fattening Only | Farms with Pigs: Pig Production System: Breeding and Fattening | Total Farms with Pigs | Farms without Pigs | Total |
|---|---|---|---|---|---|---|
| SOUTH | 6-4 | 3-2 | 0-4 | 100 | 900 | 1000 |
| WEST | 131 | 8-1 | 91 | 30-3 | 69-7 | 1000 |
| NORTH | 12 7 | 10-3 | 12-6 | 35-6 | 64-4 | 1000 |
| EAST | 17-4 | 14-6 | 7-3 | 39-3 | 60-7 | 1000 |
| CENTRAL | 10-3 | 15-4 | 16-5 | 42-2 | 57-8 | 1000 |
| COUNTY KERRY | 11-5 | 10-2 | 8-3 | 300 | 700 | 1000 |

SOURCE: Western Farm Survey, 1967.

(table 10.3). This is mainly because of housing costs, lack of financial resources, lack of expertise and low profit margin per pig.

**Size of Herd**

Small size of herds is another feature of pig production in the county. In the 1970-71 survey[1] carried out by the advisory service forty-five units have more than ten sows; forty per cent of sow herds have no more than one or two sows. The average size of breeding herd is four sows, (table 10.4).

**TABLE 10-4- Percentage distribution of sow herds according to size.**

| *Herd Size {number of sows)* | | | |
|---|---|---|---|
| *One or Two* | *Three or Four* | *Five to Ten* | *More than Ten* |
| 40 | 35 | 20 | **5** |

SOURCE: County Pig Survey.

The Survey also showed that the average number of pigs fattened at a time was forty to fifty.

To get a reasonable return from pig fattening, a fairly large annual throughput is necessary. However, in a large number of cases the size of the unit is too small to make any appreciable impact on the income of the farmer (table 10-5).

**TABLE 10 5. Percentage distribution of throughput of fat pigs according to herd size.**

| *Number Fattened per Year* | | | |
|---|---|---|---|
| *Under* 50 | 50-100 | 101-200 | *Over* 200 |
| 28% | 35% | 24% | **13%** |

SOURCE: County Pig Survey, 1967.

[1] In the county pig survey two advisory areas—a total of approximately 1,200 farms—were not included.

There are a number of large-scale fattening units in the county. Two of these are operated by the Dairy Disposal creameries at Kenmare and Caherciveen with a throughput of 3,000 and 8,000 pigs respectively per year.

In Causeway, the North Kerry Farmers' Pig Fattening Co-operative, with fattening accommodation for 6,000 pigs annually has just gone into production. They intend to expand to accommodate 10,000 pigs a year in the near future.

There is also a large-scale fattening unit, fattening 3,000 pigs annually in Ballylongford. The Maine Valley Pig Fattening Co-operative is at the planning stage. Planning permission has been granted, and approximately two-thirds of the share capital has been collected. Construction, to provide accommodation for 11,000 to 12,000 pigs annually is expected to start within a year.

Management

In 1970 a random survey on sow management was carried out by the advisory service in the Dingle Peninsula. This showed that several practices which are recognised as features of good sow management are frequently neglected, e.g., sixty-four per cent never dosed sows for worms, seventy-eight per cent did not wash sows before farrowing, fifty-seven per cent gave no iron treatment, fifty-five per cent did not use creep feed and only two per cent weaned bonhams before six weeks.

General observations indicate that the management in many fattening units is also very poor. In many cases it is the availability of skim milk which makes the unit profitable.

Housing

The 1970-71 survey revealed that the standard of pig housing both for breeding and fattening is only fair to poor. This is due to the high capital cost and a lack of confidence in the pig industry. Weaner prices in the past have fallen as sow numbers increased. With present marketing methods and price instability, weaner producers in general have not sufficient confidence to invest capital in expensive farrowing and rearing accommodation. Most of the present pig houses are unsuitable for all-year-round production. However, these houses in addition to houses vacated by other animals in spring, are used to a large extent for summer pig production and they are quite suitable for this purpose. This seasonal production is reflected in the demand and price of bonhams. If pig production is to be expanded many farms will have to improve

existing housing accommodation and consequently a relatively large investment in suitable housing would appear to be a necessary prerequisite to a worthwhile expansion in pig production.

**Marketing**

Stable market conditions for bonhams and pigs are a prerequisite for steady growth in the bacon industry. Such an environment was lacking only too often in the past. The demand at the present time is for quality pigs and prices are arranged to favour the production of them.

The recent movement amongst farmers towards selling on a deadweight basis is to be welcomed as a major breakthrough in quality pig production.

*Bonhams*

Most of the bonhams in the county are sold at fairs and marts at prices which fluctuate by as much as 3p per pound between winter and summer. In the Kenmare area the creamery buys all the bonhams locally for the fattening station at a guaranteed price negotiated with the farmers for a certain period. Caherciveen creamery buys the 2,500 (approximately) bonhams produced locally each year; the remainder are bought on the open market throughout the county.

In the Dingle Peninsula the Dairy Disposal Board buys about 4,000 bonhams annually for fattening in their station in Knocklong. In both Caherciveen and Dingle the market is guaranteed and bonhams are bought by weight at prices which follow those prevailing in the open market. Farmers are kept informed of price changes by price lists displayed at creameries from time to time. Ideally bonhams should be sold direct (on contract preferably) to fattening units at guaranteed pre-arranged prices.

*Bacon Pigs*

Traditionally bacon pigs in this county have been bought on a liveweight basis at fairs and marts. In 1969-70 seventy-five per cent of pigs were sold in this manner. Liveweight purchasing on a non-graded basis gave rise to a situation where the producer did not know the quality of the pigs being produced. In many cases pigs sold on a liveweight basis realised a bigger price than if sold directly to the factory. Producers selling on a liveweight basis, therefore, had no incentive to improve the quality of their pigs. However,

in the past year the position has altered considerably and in 1972 sixty-five per cent of pigs received at Tralee bacon factory were delivered direct by farmers. This change from liveweight selling is a welcome development and is being actively encouraged by the factory. With direct selling to the factory, producers are paid on quality, based on recognised grading standards. Producers selling on this basis practice husbandry and selection methods to achieve highest quality pigs. In 1971, approximately seventy-five per cent of the pigs received at the bacon factory in Tralee were produced within the county. The remainder (approximately 400 pigs per week) were received from neighbouring counties. In the same year approximately 750 pigs per week, from areas such as Castleisland, Listowel, Caherciveen and Kenmare, were delivered to factories outside the county.

*Grading*

The bacon industry in this country is essentially concerned with exports. It is important, therefore, to realise that at the present time the world demand is for lean meat. In line with this demand, our grading standards have been raised progressively over a number of years. To encourage the production of this higher quality pig there is a very marked price differential between the top and lower grades and indeed no farmer can hope to remain very long in pig production unless a high percentage of his pigs reach the top grades.

In producing top quality pigs, breeding is all important. The Department of Agriculture in conjunction with accredited herd owners[2] provide top quality breeding stock which should be availed of. Ninety per cent of stock from accredited herds grade either A Special or A compared with a national average of sixty-eight per cent. From the figures available for this county the quality of pigs produced as measured by grading performance is well below the national average. This is hardly surprising considering that up to recently most of the pigs in the county were sold on a livewieght basis. It takes time for farmers to adapt to selling on a graded basis. Whilst grading has improved in recent years there is still vast scope for improvement in this area. This would raise profitability at no extra cost. Many individual producers in the county achieve grading standards well above the national average so that it should be within the ability of most by improved breeding and stockmanship to achieve similar levels.

[2] See "Specially for the Farmer" for further details of the accredited pig herd and other pig improvement schemes.

### Summary

1. Production units both breeding and fattening are small.
2. The standard of housing and management leaves much to be desired.
3. The marketing of bacon pigs has improved in recent years, but a high proportion of bonhams are still sold in a haphazard fashion.
4. With a better breed of pig, grading could be improved considerably.

ACKNOWLEDGEMENTS: The authors wish to thank the Manager of Denny's Bacon Factory, Tralee, for supplying information, and Messrs. P. Sayers and S. Murphy who helped in compiling this article.

## POULTRY

There has been a substantial decline in all categories of poultry over the years (table 10.6). Most of this decrease has taken place in the small farm units which have gone out of production except possibly for domestic use.

### Turkeys

**At** present there are six Turkey Breeder Hatcheries in the county with capacity for 16,000 birds. There are fourteen Turkey Supply Farms supplying eggs to commercial hatcheries outside the county. These fourteen supply farms have approximately 2,500 breeding hens.

*Marketing*

Up to three years ago, turkeys were sold live at Christmas. Since then turkey markets have been held in Killarney and last year one was held in Tralee. Birds were sold 'New York' dressed. These marts were organised by the County Committee of Agriculture and the NFA. In 1970 a total of 700 birds were sold. This quantity obviously does not meet our requirements—the remainder comes from outside the county.

The present trend is towards larger units. The smaller producer is being forced out as feeding costs increase and profit margins decline.

### Domestic Fowl

There are seven commercial egg producing farms in the county

**TABLE 10 6. Statistics of different categories of poultry in specified years, 1930-1970.**

| Year | *Turkeys* | | *Geese* | | *Ducks* | | *Ordinary Fowl* | | *Total Poultry* |
|---|---|---|---|---|---|---|---|---|---|
| | 0-6 *Months* | *Over* 6 *Months* | 0-6 *Months* | *Over* 6 *Months* | 0-6 *Months* | *Over* 6 *Months* | 0-6 *Months* | *Over* 6 *Months* | |
| 1930 | 65,888 | 11,934 | 79,042 | 38,972 | 67,627 | 110,502 | 538,479 | 307,036 | 1,219,480 |
| 1940 | 93,479 | 11,435 | 60,308 | 21,611 | 45,896 | 69,988 | 292,655 | 462,414 | 1,058,786 |
| 1950 | 118,789 | 13,612 | 35,072 | 13,107 | 28,663 | 39,166 | 358,936 | 513,835 | 1,144,295 |
| 1960 | 75,412 | 8,332 | 19,061 | | 26,906 | | 210,918 | 291,110 | 631,739 |
| 1967 | 28,100 | 3,000 | 5,800 | | 10,000 | | 108,600 | 241,600 | 397,100 |
| 1968 | 30,700 | 2,800 | 5,700 | | 8,800 | | 101,900 | 223,200 | 373,000 |
| 1969 | 26,400 | 2,600 | 5,200 | | 8,400 | | 81,600 | 238,600 | 362,300 |
| 1970 | 27,600 | 2,800 | 4,700 | | 6,900 | | 21,760 | 76,400 | 331,000 |

SOURCE: Central Statistics Office. (1930-1967: published in *Annual Report: Kerry County Committee of Agriculture,* 1965, pp. 172-173; 1968, p. 136).

with a total of 45,000 laying birds. All the eggs produced are sold within the county, to shops and supermarkets. There are not sufficient eggs produced in Kerry to meet the county's demand. However, the prospect for further expansion is not great as there is very keen competition from outside the county for this market.

**Broiler Production**

There is one small processing unit in operation in the county, processing 7,000 birds per annum. Practically all our other broiler requirements come from the west Limerick area where there are two large processing units.

In addition to the above-mentioned there are three hatchery supply farms keeping a total of 1,100 Broiler Breeding Birds. These supply eggs to hatcheries outside the county.

**Geese and Ducks**

These no longer make any significant impact on aggregate farm income in the county.

**Poultry Development Schemes**

A number of schemes are operated by both the Department of Agriculture and the Committee of Agriculture for accommodation, equipment and improvements in poultry production. Details of these schemes can be found in the booklet, *"Specially for the Farmer."*

CHAPTER ELEVEN

# COMMERCIAL HORTICULTURE AND FORESTRY

Commercial Horticulture and Forestry compete with other crops and farm enterprises for available land.

Horticultural crops are best suited to light well drained soils and are in competition with agricultural crops and grass for these. A few may be grown successfully on well-drained peats.

Most horticultural crops are labour consuming and a high output per acre is essential. They are therefore very suitable for farmers with small acreages.

Practically all the forestry in the county is developed on land purchased at commercial rate from farmers. While over 16 percent of the total land area of the county is suitable for forestry, competition from sheep and cattle enterprises limits the amount which it is feasible to acquire.

This chapter looks at the suitability of our natural resources for the practice of commercial horticulture and forestry. It also outlines some significant aspects of the history, present situation and future prospects for these crops.

## COMMERCIAL HORTICULTURE

Commercial horticulture is a specialised business. While the better soils, and the climate in the county are very suitable for horticultural production, the knowledge, skills and techniques which are required by growers to get maximum return for their efforts, are confined to areas where there is a tradition for commercial horticulture.

### Climate

The mildness of the climate, and the relative earliness of growth in spring, in Kerry, are a distinct advantage to many horticultural crops. Food and flower crops under glass, overwintering vegetables, early potatoes, hard> nursery stock and outdoor flowers are among crops which benefit. An important factor in some otherwise suitable localities is the provision of adequate shelter from winds, which

can physically damage leaves and flowers, stunt growth and increase fuel costs for heated structures.

Soils

At least 30,000 acres of land in Kerry are suitable for horticulture. These soils are located in coastal districts and along the sea inlets—Castlegregory, Fenit, Ardfert, Ballyheigue to Ballylongford. There are also many thousand acres of blanket peatland in the county The potential of this is not yet fully investigated, but a considerable amount of it is suitable for nursery work where drainage can be effectively undertaken.

Marketing

Due to the relatively low population in the county the amount of produce that can be consumed locally is very limited. The output from any large scale expansion in horticulture would have to be marketed in the large population centres of England. Organised marketing is therefore most essential for successful horticultural development, to ensure that the produce gets to the market in minimum time, at miminum cost. In addition, other aspects of organised marketing would have to be concentrated on, e.g., standard grading, packaging, branding, market research, advertising promotion, product planning, and group marketing either through private exporters or through groups.

The initial and most important step is co-operative marketing through groups. This co-operation is entirely up to the growers themselves, and cannot be done by any outsiders who can only help by way of advice and guidance. However, a good marketing organisation is of little use without co-ordinated production, related to current market requirements.

We can seriously contemplate building up an export trade only from highly organised production units, producing a large volume of produce and giving a continuous supply of well graded material at competitive prices.

In the past, small unplanned increases in production in horticulture has led to marketing difficulties. This is particularly true in the case of onions.

## Production and Development of Particular Crops

The history of the horticultural industry in Kerry presents a picture of variety and development. Some crops such as onions

have a long and varied history. Commercial tomato and mushroom production have expanded sharply in recent years while potted plant production is only in its infancy.

We shall now consider the development history and present situation of the production and marketing of some particular horticultural crops in the county.

Tomatoes

Up to the mid-1960s there was no commercial production of glass-house crops in the county. A survey undertaken by the Horticultural Advisory Service in 1962/63 showed that at least 250 tons of the county's tomato requirements were procured each year from outside sources. The real development in commercial tomato production began with the erection of a 2£-acre glasshouse at Causeway in 1966. This enterprise is jointly financed by Erin Foods Ltd. and local interests. Subsequently the project was enlarged to 6| acres.

One smaller enterprise, of two acres, has been established in Tralee. These, with some smaller units, bring the total area of commercial glass in the county to ten acres. It is unlikely that the local market will absorb any additional large-scale production of tomatoes at present. Consequently, any further major developments in production must be geared to demand on the export market.

At present some tomato producers are considering alternative glasshouse crops, which have a better margin per acre but also a higher capital commitment.

Compared with other parts of the country, Kerry has important climatic advantages for tomato growing. Because of its relatively mild climate, winter fuel costs can be up to £600 per acre less than in similar units on the east coast of the country but the extra cost of marketing tomatoes in England from the west as against the east coast, is at least £400.

**Onions**

Onions were first grown on an experimental basis in Kerry in the late 1920s. Experimental plots were laid down in the Maharees by members of the horticultural advisory service in co-operation with the Department of Agriculture. The sandy soils in this area were ideally suited for onion growing. During the early 1940s production of onions in the county reached 2,500 tons. This position was maintained with difficulty during the 1940s due to poor seed. The ravages of the Onion Fly in the late 1940s reduced total production to a mere 200-300 tons. Trials with BHC (benzene-

hexachloride) demonstrated that this pest could be effectively controlled. By the early 1950s production of onions in the Castlegregory district reached 2,000 tons.

The onions were still grown in relatively small amounts on individual farms. Harvesting methods were poor and the quality of the crop was affected as a result, particularly in wet harvests. Marketing was also very disorganised.

To overcome these problems, St. Brendan's Co-Operative Society was formed with the aid of the Department of Agriculture in 1955 —stores, grading and packing facilities were provided. Artificial drying facilities were installed in 1958. The Co-Operative is now serviced by a Horticultural Adviser. The total area under onions in the county has ranged from 200-300 acres from 1960-1971. The average mean price for all onions handled by the Society over its seventeen years has been £28 per ton. Prices ranged from £14 to £100 per ton, and total annual tonnage from 1,700 to 2,200 tons.

The total value of the crop to the growers has ranged from £34,000 in 1960, to £90,000 in 1970, but due to surplus production and poor prices the 1968 crop returned only £44,000 to the growers.

Kerry produces over one-third of the acreage of onions in the country, and half of the organised tonnage sold through the main markets, e.g., Dublin, Cork, etc.

The Irish market is fully supplied with home-grown onions from mid-July to late March. The market for Irish onions could be extended until late May if environmentally controlled stores were used. Stores of this type located in Dublin have been rented for the storage of Kerry-grown onions in 1968 and 1970, at a cost of £10 per ton. These onions were stored until mid-April when they were sold at satisfactory prices on the home market. If these onions had not been in controlled environment stores at least fifty per cent of them would have been unsaleable. Increased production (of onions) results in a sharp decline in price on the home market. Unless the production is organised, the type of produce is not suitable for export and the returns per acre are very poor. With highly organised production on a large scale the returns from export markets over a period of years are quite satisfactory but lower than those on the home market. Organised production of good keeping varieties of storage onions, stored in cool stores, for market in April-May period is the only way of selling increased produce on the home market.

It must be remembered that onions are protected on the Irish

market and that returns per acre would be lower under Free Trade conditions.

**Carrots**

Some sixty-five acres of carrots are grown mainly in the Castlegregory district for the fresh market. Of these, twenty acres are being grown for the early market—late June to early September. These are sold mainly in bunches and chips. Returns per acre are good for this trade, and there is scope for expansion, particularly for sale during June and July. Temporary shelter is very important for this early crop and the use of polythene and polythene tunnels for this purpose is being investigated. Maincrop carrots account for forty-five acres, which are sold from September to early April. The coastal area with light soils are at an advantage for this crop, due to high quality of produce and freedom from frosts which facilitates harvesting. The roots also store well in the ground until March to early April. Returns from this crop are good except during the September to Christmas period when supplies from large scale tillage farms can be sold at relatively low prices.

**Parsnips**

There are sixteen acres of parsnips grown in the county—mainly in the Castlegregory district. The production and marketing of these is closely linked with that of carrots. They are sold from early July until late March. The light soils and the freedom from frost has the same advantage for this crop as for the carrots.

**Other Fresh Vegetables**

**A** wide range of fresh vegetables are produced for sale in local greengrocer shops. A number of these which are significant at present or have good commercial prospects are considered at this point.

*Early Summer and Winter Cauliflower*

There are seven acres of early summer cauliflower and three acres of winter cauliflower grown in the county, as against 200 acres of early cauliflower and 878 acres of winter cauliflower in the country. There is an increase in demand for both of these on both the Irish and English market. These crops yield good returns to the growers in Kerry but they can only be considered for specialised growers. They are demanding crops to grow as they need frequent cutting and highly organised marketing and complete control of Cabbage

Root Fly. Imports of winter cauliflower into the UK are worth from £2 million to £2\ million annually.

*Celery*

There is a very small acreage of celery grown at present due to :
*(a)* processed celery being used mainly in catering.
*(b)* the lack of a processing outlet for celery in the county.
(c) the lack of acquired taste for celery by the community.

Two periods of supply are being investigated: (1) self-blanching celery, for marketing in late June to early August period, grown under polythene tunnels. (2) trench self-blanching and green celery under polythene protection for the November to February period.

*Early Outdoor Lettuce*

There is an acre and a half of outdoor lettuce grown in the county. Heated structures are used for propogation, and plants are transplanted outside in March. The crop is marketed during May and June at generally attractive prices. It is a crop for a specialist grower.

*Early Strawberries*

There is a small area of strawberries grown at present. This crop, both outdoor and under polythene tunnels, has given good returns except for the problem of Botrytis control in some years. With the advent of systemic fungicides there will be an increased area under polythene in future years to cater for the tourist trade.

*Mushrooms*

Ireland has possibly the best climate in Europe for growing mushrooms. Cool, humid conditions with few excesses of heat or cold, facilitate all year round production of mushrooms without recourse to expensive air-conditioning equipment. Raw materials and labour are cheap and plentiful relative to those of likely continental competitors.

A large expanding market for mushrooms is available at home and in the UK. Trends in other countries indicate that it will continue to expand rapidly. Irish growers, at present exporting to the UK, find it profitable and easily accessible. Profits from exporting mushrooms are tax free.

The mushroom industry up to the present was mainly based on horse manure as the raw material for compost but in recent years synthetic composts are more widely used and, with the advances made in research, it is now as efficient as horse manure, but more

skill is needed in its preparation than in the case of horse manure compost.

At present, there is an expanding commercial unit of 20,000 square feet in the county growing on synthetic compost. Supplies of wheaten straw, barley straw, hay and dry poultry manure are readily available here so that there is plenty of raw material for expansion.

**Potted Plants**

Until 1971 there were very few potted plants produced in the County, due to a limited local market. There is, however, considerable potential in the export market. Production of pot plants for export has commenced in the Unipluma Nursery in Kenmare. The first consignment has already been exported in environmentally controlled containers to the Continent. Work is in progress on a new nursery in Ballinskelligs. Plans are on hand for further expansion in the Ballinskelligs district. The capital cost of a fully equipped unit of heated glass for this type of production is £35,000.

**Nursery Stock**

There are five small nurseries in the county which supply most of the local market. Imports of trees and shrubs are increasing considerably each year. Many of these are of species that can be produced easily at home. Britain imports nursery stock from the Continent to the value of some £3 million annually.

Ireland has many advantages over continental countries; due to its mild climate, there are no problems in the lifting and planting of stock during winter. This same climate of high rainfall, evenly distributed throughout the year, and cool summer temperature favours the propogation and growth of many trees and shrubs.

Ireland is free from pests and diseases, particularly Colorado Beetle and Foot-and-Mouth disease, which hinder, and, in some countries, prohibit international trade.

Peat soils are used extensively in nursery work. Peat is also used in frames, glasshouses and nursery techniques generally.

Kerry has all these advantages; however, the provision of shelter would be important in some areas. It should be borne in mind that this branch of horticulture differs from food production in that crops are not normally dispatched to central markets. Marketing is very much on a personal basis, travellers booking orders on behalf of large wholesalers.

Hardy nursery stock culture could be developed on a significant scale through a link with existing international firms. At present,

plans for the establishment of a large scale production unit, for nursery stock, for export are under way in the southern part of the county. Production, even on a small scale, for the home market could result in over-production.

### Top Fruit

At present top fruits, namely apples, pears, plums, are only produced on a small scale in farm gardens, and suburban gardens for domestic consumption. The climate of Kerry is much too humid for the commercial production of these fruits, as it makes the control of fungus disease, e.g., apple scab and canker, very difficult and costly.

### Outdoor Bulb Crops

Outdoor daffodil, tulip and anemone flower production by St. Brendan's Co-Operative, Castlegregory, commenced in the early 1960s. High cost per acre, competition for available land from the onion crop and the small size of holdings slowed down expected expansion. There are four acres of commercial flower production in the county at present. Daffodils account for eighty per cent of these.

The soil in Castlegregory has decided potential being similar to that of the main flower production areas of the Netherlands. However, lack of protection increases the incidence of flower damage and shelter needs to be provided. Any future increases will have to be for export. This requires very close study before any development can be recommended as planting material costs £700-£l,000 per acre and pest and disease control is very costly and difficult.

The large areas of light mineral soil (suitable for cereals) and peat in the county, are very suitable for bulb as opposed to flower production. Size of holding is important for bulb production as a five to six year rotation is required for daffodils and an eight to ten year one for tulips on account of eelworm persistence. Current freedom from certain species of eelworm is a vital advantage over major bulb producing areas in other countries.

### Summary

For many horticultural crops the mildness and relative earliness of the Kerry climate is an advantage. The most suitable soils are located in coastal districts and along the sea inlets. Horticultural development is extremely dependent on organised marketing. This is particularly so in the case of capital intensive crops.

Over fifty per cent of the country's commercial acreage of onions have been grown in this county since the late 1930s and ten per cent of the country's carrots and parsnips.

Glasshouse production, in large scale units, commenced in 1967 and the county is now self-sufficient in tomatoes. Commercial mushroom production commenced in 1970 and production is now adequate for the county's needs. Cabbages, cauliflowers, brussells sprouts, lettuce and early potatoes are also grown in adequate quantity for the local market except for some seasonal scarcities. However, the export possibilities for many of these crops are extremely promising.

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## FORESTRY

IN the land classification of the county, the Agricultural Institute estimate that 49 per cent of the county is in the category mountain, hill or peat land. Most of the land in this category under 1,000 feet in sheltered areas and up to 500 feet in exposed areas is regarded as suitable for forestry. In 1968 the Department of Lands estimated that approximately 16-3 per cent of marginal land in the county was suitable for commercial afforestation. This area included a certain amount of lowlands which, with extensive reclamation, would be suitable for livestock production.

### Price of Forest Land

The Forest and Wildlife Service relates the price offered for land to its potential timber yield and development cost. Under this system of valuation a fairly wide range of prices is possible, but land of relatively low productive capacity and high development costs commands a low price. This is particularly true in County Kerry where the lands acquired are of a quality lower than the national average and have a correspondingly lower valuation.

In general a large amount of the lands offered in County Kerry are those which, because of rock outcrop or exposure to the prevailing south-west winds from the Atlantic are largely unplantable, whilst other lands offered are not acceptable because of their low productive capacity. There are some areas of good potential for Forestry which are used for sheep grazing. The sheep farmers,

however, are reluctant to relinquish their rights to this land. In many cases these lands are held in commonage which makes any attempt to acquire them extremely difficult and tedious and invariably, a fruitless exercise. In addition there is also in County Kerry the question of amenity, and lands which the Forest and Wildlife Service would be willing to purchase, often attract higher prices because of their scenic or potential building value.

The type of land acquired or likely to be acquired in County Kerry is only suitable for conifers in the proportion of 60 per cent Sitka Spruce, 20 per cent Pinus Contorta and 15 per cent other conifers with a possible 5 per cent inclusion of hardwoods for amenity and/or game purposes.

The productive Forestry area in the county was just over 22,000 acres in 1968. By 1970 this area had increased to almost 24,000 acres. Details of area and distribution of forestry in the county are given in table 11-1.

The acreage planted, acquired and on offer in the county in 1970/71 was as follows:

| | |
|---|---|
| Planted | 1,150 acres |
| Acquired | 1,646 acres |
| Price offers accepted, lands not yet acquired | 2,999 acres |
| In preliminary stages of investigation ... | 13,902 acres |

**Employment**

The average number of workers directly employed in 1971 was 150. In recent years the trend has been towards a reduction in forest employment arising from continuous improvements in labour utilisation, new techniques and mechanisation. Scope for further improvements in these fields is now more limited and it is expected that overall future employment will remain more or less at present levels. This figure does not include employment by timber merchants in logging and transporting timber purchased in the State forests nor any employment in the sawmilling or timber processing industries.

Quality **of Timber**

Timber produced is up to the average quality for the country as a whole and the produce from thinnings is suitable for pulpwood and fencing material while the more advanced thinnings give a percentage of sawlog material. Mature stands, unless grown on a short rotation for pulpwood, produce sawlog timber suitable for general construction purposes. However as the produce is mainly

rABLE **11.1.** Area **and** distribution of forestry in the county in 1968.

| * Forest unit | *Total Area* | *Unplantable (including water, roads, etc.)* | *Productive area* | *Area under woods and plantations* | | | | | *Plantation Reserve* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | *Purchased woods remaining intact* | *State plantations Formerly woodland* | *Formerly scrub or bare land* | *Total-planted area* | *Cleared woodland* | *Scrub and bare land* | *Total reserve* |
| **KERRY** | | | | | | | | | | |
| Brosna | 2,404} | 199} | 2,205} | Nil | Nil | 1,909} | 1,909} | 13} | 282 | 295} |
| Caherciveen | 3,633J | 563 | 3,070! | Nil | Nil | 2,732! | 2,732! | Nil | 338 | 338 |
| Castlegregory | 1,480* | 464} | 1,016} | Nil | Nil | 773} | 773} | Nil | 242} | 242} |
| Castleisland | 2,599 | 283* | 2,315} | 1* | 33} | 1,825} | 1,860 | Nil | 455} | 455} |
| Kenmare | 2,165f | 2171 | 1,948} | 84} | 215 | 1,336 | 1,635} | 181 | 132} | 313} |
| Kilgarvan | 3,846 | 508* | 3,337} | 30} | 41} | 3,192} | 3,265 | Nil | 72} | 72} |
| Killaraey | 4,055 | 475 | 3,580 | 992} | 1,146 | 638} | 2,776} | 212} | 591 | 803} |
| Killorglin | 1,806$ | 122! | 1,683! | 1* | 435 | 1,084} | 1,520! | 97} | 65! | 163 |
| Waterville | 3,277f | 390* | 2,887} | Nil | Nil | 1,854 | 1,854 | Nil | 1,033} | 1,033} |
| Totals March 1968 | 25,269 | 3,224} | 22,044! | 1,110 | 1,871 | 15,346} | 18,327! | 504 | 3,213 | 3,717 |
| Totals March 1969 | 25,857} | 3,076 | 22,781} | 1,101} | 1,896} | 16,318 | 19,316 | 483 | 2,982} | 3,465} |
| Totals March 1970 | 26,731 | 2,936} | 23,794} | 1,099} | 1,912} | 17,454} | 20,465! | 494 | 2,835 | 3,329 |

*** A new forest centre was designated in Sneem in 1969/70.**

**SOURCE: An Roinn Tailte: Fo-Roinn na Foraoiseachta, *Report for the period April* 1, 1969 *to March* 31, 1970 (Dublin: The Stationery Office, Prl. 1399). P. 40.**

white deal which has a wide ring growth, it is not considered suitable for the joinery business.

## Summary

In 1968 the Department of Lands estimated that 16·3 per cent of the marginal land in the county is suitable for forestry. This area includes a certain amount of lowlands which if reclaimed would be suitable for livestock production.

The purchase of land suitable for forestry in the county presents some difficulties. A large amount of the land offered for sale is unplantable because of rock outcrop, exposure and low productive capacity. In addition some of this land, because of its amenity and scenic value, is much sought after for building purposes.

On the other hand, there are some good areas of land with good potential which are used for sheep production or held in commonage. These are difficult to acquire.

The type of land acquired is only suitable for conifers with possibly a 5 per cent inclusion of hardwood for amenity and game purposes. In 1971 the total productive area in the county was almost 25,000 acres. In the same year there were 150 men directly employed in state forests in the county. Employment is not expected to exceed this number. The timber produced in the county is of average quality. Thinnings are suitable for pulpwood and fencing, while more mature stands are suitable for general constructive work. They are not, however, suitable for joinery business.

CHAPTER TWELVE

# FULL-TIME AND PART-TIME FARMERS

IN the interests of clarity and objectivity full-time and part-time farmers are treated separately in this section of the Survey.

## FULL-TIME FARMERS

Full-time farmers are regarded as those who have no other remunerative occupation apart from farming. Some 71-1 per cent of all farmers in the county fit this definition.[1] Among the regions, the West has the greatest proportion of full-time farmers; the South has the smallest (table 12-1).

**TABLE 121. Percentage distribution of full-time farmers by survey region.**

| *Survey region* | | | | | |
|---|---|---|---|---|---|
| South | West | North | East | Central | Co. Kerry |
| 60-7 | 85-8 | 77-0 | 73-6 | 73-1 | **711** |

### Gross Margin Earnings

Some 46-5 per cent of full-time farmers have gross margins of £700 or less.[2] The percentage falling below £700 varies from region to region, but is most pronounced in the South. Likewise, this

[1] All data used in this chapter relate to those of the Western Farm Survey except where stated otherwise.

* The standard gross margins used appear in Appendix F and reflect the situations on farms during the period of the Western Farm Survey.

region has the smallest number of farmers having gross margins of over £1,000 (table 12-2).

TABLE 12-2. Percentage distribution of farms according to estimated gross margin earnings, by survey region.

| *Survey region* | *Estimated gross margin group* (£) | | | | | *Total* |
|---|---|---|---|---|---|---|
| | 400 *or less* | 401-700 | 701-1,000 | 1,001-1,500 | *Over* 1,500 | |
| South | 33-1 | 31-6 | 20-3 | 10-5 | 4-5 | 1000 |
| West | 23-5 | 23-5 | 24-7 | 22-4 | 5-9 | 100-0 |
| North | 14-9 | 26-9 | 22-4 | 10-4 | 25-4 | 1000 |
| East | 13-7 | 28-3 | 221 | 27-5 | 84 | 1000 |
| Central | 17-9 | 180 | 20-3 | 18-0 | 25-8 | 1000 |
| Co. Kerry | 20-5 | 260 | 221 | 180 | 13-4 | 1000 |

Size of farm and age of farmer are responsible to an appreciable extent for low gross margin earnings. Some 58-1 per cent of farms with gross margins of £400 or less are from 5 to 30 acres in area. By contrast, farmers with gross margins exceeding £1,500 are generally those with larger farms (table 12-3). Average gross margin per farm vary from £377 for farms of 30 acres or less to £1,055 for farms exceeding 100 acres.

TABLE 12-3. Percentage distribution of farms according to size, by gross margin earnings.

| *Gross margin group* (£) | *Farm size• group {acres)* | | | | | *Total* |
|---|---|---|---|---|---|---|
| | 5-30 | 31-50 | 51-75 | 76-100 | *Over* 100 | |
| 400 or less | 58-1 | 25-5 | 6-4 | 2-7 | 7-3 | 100-0 |
| 401 to 700 | 37-8 | 23-6 | 121 | 7-9 | 8-6 | 1000 |
| 701 to 1,000 | 13-5 | 44-5 | 23-5 | 8-4 | 101 | 100-0 |
| 1,001 to 1,500 | 6-2 | 30-9 | 38-1 | 9-3 | 15-5 | 100-0 |
| Over 1,500 | Nil | 9-7 | 26-4 | 29-1 | 34-8 | 1000 |
| All farms | 25-8 | 30-7 | 20-1 | 100 | 13-4 | 1000 |
| Average gross margin per farm | 377 | 704 | 1,007 | 1,090 | 1,055 | 766 |

Some 56-4 per cent of farmers with gross margins of £400 or less are over 60 years; by contrast, only 23-6 per cent of those with gross margins of more than £1,500 are in this age group (table 12-4).

TABLE 12-4. Percentage distribution of farmers according to age, by gross margin earnings.

| *Estimated gross margin group* (£) | *Age group {years)* | | | | *Total* |
|---|---|---|---|---|---|
| | 40 *or less* | 41-50 | 51-60 | *Over* 60 | |
| 400 or less | 11-8 | 15-4 | 16-4 | 56-4 | 100-0 |
| 401 to 700 | 150 | 22-2 | 35-7 | 27-1 | 1000 |
| 701 to 1,000 | 28-5 | 25-2 | 24-4 | 21-9 | 1000 |
| 1,001 to 1,500 | 27-8 | 25-8 | 25-8 | 20-6 | 1000 |
| Over 1,500 | 22-2 | 361 | 361 | 23-6 | 1000 |
| All farms | 20-6 | 21-6 | 27-5 | 30-3 | 100-0 |
| Average gross margin per farm | 892 | 797 | 810 | 619 | 766 |

Also these elderly farmers earn an average gross margin of £619; the average for those of 40 years or less is £892.

Farm Labour

The relative absence of labour intensive farming systems also contributes to low farm gross margins. The labour requirement of individual full-time farms may be estimated by applying specific man-day standards to livestock and crop inventories.[3] On the basis of the standards used, the estimated man-day requirements of the farming programmes in operation are 300 or less on some 54-3 per cent of farms (table 12-5).

TABLE 12-5. Percentage distribution of farms according to estimated standard man-day requirements.

| *Estimated standard man-day groups* | | | | |
|---|---|---|---|---|
| 150 *or less* | 151 *to* 300 | 301 *to* 500 | *Over* 500 | *Total* |
| 20-2 | 34-1 | 28-8 | 16-9 | 100-0 |

Some 46-6 per cent of the farms operated by full-time farmers have no permanent labour force other than the farmer alone or the farmer and his wife (table 12-6). Those may be regarded as one-man farms. The long-term viability of one-man farms depends

TABLE 12*6. Percentage distribution of one-man farms, by survey region.

| *Survey region* | | | | | |
|---|---|---|---|---|---|
| *South* | *West* | *North* | *East* | *Central* | *Co. Kerry* |
| 51-1 | 36-5 | 53-7 | 43-1 | 46-9 | 46-6 |

*** See Appendix G, for details of standard man-day requirements for different enterprises.**

to a large extent on the farming system in operation, size of farm, age of farmers, presence of resident children who may enter the labour force later on and on other factors. A considerable proportion of one-man farmers are over 50 years of age (table 12*7). Many of these operate small farms. Some 530 per cent have no children. It is highly unlikely that elderly and childless one-man farmers can make any significant increase in farm production in the years ahead. Indeed, it is more than likely that a goodly number of them can be regarded as non-viable for all practical purposes.

**TABLE 127. Percentage distribution of one-man farms** according **to** age **and family** status of farmer, by size **of farm.**

| *Farm size group (acres)* | *Age group (years)* 30 *or less* | 31-50 | 51-70 | *Over* 70 | *All farmers* |
|---|---|---|---|---|---|
| | | *Farmers with resident children* | | | |
| 5-30 | Nil | 6-8 | 5-2 | 0-4 | 12-4 |
| 31-50 | 0-4 | 10-3 | 4-8 | Nil | 15-5 |
| 51 - 100 | Nil | 8-7 | 5-2 | Nil | 13-9 |
| Over 100 | Nil | 3-2 | 2-0 | Nil | 5-2 |
| All farms with resident children | 0-4 | 290 | 17-2 | 0-4 | 47-0 |
| | | *Farmers without resident children** | | | |
| 5-30 | 2-0 | 6-4 | 10-7 | 2-4 | 21-5 |
| 31-50 | 20 | 5-9 | 4-4 | 1-2 | 13-5 |
| 51-100 | 1-6 | 5-6 | 4-4 | 0-8 | 12-4 |
| Over 100 | 0-8 | 2-4 | 2-4 | Nil | 5-6 |
| All farms without resident children | 6-4 | 20-3 | 21-9 | 4-4 | 53-0 |

• The greater proportion of farmers without resident children includes those who are unmarried as well as childless married couples. Farmers whose entire families have emigrated are also included in this group.

Prospective Viability

Some 52-6 per cent of full-time farmers in Kerry may be regarded

as viable or potentially viable (table 12-8).[4] This proportion varies somewhat among regions, being highest in Central Kerry and lowest in the South. By and large farmers whose farming systems comprised (a) cows, cattle and pigs, (b) cows and pigs or (c) cows, cattle and sheep would appear to have better prospects of achieving and maintaining viability than those with other enterprise combinations (table 12-9).

**TABLE 12-8. Percentage distribution of full-time farmers according to viability status, by survey region.**

| *Survey region* | *Viability status* | | | *Total* |
|---|---|---|---|---|
| | *Non-viable* | *Problem* | *Potentially viable and viable* | |
| South | 16-8 | 47-3 | 35-9 | 1000 |
| West | 13-0 | 32-9 | 54-1 | 1000 |
| North | 10-5 | 35-8 | 53-7 | 1000 |
| East | 12-5 | 31-3 | 56-2 | 1000 |
| Central | 10-2 | 25-2 | 64-6 | 100-0 |
| Total | 12-8 | 34-6 | 52-6 | 1000 |

TABLE 12 9. Percentage distribution of full-time farmers according to viability status, by major enterprise combination.

| *Enterprise combination* | *Viability status* | | | ***Total*** |
|---|---|---|---|---|
| | *Non-viable* | *Problem* | *Potentially viable and viable* | |
| Cows only | 17-9 | 51-3 | 30-8 | 1000 |
| Cows, cattle | 3-9 | 30-5 | 65-6 | 1000 |
| Cattle only | 410 | 45-9 | 131 | 1000 |
| Cows, pigs | 1-4 | 18-6 | 800 | 1000 |
| Cows, cattle, pigs | Nil | 3-3 | 96-7 | 1000 |
| Cows, cattle, sheep | Nil | 18-7 | 81-3 | 1000 |
| Cows, sheep | 50 | 450 | 500 | 1000 |
| Cattle, sheep | 110 | 670 | 22-0 | 1000 |
| Total | 12-8 | 34-6 | 52-6 | 100-0 |

* For the criteria used in defining viability, see Scully, *op. cit.*, chapter 6.

## PART-TIME FARMERS

Part-time farmers are defined as those in the low income category who engage in other activities in order to supplement their incomes. Some 15-3 per cent of all farmers in the county fit this description. This proportion varies from 6-1 per cent in the West to 23-7 per cent in the South (table 12-10).

TABLE 12-10. Percentage distribution of part-time farms, by survey region.

| *Survey region* | | | | | |
|---|---|---|---|---|---|
| *South* | *West* | *North* | *East* | *Central* | *Co. Kerry* |
| 23-7 | 6 1 | 19-5 | 14-0 | 10-3 | 15-3 |

Roughly 57 per cent of part-time farms vary in size from 5 to 30 acres (table 1211). Thus, by comparison with full-time farmers, proportionately more part-time farmers operate smaller farms. The greatest concentration of small part-time farms appear to be in the West and North regions.

TABLE 1211. Percentage distribution of part-time farms according to size, by survey region.

| *Survey region* | *Farm size group (acres)* | | | *Total* |
|---|---|---|---|---|
| | 5-30 | 31-50 | *Over* 50 | |
| South | 34-6 | 36-6 | 28-8 | 100-0 |
| West | 100-0 | Nil | Nil | 100-0 |
| North | 88-2 | Nil | 11-8 | 100-0 |
| East | 68-0 | 20-0 | 12-0 | 1000 |
| Central | 66-7 | 16-7 | 16-6 | 1000 |
| Co. Kerry | 56-9 | 23-3 | 19-8 | 100-0 |

Over 43 per cent of part-time farmers are more than 50 years of age; the corresponding figure for full-time farmers is 57-8 per cent. In the North region, however, part-time farmers tend to be much older than average; the converse is true of the West region, (table **12-12).**

**TABLE 12-12. Percentage distribution of part-time farmers according to age, by survey region.**

| *Survey region* | *Age group (years)* 40 *or less* | 41-50 | *Over* 50 | *Total* |
|---|---|---|---|---|
| South | 19-2 | 36-6 | 44-2 | 1000 |
| West | 16-7 | 500 | 33-3 | 1000 |
| North | 29-4 | 17-6 | 530 | 1000 |
| East | 32-0 | 28-0 | 400 | 100-0 |
| Central | 22-2 | 33-4 | 44-4 | 1000 |
| Co. Kerry | 24-1 | 32-8 | 43-1 | 100-0 |

**Gross Margin Earnings**

Some 62-9 per cent of part-time farmers earn gross margins of £400 or less; the corresponding figure for full-time farmers is 20-5 per cent. Much lower than average gross margin earnings are in evidence in the East and North regions (table 12-13). Thus, it appears that part-time farmers are, on the whole, relatively young people who operate small farms and who, for the most part, derive no more than a marginal income in the process.

**TABLE 12.13. Percentage distribution of part-time farmers according to estimated gross margin earnings, by survey region.**

| *Survey* | *Gross margin group* (£) | | | *Total* |
|---|---|---|---|---|
| | 400 *or less* | 401-700 | *Over* 700 | |
| South | 57-7 | 30-8 | 11-5 | 1000 |
| West | 500 | 33-3 | 16-7 | 1000 |
| North | 70-6 | 23-5 | 5-9 | 1000 |
| East | 800 | 20-0 | Nil | 1000 |
| Central | 44-5 | 22-2 | 33-3 | 1000 |
| Co. Kerry | 62-9 | 25-9 | 11-2 | 1000 |

**Family Status**

Almost 33 per cent of all part-time farms are without resident children (table 12-14). These are operated by unmarried farmers, married farmers who have no children or farmers whose entire families have migrated. Presumably a high proportion of such farms are basically one man units where there is likely to be considerable competition for available labour between farm and non-farm work.

TABLE **1214. Percentage distribution of part-time farmers, by family status and age.**

| *Age group (years)* | *Family status* | | *Total* |
|---|---|---|---|
| | *With resident children* | *Without resident children* | |
| 40 or less | 12-9 | 11-2 | 24-1 |
| 41-50 | 241 | 8-7 | 32-8 |
| Over 50 | 30-2 | 12-9 | 43-1 |
| All part-time farmers | 67-2 | 32-8 | 100-0 |

**Off-Farm Employment**

Some 19 per cent of part-time farmers are engaged as unskilled building and contractors' workers; 25-9 per cent are involved in other unskilled occupations. A further 7-7 per cent are engaged in fishing and 7-8 per cent in forestry (table 12-15).

**TABLE 1215. Distribution of part-time farmers, by type of off-farm employment.**

| *Type of employment* | *Number* | *Per cent of total part-time farmers* |
|---|---|---|
| Agricultural workers | 12 | 10-3 |
| Agricultural contractors | Nil | Nil |
| Other agricultural occupations | 8 | 6-9 |
| Forestry workers | 9 | 7-8 |
| Mining, quarrying and turf workers | 6 | 5-2 |
| Fishing | 9 | 7-7 |
| Unskilled building and contractors' workers | 22 | 19-0 |
| Other unskilled workers | 30 | 25-9 |
| Skilled workers and supervisors | 3 | 2-6 |
| Commercial workers | 2 | 1-7 |
| Service and transport workers | 10 | 8-6 |
| Other producers, makers and repairers | 5 | 4-3 |
| Total | 116 | 100 0 |

These employment categories constitute over 60 per cent of non-farm occupations. By and large, most of the off-farm activities listed are either unskilled or semi-skilled.

On average, part-time farmers spent 32 weeks per year in off-farm employment (table 12-16). Farmers with the lower gross margins are among those who spend most time in off-farm employment. It is significant too that those with the larger farms appear to work for the longer periods off the land. But, on all farms, large and small, off-farm employment tends to decrease with increased gross margin earnings.

TABLE 12 16. Average weeks of off-farm employment of part-time farmers, by size of farm and gross margin earnings.

| *Gross margin group* (£) | *Farm size group (acres)* | | | *All farms* |
|---|---|---|---|---|
| | 5-30 | 31-50 | *Over* 50 | |
| 0-400 | 32 | 34 | 47 | 34 |
| 401-700 | 31 | 26 | 28 | 28 |
| Over 700 | 19 | 15 | 24 | 22 |
| All farmers | 32 | 29 | 35 | 32 |

Off-Farm Income

The average non-farm earnings of all part-time farmers are estimated to be £382. The estimated farm income is £292 (table 12-17).

TABLE 12 17. Distribution of average farm and non-farm earnings of part-time farmers according to size of farm, by gross margin earnings.

| *Gross margin range* (£) | *Farm size group (acres)* | | | | | | *All Farms* | |
|---|---|---|---|---|---|---|---|---|
| | 5-30 | | 31-50 | | *Over* 50 | | | |
| | *a* | *b* | *a* | *b* | *a* | *b* | *a* | *b* |
| 400 or less | 154 | 383 | 174 | 448 | 142 | 581 | 158 | 421 |
| 401 - 700 | 392 | 370 | 397 | 311 | 381 | 329 | 387 | 340 |
| Over 700 | 739 | 218 | 590 | 184 | 896 | 293 | 824 | 265 |
| Total | 221 | 376 | 306 | 362 | 479 | 296 | 292 | 382 |

a = estimated farm income. b = estimated non-farm earnings.

[6] Estimated farm incomes are derived by making an arbitrary deduction of 25 per cent from gross margin earnings to cover fixed costs.

Non-farm earnings refer only to those of farmers themselves. They do not take account of earnings of other individual members of farm families, who may also be employed off the farm.

On the basis of these estimates, the combined average of farm and non-farm earnings of all part-time farmers is £674. Off-farm employment therefore, is an important source of supplementary income for part-time farmers, particularly those with small farms or low farm gross margins. Its expansion would help improve the general level of living in rural areas and at the same time serve to maintain population in rural communities.

**Implications for Future Development**

The long-term development of Kerry must take into account the present imbalance between population and resource potential. With the continuing development of farm technology, a progressively smaller number of farmers and farm workers will be needed in the years ahead. As a result, opportunities for young people to earn satisfactory incomes in farming will become progressively fewer. The economic viability of the entire county depends, therefore, on the rate at which skilled non-farm employment opportunities can be created. The ultimate aim should be to ensure that the rate of development of such opportunities will match the rate at which surplus population is released from farming. It is only in such circumstances that optimum conditions for real economic development exist.

## Summary

Full-time farmers are regarded as those who have no other remunerative occupation apart from farming. Some 71 per cent of all farmers in Kerry fit this definition. Over 46 per cent of full-time farmers earn gross margins of £700 or less; this low gross margin situation is most pronounced in the South region. Average gross margin per farm varies from £377 on farms of 30 acres or less to £1,055 on farms exceeding 100 acres. Also, farmers over 60 years earn an average gross margin of £619; the corresponding figure for those of 40 years or less is £892.

The estimated standard man-day requirements of existing farming programmes are 300 or less on some 54 per cent of full-time farms. Almost 47 per cent of farms are one-man units; a considerable proportion of one-man farmers are over 50 years of age. It is likely that a substantial number of these elderly farmers may now be regarded as non-viable for all practical purposes.

Some 53 per cent of full-time farmers may be regarded as viable or potentially viable. This proportion is highest in the Central

region and lowest in the South. By and large, farmers with farming systems comprising (a) cows, cattle and pigs, (b) cows and pigs, or (c) cows, cattle and sheep would appear to have better prospects of achieving and maintaining viability than those with other enterprise combinations.

Part-time farmers are defined as those in the low income category who engage in other activities in order to supplement their incomes. Roughly 15 per cent of all farmers in the county fit this definition. Approximately 57 per cent of part-time farms vary in size from 5 to 30 acres. Over 43 per cent of part-time farmers are over 50 years of age; the corresponding figure for full-time farmers is almost 58 per cent.

Almost 63 per cent of part-time farmers earn gross margins of £400 or less. Much lower than average gross margins are in evidence on part-time farms in the East and North regions. Some 33 per cent of part-time farms are without resident children. Presumably a high proportion of these farms are basically one-man units where there is likely to be keen competition for available labour between farm and non-farm work.

By and large most of the off-farm activities engaged in by part-time farmers are either unskilled or semi-skilled in nature. On average part-time farmers spend 32 weeks per year in off-farm employment. Their average non-farm earnings are estimated to be £382. Their estimated total earnings, farm and non-farm, is £674. Off-farm employment, therefore, is an important supplementary source of income for part-time farmers.

With the continuing development of farm technology a progressively smaller number of farmers and farm workers will be needed in the years ahead. Thus, the economic viability of the county depends on the rate at which skilled non-farm employment opportunities can be created. Furthermore, it is only when the rate of development of such opportunities matches the rate at which surplus population is released from farming that optimum conditions for real economic growth will ultimately prevail.

ACKNOWLEDGEMENTS: The author wishes to acknowledge help received from Patrick J. Higgins, Agricultural Inspector, and Seamus O'Donnell, Executive officer, in preparation of this article.

## ADDENDUM

## COMMERCIAL FISHING INDUSTRY

Kerry is a maritime county with a long coastline. Comparative freedom from pollution, the continental shelf to the South and West and the warm gulf stream ensure that our off-shore waters have an abundant supply of a wide variety of fish. The sea inlets provide well sheltered harbours for the mooring of fishing boats. These natural advantages have favoured the development of sea fishing which has been an important industry in the coastal areas of the county. Some inland lakes and river estuaries are also good commercial fishing grounds. Rainbow trout farming has been introduced in recent years. Fish processing is an expanding aspect of the fish industry in the county.

Fishing is a significant outlet for employment in Kerry. Many people along the coast depend on it for all or part of their livelihood. The Western Farm Survey showed that 7-7 per cent of all part-time farmers stated that fishing was their main source of off-farm employment in 1967.

**Sea Fishing**

The value of sea-fish (excluding salmon) landed at our main fishing ports exceeded £222,000 in 1970.[6] The corresponding figure for 1968 was £189,000.[7] It gives an indication of the importance of sea-fishing to the economy of the county.

The main fishing ports in the county are Dingle, Fenit, Valentia harbour, Cromane and Ballinskelligs. Dingle is by far the largest fishing port in the county and accounts for slightly more than half of the total value of sea-fish landed in Kerry.

It is of interest to note the broad categories of fish landed at these ports. The fish landed at the ports of Dingle, Valentia harbour and Ballinskelligs are chiefly of the demersal type[8], while the landings at the two remaining ports are mainly shellfish. At Fenit, oysters are the predominant shellfish landed, while mussels are the main shellfish landed at Cromane. There are a number of smaller ports in the county where the value of landings is increasing gradually each year.

* Bord Iascaigh Mhara (BIM), *Annual Report*, 1970/71, p. 17.

[7] BIM, *Annual Report*, 1969/70, p. 32.

[8] Demersal fish live on or near the seabed. They include round fish such as cod, haddock and whiting; flat fish such as plaice, sole, brill and turbot.

A small quantity of salmon is landed at our main fishing ports each year, but no reliable figures are available which would allow an estimate to be made of its total value.

The tidal waters and estuaries of the Laune, Maine, Caragh, Inny, Currane and the Roughty rivers in South Kerry and the Cashen in North Kerry are very important salmon fishing grounds in the county.

*Employment in Fishing*

In 1970 there were 164 men employed full time and 304 employed part-time in fishing. A big percentage of those partially employed in fishing are small farmers.

A survey carried out by the Advisory service in 1971 showed that 268 fishermen are part-time farmers. The distribution of part-time farmers—part-time fishermen by region are given in table 1218.

**ABLE 12.18. Distribution of part-time farmers—part-time fishermen by survey region.**

| *No. of Part-time Farmers—Part-time Fishermen* | *South* | *West* | *East* | *North* | *Central* | *Total* |
|---|---|---|---|---|---|---|
| | 66 | 70 | 6 | 50 | 76 | 268 |

**OURCE : Kerry County Committee of Agriculture, County Fishing Survey 1971.**

The total figure does not include farmers who act as guides to lake and sea anglers.

**Inland Fishing**

Commercial inland fishing is of little significance to the fish industry in the county. It is carried on mainly on the lakes of Killarney and enquiry shows that less than ten farmers in the county earn a worthwhile part of their income from it.

**Boat Building**

Board Iascaigh Mhara **(BIM)** operate their own boat building yards at four centres throughout the country. One of these yards is located in Dingle. Three or four boats, varying in size from 50 feet to 60 feet are built each year in the Dingle boatyard. Twenty-

three men were employed there in 1971, none of whom were part-time farmers.

Processing

Processing is a very important aspect of the fishing industry. There are nine fish processing centres in the county. Dingle, Cromane and Fenit are fishermen's Co-operatives, where the catches are processed and marketed. The others are privately owned. Erbel Ltd., near Dingle, process rainbow trout which have been raised on their own trout farms. KRD fisheries in Killorglin process the salmon caught by their own boats. In addition the two latter bodies mentioned and the four remaining companies, Kenmare Fisheries Ltd.; Lucey Brothers Ltd., Waterville; Select Fish Products, Renard; and Blasket Sea-foods, buy fish for processing from fishermen, both in and outside the county. The total number of people employed in the processing industry in Kerry exceeds 150, only six of whom were found to be part-time farmers.

## Summary

The location of Kerry with its well sheltered bays, the introduction of rainbow trout farming in recent years and the expansion in fish processing makes fishing an industry of substantial proportion in the county.

The value of landings (excluding salmon) at the main ports increased from £189,000 in 1968 to £222,000 in 1970.

BIM operate a boat building yard at Dingle, where three or four boats are built annually. Fish processing is an expanding aspect of the fish industry in recent years. There are nine fish processing centres in the county. Three of these are fishermen's co-operatives where their catches are processed and marketed. The remainder process fish bought from fishermen both in and outside the county.

In 1970 there were 164 men employed full-time and 304 on part-time basis in the fishing industry. A survey carried out by the Advisory Service in 1971 showed that 268 part-time fishermen are farmers. Inland fishing, boat-building and fish processing have a very low part-time farmer employment content.

ACKNOWLEDGEMENTS: The authors wish to thank the managers of the nine fish processing firms in the county, Bord Iascaigh Mhara, Mr. C. Duggan. Department of Agriculture and Fisheries (Fisheries division), Mr. James O'Neill, Limerick Board of Conservators, for supplying requested data. Mr. R. O'Connor, \0., who's help was invaluable in assembling and compiling these data.

## FARMHOUSE HOLIDAYS

Since 1965 Farm Home Management Advisers have been involved in advising and running courses for existing and potential farm guest house owners in the county. The farmhouse holiday business is rewarding both financially and socially for the majority of people. It involves hard work requiring a high degree of organisational and housekeeping ability together with a good temperament. It does not provide a living but it is a lucrative and interesting sideline benefiting not alone the operator but the community in the local towns and villages.

Table 12-19 shows the accommodation position in the county in 1971.

TABLE 12.19—Farmhouse accommodation by category—1971.

| *Category* | *No.* |
|---|---|
| Listed farmhouses or flats to let* ... ... ... | 37 |
| Listed registered farm guesthouses* ... ... | 64 |
| Non-registered farm guesthouses (estimated)f ... | 160 |
| Roinn Na Gaeltachta, guesthouses# ... ... | 99 |

•SOURCE Ivernia
tKerry Committee of Agriculture, Farm Guesthouse Survey 1971.
# Roinn na Gaeltachta, *Tithe iostais do chuairteoiri Gaeltachta* 1971.

Kerry's tourist industry continues to grow and in 1971 it was worth £6-75 million.[9] Farmhouse holidays are now an important part of tourism here and in 1971 were worth £250,000 to listed owners. Total accommodation amounted to 55,000 bednights. The average occupancy in listed farmhouses in Kerry in 1971 was 43 per cent. Average profit per room was estimated at £196 gross.

Socially the impact of farm guests is considerable. They bring in a new life and interest to a countryside which in latter years has become depopulated. They introduce to small towns and villages an international flavour previously found only in the cities. This helps broaden the outlook of people in rural areas and promotes their understanding of the way of life of other nations.

' Ivernia (private communication).

# *Section 4*

# Amenity Land

THERE is a large acreage of land in the county which has a limited agricultural potential. In the past this land supported low intensity livestock production, mainly cattle and sheep. The Department of Lands has acquired some of this land for forestry. However, there are still large tracts of land unfenced and underdeveloped throughout the county.

In recent years it is being used to a greater extent than formerly for recreational and pleasure purposes. This trend is one which is likely to grow and a stage may be reached when the use of this land for agricultural purposes may be challenged.

In this section Amenity Land Use and some of our more important natural amenities are discussed.

CHAPTER THIRTEEN

# AMENITY

IN the Local Government (Planning and Development) Act 1963, amenity is intended to include the following broad items:

"recreation and tourism,
historic, scientific and other cultural values,
landscape and natural environment,
good design in man-made environment."[1]

This article deals mainly with amenity land and the natural environment. The effects of future agricultural development on amenity areas is also dealt with. Places of scientific and historical interest are referred to only from an access point of view.

The rivers and lakes in the county are a great scenic attraction. They also contain large stocks of salmon and trout.

Due to the mild climate in Kerry there are large concentrations of wild fowl both native and immigrant to be found throughout the county. Game shooting and fishing are therefore two very important amenities as they provide sporting and recreational activities for tourists and the local community.

## AMENITY LAND USE

Approximately 53 per cent (620,000 acres) of the total area of the county is made up of mountains, bogland, rivers and lakes and described as 'other land'. This total area has very poor potential from an agricultural point of view. The percentage of 'other land' is much greater in South and West Kerry than in the remainder of the county.[2] At present the mountains and boglands are used for forestry and low intensity livestock grazing, especially sheep. To a large extent they are undivided and unfenced. It is fortunate, however that land which has a low agricultural productivity has a high amenity value. Urbanisation and affluence have brought a change in emphasis in the use of this land from the utility aspect to the amenity aspect.

[1] An Foras Forbartha, *Planning for Amenity and Tourism* (Dublin: An Foras Forbartha, August 1966), P.l.

* See table 4-1 for further details.

**Natural Environment**

County Kerry, especially South and West Kerry, are therefore extremely rich in amenities of the natural environment type. The rivers and lakes with their stocks of salmon and trout are a major attraction to the angler and tourist.[3] The vast area of sandy beaches, and the seaside resorts, dotted around the coast, like Ballybunion, Inch, Rossbeigh, Banna, Waterville, delight both Irish and foreign tourists each year. The beaches provide facilities for aquatic sports such as boating, sailing, canoeing and water-skiing and, of course, swimming.

The mountain ranges with the two highest peaks in the country at Carrantouhill and Brandon rising upwards to almost 3£ thousand feet offer a challenge to the mountain climber. The mountains and foothills also provide excellent hunting grounds for foxes, hares, rabbits and shooting grounds for grouse, woodcock and snipe.[4]

*Unique Vegetation*

Due to our mild humid climate, and comparative freedom from frost, Kerry has a sub-tropical ecology unique in Northern Europe. Upwards of 1,000 species of plants varying from sub-tropical to sub-arctic, thriving freely in the county are striking examples of this. We have many plants of a subtropical nature such as the strawberry tree (Arbutus unedo) found in the vicinity of Killarney; Fuchsia (Fuchsia magellanica) forming dense hedgerows in the Dingle peninsula, Cordyline palms (Cordyline australis) widespread in seaside areas, Silver tree fern, acacias (70-80 ft.) and Eucalyptus globulus in Rossdohan. Plants normally associated with arctic-alpine conditions, e.g., Saxifrages, Gentians and Mountain Avens are also to be found mainly in the mountains of South and West Kerry.

Kerry has a wide range of habitats, e.g. extensive Mar ran covered sand-dunes to be found mainly in Banna, Castlegregory and Inch, limestone outcrops wooded with Yew (Taxus baccata) to be found mainly in Killarney, natural oakwoods with their undergrowth of Holly to be found mainly in Muckross Estate, large areas of Rhodo-dendron ponticim found extensively along Killarney-Kenmare road, Mollinia covered slopes on mountains throughout the county and barren rocky outcrops and mountain peaks.

These distinguish and characterise the natural environment of

[s] **See Inland Fishing for further details.**

*** See Game Resources for further details.**

Kerry and provide a great variety of material of interest both to the layman and the student. Some areas of special interest for both leisure and study are Muckross Gardens (National Park), Rossdohan, Derrynane, Valentia and the Dingle peninsula. But there is hardly any area in the county which has not its own items of interest in this connection.

The county is a veritable paradise for the tourist, the nature lover, the botanist, the biologist, the ornithologist, the fisherman, the historian or the everyday landscape admirer. All can find never-ending pleasure within the county boundaries.

**Development and Access**

The winding roads and the magnificent views from mountain passes such as Coomaciste, Ballaghisheen, Coumaneaspaig, Lady's View and the Healy Pass in South Kerry, and Connor Pass and Glenagalt in West Kerry are a pleasure for the motorist. In addition the car parking facilities, picnic areas and walks provided by the Department of Lands at the Forestry Units[5] in scenic routes, and the camping and caravan sites are a further major amenity.

There are playing pitches, golf, pitch-and-putt courses in all the larger towns in the county, for those who are interested in games or competitive sports.

The public parks in Tralee, Killarney and Listowel are widely used by townsfolk who go for an evening stroll and by those who do not feel like venturing into the countryside.

At present all amenity land can be reached without much difficulty. The views and the vistas can be enjoyed by the motorist without ever leaving his car. There are public roads leading to all public parks and the most important beaches. The playing fields and pitches are open to the public.

However, the huntsman, the fowler, the fisherman, or mountain climber cannot engage in his pastime without encroaching on private property. To-date land owners have been very tolerant in allowing visitors free access to farm land. However, if farmers exercised their ownership rights, most of the amenity lands could become inaccessible. It is in the visitors' interests therefore to ensure that no damage is done to crops or fences, and that waste is disposed of in a proper manner.

*Planning and Landscaping*

There are certain amenity areas in the county where building is

[5] See Appendix G.

prohibited or restricted by the County Council planning authority. This helps to preserve our natural amenities. Where developments are allowed, the structure must be built and camouflaged so as to fit into the natural surroundings. Amenity planting and landscaping play a vital role in this connection. Trees and shrubs, in addition to their own intrinsic beauty, are used in such cases to provide a framework for buildings and vistas, to emphasise certain points of interest and to camouflage others.

All new farm buildings being constructed must be at least 30 feet from the public road; silos, piggeries and poultry houses cannot be constructed within 100 feet of a dwelling without the consent of the owner or occupier. Planning permission must be obtained for all buildings in towns (over 1,000 population) and urban areas and in all areas where the construction of large-scale poultry or pig housing (accommodation for over 1,000 pigs) is intended.

To prevent the pollution of rivers and lakes with silage effluent, the Department of Agriculture insist that a soak pit must be excavated before a grant is paid for the construction of silos.

## Monastic Ruins

Kerry is one of the most interesting counties in Ireland for remains of old monastic settlements and pre-historic ruins. Gallarus and Kilmalkedar oratories, and the ruins of several hundred clochans (beehive huts) at Fahan in West Kerry; the Round Tower at Rattoo and Ardfert cathedral and friary in North Kerry; Lacanbuaile and Staigue forts, Muckross and Derrynane Abbey in South Kerry are but a few structures of architectural and historic interest, which can be seen, admired and studied within the county. The lands surrounding many of these monastic ruins are privately owned, and access is possible only by means of time-honoured rights of way, and by virtue of the goodwill of the owners of such properties.

## The Future

As urban centres expand and develop there is likely to be greater demand for land for exercise, sporting and pleasure purposes. On the other hand with improved profit margins from livestock enterprises, large areas of amenity land are likely to be fenced and manured. The fencing of large areas of foothills would seriously curtail many sporting and leisure activities. Improved fencing on the lowlands would render many of our most interesting ruins inaccessible if damage to the erected fences were to be avoided.

It may, therefore, be necessary in the near future to provide

recognised access routes to the more important amenities. Alternatively professional assessment of the agricultural potential of certain lands in amenity areas may be required before any developments are allowed.

In recent years the increase in silage-making and loose-housing of livestock, has resulted in large quantities of effluent and 'run-off' from farmyards. The continuation of this trend will lead to the pollution of rivers and lakes if precautions are not taken. Farmers and farm planners must ensure that 'run-off' does not find its way into fish-bearing waters or domestic water supplies. It is of vital interest to both urban and rural communities to strive to make our people more prosperous but at the same time preserve our natural amenities and make the county a better place in which to live.

## Summary

More than half the total land area of the county has a very poor potential from an agricultural point of view. It is fortunate, however, that land with a low agricultural productivity has a high amenity value. Kerry is, therefore, extremely rich in natural amenities. It has also many interesting historical ruins. It is a veritable paradise for the tourist, the nature lover, the botanist, the biologist, the ornithologist, the fisherman, the historian or the everyday landscape admirer. All can find never-ending pleasure within the county boundaries.

Almost all amenity land is privately owned. At present it can be reached without much difficulty, as land owners are very tolerant in allowing visitors through their lands. In order to ensure that these amenities are preserved, permission must be obtained from the planning authority for the construction of dwellings, farm buildings or development in certain areas.

Large areas of amenity land are likely to be fenced and developed for livestock production in the future. This would render many of our Amenity areas inaccessible. Precautions may have to be taken to prevent this. Farmers and farm planners, urban dwellers and developers alike must ensure that our rivers and lakes are not polluted, and that our natural amenities are preserved.

ACKNOWLEDGEMENTS: The authors wish to thank Mr. H. B. O'Donnell and Miss Kay O'Driscoll who helped in compiling data; An Foras Forbartha who supplied data and Mr. P. C. O Broin, Department of Agriculture, who gave helpful advice.

## INLAND FISHING

The following are the principal rivers and the species of fish present in each river in County Kerry:

| *River System* | *Species of Fish present* |
|---|---|
| Black water | Salmon with a few sea trout. |
| Caragh | Salmon, sea trout and brown trout, particularly in Caragh Lake. |
| Cloonee .... .... | Salmon, sea trout and small brown trout. |
| Currane or Waterville | Salmon, sea trout and brown trout. |
| Feale | Salmon, sea trout and brown trout. |
| Inny | Salmon and sea trout. |
| Laune | Salmon with good brown trout fishing in the Killarney lakes, some sea trout. |
| Roughty | Salmon and a few sea trout. |
| Sheen | Salmon and some sea trout. |
| Sneem | Salmon and sea trout. |

The major part of County Kerry is under the jurisdiction, for fishery purposes, of the Kerry Board of Conservators. The River Feale and its estuary is under the control of the Limerick Board of Conservators. Licences to fish for salmon and sea trout are obtainable from the Boards of Conservators or their duly appointed agents.

In most rivers in the county the net fisheries in tidal waters are privately owned, the notable exceptions being Castlemaine Harbour (the combined estuaries of the Laune and Maine) and the Cashen (the estuary of the River Feale, etc.), in which draft nets are operated by members of the public on payment of the licence duty, at present £4, payable to the appropriate Board of Conservators. Sweeper nets (forms of draft net) are also operated by members of the public in Ballinskelligs Bay and in Kenmare Bay. Fishing for salmon and trout by nets is completely prohibited in freshwater in the whole of the county.

Rod licences to fish for salmon and sea trout are also available from the appropriate Board of Conservators at the prescribed scale (table 131).

Much of the better quality rod fishing for salmon and sea trout is, however, preserved by its owners and before fishing, it is necessary for the angler to obtain the permission of the owner of the fishing rights in question.

Brown trout are widespread in County Kerry and most waters

**TABLE 131. Details of salmon and sea trout fishing licences.**

| *Licence Fee* | *Description of Licence* | *District* |
|---|---|---|
| Section A | | |
| *Rod and Line:* | | |
| £4 | Annual.... | Valid in |
| £3 | Twenty-one day. . . . . .> | all Fishery |
| £1 | Seven-day .... .... J | Districts |
| £3 | Late Season—July 1 onwards | Valid in |
| £3 | Annual (District). . . . . J> | District of |
| £2 | Late Season (District)—July 1 onwards J | Issue Only |

contain stocks. With certain exceptions such as the Killarney and other lakes in the county, brown trout are small but abundant. In the Killarney Lakes brown trout reach larger sizes than elsewhere and generally rod fishing is good over most of the season.

The freshwater portions of most rivers and lakes in the county contain eels but they are generally small and not of any great commercial value. Consequently, they have not been exploited commercially to any great extent heretofore. Except for perch in the Lakes of Killarney coarse fish are absent from the county.

Generally the waters of County Kerry are unpolluted, although there are a few places where local pollution, due to the discharge of sewage or other materials, takes place. Ulcerative Dermal Necrosis has occurred in salmon and to a negligible extent in sea trout and brown trout in some rivers in the county. The incidence of the disease in recent years has, however, been low in most rivers previously affected.

Salmon, sea trout and brown trout are much sought after by anglers including tourists, many of whom come to County Kerry to the various resorts, etc., specifically to fish for these species. The fisheries, therefore, give valuable employment in hotels, guesthouses, and private houses where anglers stay and in addition anglers spend considerable sums of money on goods which they take with them as presents for their friends. They also provide a welcome outlet for produce of the farms in the tourist areas.

## GAME RESOURCES

Kerry's mild climate, is very attractive to wildlife, particularly to migrant birds. Made subtropical in places by the warm Atlantic

currents that wash the shores and temper the winds, for decades the county has been considered by sportsmen to be one of the best shooting areas in Ireland, unsurpassed for woodcock and snipe.

However, there is very little accurate information on most game species in Kerry, and until detailed surveys are carried out any assessment of the populations would be guesswork. Hence this report will be dealing with general aspects of the position as seen at the moment.

In addition to woodcock and snipe in a wide variety of habitats, grouse are present on the high ground, and deer of two species are found in the Killarney mountains and state forests. Contrary to general opinion Kerry has two of the largest concentrations of wild fowl in Ireland, and some small coastal areas are essential to the existence of particular species of waterfowl.

A review of the resource of wildlife in the county may be useful at this stage.

**Wildfowl**

It seems that the local breeding population of wildfowl, particularly mallard and teal, have been reduced drastically over the past twenty to thirty years. However, there are still large concentrations of migrant wildfowl at the following places—probably some of the most important wildfowl roosts in Ireland—Inch, Castlemaine Harbour, Tralee Bay, Arkeragh near Ballyheigue and Lough Gill near Castlegregory. To take advantage of this natural occurrence for which nothing is being done at present and to ensure that the birds continue to visit Kerry, measures should be taken to conserve these main roosts.

These measures could be in the form of communication and education facilities to make the public aware of this resource. Hides could be built as observation posts so that the public could see the birds and learn something of their habitats. Such observation posts equipped with identification charts of wildfowl can be extremely rewarding in producing public awareness and resolve in conservation.

Grouse

Grouse are found on most of the hills above the 800-ft. contour in Kerry, in areas where there is sufficient heather to support a population, but the birds are nowhere plentiful. It would be impossible to guess the number of birds available, but it appears from information received from the Federation of Kerry Gun

Clubs that the numbers of grouse are decreasing. It is probable that this is because of poor hill management, possibly no management at all. Owing to the fact that up-to-date information on grouse has not been available, this type of management is both expensive and time-consuming. To attempt to manage the whole range would be too costly. A pilot scheme operated in a small area, where the numbers could be assessed accurately and which could be managed and put through the kind of known burning regime operated successfully in Scotland, might be very fruitful.

Snipe

Snipe is possibly the most numerous game bird migrant in Kerry. The number of snipe found in the county during the winter varies with the weather. When it is hard elsewhere in Ireland and in Europe large numbers of snipe come to Kerry. When the weather is mild elsewhere the opposite holds good.

Snipe are distributed throughout the county wherever there are suitable habitats.[6] Snipe are also resident and breed, but the population of breeding birds in proportion to the wintering population is very small.

It is difficult to suggest development plans with the scarcity of information available about snipe. However, small areas could be set aside for experiments in management techniques.

At present there does not seem to be sufficient gun pressure on these birds to suggest controlled shooting. For the introduction of future controls far more information would be necessary as to the size and fluctuations of the wintering populations.

Woodcock

Woodcock, like snipe, visit Kerry in numbers during the winter. They migrate from Scandinavia and Russia. Their numbers, too, vary with the weather. These birds are found in all suitable habitats,[7] but more particularly in the southern half of the county. Their spectrum is far wider than for snipe. Because of the variation in day-time roosts, it would be important to try to increase their feeding grounds, to which they fly in the hours of half-light in the mornings and evenings.

Again, it would be foolish to control shooting without knowing the population sizes or population trends, but it might be advisable to carry out some experiments on feeding grounds in order to

* See Appendix F.

[7] See Appendix I.

increase their supply of food, which could be done by encouraging earthworms in certain feeding grounds.

**Deer**

Two species of deer are present in the Killarney regions of Kerry. The Red Deer, supposed to be the only herd of true Irish origin, are found on high ground, moving to lower areas in hard weather. Japanese Sika Deer are found in the forests, both in the State soft woods, and the indigenous hardwood areas.

Both species of deer are of the genus Cervus. The red deer is the larger of the two and thus rates higher as far as venison production is concerned. They also have more massive antlers—which are sought-after trophies.

Two students are currently studying the ecology ol the two species of deer. The results of their work could be useful.

It might be advisable to carry out controlled experiments with deer, particularly Red Deer on high ground. It is possible that deer could play a greater part in land use and experiments could be laid out with fenced areas holding different groups of stock. For instance:

Area 1 — Deer onl>.

Area 2 — Deer plus sheep.

Area 3 — Deer plus sheep and cattle.

In this way an assessment of the producivity of the land could be made, utilising deer as a natural resource, in multiple land-use programmes.

**National Park Concept**

It should be possible to develop the existing park at Killarney with wildlife observation posts, with interpretation centres and other information designed to draw the public into closer contact with nature and their natural resources. New parks could be started in suitable places, easily accessible to the public, having the sort of nature trails that have been started in Killarney and elsewhere in the country, and which have produced such an enthusiastic response from the public.

## Summary

Kerry's mild climate is attractive to wildlife, particularly to migrant birds. Little is known about the size of the populations as no detailed surveys have been carried out.

The resident breeding wildfowl seem to be decreasing, although

there are large concentrations of wintering migrant wildfowl, particularly at Inch and in the Tralee Bay area.

The grouse populations are also declining, possibly due to poor heather management. Management of the moors is expensive and time-consuming and little expert 'knowhow' has been available.

Snipe are present in large numbers and do not appear to be overshot. However, it might be advisable to set aside areas where management techniques could be tried.

Woodcock visit Kerry in large numbers from Scandinavia and Russia. Little is known of their numbers and with little information available it would be impossible to assess the general situation. Artificial feeding grounds could be made to attract and hold birds.

Red Deer and Japanese Sika Deer are present at Killarney. An experiment to assess their productivity could be started on the existing range.

It might be possible to become more wildlife-orientated in the existing national park by having interpretation centres. A new national park could well be opened in another area.

ACKNOWLEDGEMENTS: The author gratefully acknowledges help received from Sean Dennehy, Kerry Federation of Gun Clubs, and Thomas Dunne and Jackie Moriarty of Annascaul Gun Club.

## APPENDIX A

### Males and Females in each Occupational Group in Kerry—1961 and 1966

| *Occupations* | 1961 | | | 1966 | | | % *Change* 1961–1966 | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Males* | *Females* | *Total* | *Males* | *Females* | *Total* | *Males* | *Females* | *Total* |
| **Agriculture** | | | | | | | | | |
| Agricultural Occupations (Total) | 21,489 | 2,308 | 23,797 | 19,308 | 1,719 | 21,027 | —11·2 | — 25·6 | —11·7 |
| **Industry** | | | | | | | | | |
| Mining, Quarrying, Turf | 152 | — | 152 | 55 | — | 55 | —63·8 | — | —63·8 |
| Metal Manufacture | 139 | — | 139 | 107 | — | 107 | —23·1 | — | —23·1 |
| Electrical | 208 | — | 208 | 268 | — | 268 | +28·8 | — | +28·8 |
| Machinists and Fitters | 685 | — | 685 | 997 | — | 997 | +45·5 | — | +45·5 |
| Woodworkers | 666 | — | 666 | 693 | — | 693 | + 4·0 | — | + 4·0 |
| Leather | 293 | 161 | 454 | 246 | 175 | 421 | —16·1 | + 8·6 | — 7·3 |
| Textiles | 161 | 134 | 295 | 130 | 181 | 311 | —19·3 | + 35·0 | + 5·4 |
| Food, Drink, Tobacco | 404 | 101 | 505 | 462 | 113 | 575 | +14·3 | + 11·8 | +13·8 |
| Building and Construction | 2,405 | — | 2,405 | 984 | — | 984 | | | |
| Labourers and Unskilled | 1,496 } 3,901 | 44 | 1,540 } 3,945 | 2,892 } 3,876 | 8 | 2,900 } 3,884 | — 0·7 | — 81·9 | — 1·6 |
| Foremen and Supervisors | 213 | — | 213 | 214 | — | 214 | + 0·4 | — | + 0·4 |
| Other Repairers and Producers | 463 | 35 | 498 | 658 | 128 | 786 | +42·1 | +265·7 | +57·8 |
| Total | 7,285 | 475 | 7,760 | 7,706 | 605 | 8,311 | + 5·8 | +12·7 | + 7·1 |
| **Services** | | | | | | | | | |
| Transport and Communication | 1,334 | 49 | 1,383 | 1,352 | 78 | 1,430 | + 1·3 | + 59·1 | + 3·3 |
| Typists and Shorthand | — | 187 | 187 | — | 225 | 225 | — | + 20·3 | +20·3 |
| Clerks | 578 | 489 | 1,067 | 708 | 663 | 1,371 | +22·4 | + 35·5 | +28·4 |
| Commerce, Insurance, Finance | 2,170 | 1,374 | 3,544 | 2,224 | 1,387 | 3,611 | + 2·4 | + 0·9 | + 1·8 |
| Service Workers | 720 | 2,052 | 2,772 | 807 | 2,040 | 2,847 | +12·0 | — 0.6 | + 2·7 |
| Administrative, Executive, Managerial | 306 | — | 306 | 290 | — | 290 | — 5·2 | — — | — 5·2 |
| Professional & Technical Occupations | 1,139 | 1,421 | 2,560 | 1,234 | 1,515 | 2,749 | + 8·3 | + 6·6 | + 7·3 |
| Other Gainful Occupations | 479 | 78 | 557 | 298 | 90 | 388 | —37·8 | + 15·4 | —30·3 |
| Total | 6,726 | 5,650 | 12,376 | 6,913 | 5,998 | 12,911 | + 2·7 | + 6·1 | + 4·3 |
| Total Gainfully Occupied | 35,500 | 8,433 | 43,933 | 33,927 | 8,322 | 42,249 | — 4·4 | — 1·4 | — 3·9 |
| Total not Gainfully Occupied | 8,953 | 31,534 | 40,487 | 9,124 | 30,629 | 39,753 | + 1·9 | — 2·9 | — 1·9 |
| Total 14 Years of Age and Over | 44,453 | 39,967 | 84,420 | 43,051 | 38,951 | 82,002 | — 3·2 | — 2·6 | — 2·9 |
| Total Under 14 Years of Age | 16,385 | 15,653 | 32,038 | 156,23 | 15,160 | 30,783 | — 4·7 | — 3·2 | — 3·9 |
| Grand Total | 60,838 | 55,620 | 116,458 | 58,674 | 54,111 | 112,785 | — 3·6 | — 2·8 | — 3·2 |

SOURCE: Derived from Census of Population of Ireland 1961, Volume V, Occupations and 1966 Volume V. Occupations.

## APPENDIX B

Livestock unit equivalents for general use.

| *Cattle* | | *Sheep* | *Heavy* | *Crossbred* | *Hill* |
|---|---|---|---|---|---|
| 0- 6 months | .33 | Ewes and rams | .25 | 1/5 | 1/6 |
| 6-12 months | .5 | Lambs to weaning | 1/10 | 1/12 | 1/14 |
| 12-24 months | .66 | Lambs after weaning | 1/7 | 1/8 | 1/9 |
| Over 24 months | 1 | Hoggets/wethers | 1/6 | 1/6 | 1/7 |
| Cow(10£cwt.) | 1 | | | | |
| Cow (12 cwt.) | 1 1/10 | | | | |

Horses (working) 1.5
Horses (other) 1

SOURCE: E. A. Attwood and J. F. Heavey, *Irish Journal Agricultural Research.* Vol. 3, 1964, page 251, Table 11.

## APPENDIX C

**TABLE 1. Percentage distribution of fanners according to age, by survey region.**

| *Survey* | *Age group (years)* | | | *Tntnl* |
|---|---|---|---|---|
| | 40 *or less* | 41-50 | Over 50 | |
| South | 23-3 | 20-5 | 56-2 | 1000 |
| West | 16-2 | 22-2 | 61-6 | 100-0 |
| North | 18-4 | 19-5 | 621 | 100-0 |
| East | 21-3 | 27-0 | 51-7 | 100-0 |
| Central | 22-9 | 211 | 560 | 100-0 |
| Zounty Kerry | 21-2 | 22-3 | 56-5 | 1000 |

**TABLE 2. Farmers over 50 years of age without prospective heirs as percentage of total fanners in each farm size group, by survey region.**

| *Survey region* | *Farm size group (acres)* | | | *All Farmers* |
|---|---|---|---|---|
| | 5-30 | 31-50 | *Over* 50 | |
| South | 33-8 | 23-9 | 18-4 | 24-6 |
| West | 341 | 3-3 | 161 | 20-2 |
| North | 42-5 | 17-6 | 10-9 | 26-4 |
| East | 21-3 | 25-9 | 151 | 20-2 |
| Central | 34-2 | 25-1 | 15-2 | 25-7 |
| County Kerry | 32-3 | 18-9 | 15-7 | 22-4 |

## APPENDIX D.

Appendix D identifies sources of information used in tables 61, 6-3 and 6-7, and outlines in some detail how the figures used in these tables were calculated. It also explains briefly how information on the use of credit by Kerry farmers was assembled.

### DERIVATION OF INFORMATION IN TABLE 6 1.

**Value of Land**

The agricultural land of the county was taken as 600,000 statute acres approximately of crop and pastureland.

Mr. W. Dennehy, MIAA, Currow; Mr. G. Lynch, MIAA, Listowel, and Mrs. M. O'Donoghue, MIAA, Caherciveen, submitted actual details of non-identified sales of fourteen farms totalling 782 statute acres on aggregate, in the Rural Districts (RD) of Killarney, Listowel and Caherciveen, respectively, during the period 1960 to 1972. In the case of each farm they judged separately, what it might have made in each of the years 1960, 1965 and 1970. In arriving at an average price per acre of agricultural land for the whole county the average figure calculated for the farms in each RD stated, in each of the years under review, was weighted in proportion to the total area of crop and pastureland in the RDs in question.

**Value of Farm Buildings**

The procedure adopted was identical for each of the three years

reviewed, 1960, 1965 and 1970. It was largely dictated by the returns for grants paid for farm buildings in the county between 1960 and 1970, and is described below:

1. All farm buildings were grouped as selected (A) and other (B):

   A. Selected farm buildings were sub-divided into:
      (/) Livestock (housing for live animals and poultry); breeding cows and bulls, cattle over one year old, weanlings, sows and boars, pigs, weaners, stables, turkeys, geese and ducks, ordinary fowl.
      (/'/') Non-Livestock: haybarns, silos (roofed and unroofed), milking parlours and dairies.
   B. Other farm buildings include agricultural produce houses, grain lofts, farm roads and miscellaneous fixed farm structures.

A. The value of selected buildings was calculated as follows:
   *(a)* The number of animals, e.g., cows, or units of material, e.g., tons of hay to be housed, was taken or estimated from published CSO statistics.
   *(b)* The number of units of housing which represented capital value within each category, was arrived at by assigning factors to the numbers in *2 (a)* as follows:
      (/') Percentage housed. This percentage was supplied by Mr. D. O'Neill, Parish Agricultural Supervisory Officer (PASO) based on his experience with farm buildings in the county;
      (/'/) Structural quality. A guide to the percentage used was taken from the Western Farm Survey.
   (c) Unit replacement cost was supplied by Mr. D. O'Neill (PASO).
   *(d)* State of depreciation of buildings representing capital value was subjectively judged at 50 per cent in all cases except in:
      1960: dairies and roofed silos, 25 per cent;
      1965: dairies and roofed silos, 25 per cent; milking parlours, 20 per cent;
      1970: roofed silos, 30 per cent; dairies, 25 per cent; milking parlours and unroofed silos, 20 per cent.

An example of the procedure adopted may be shown as used for cows and haybarns, 1960:

| Housing Category | Number in county | Percentage housed | Structural quality | Units of housing capital | Replacement cost per unit (£) | Percentage depreciation | Total Value (£) |
|---|---|---|---|---|---|---|---|
| Cows . . . . . | 112,926 | 90 | 60 | 60,980 | 24 | 50 | 731,760 |
| Hay (ten-ton blocks) | 23,058 | 85 | 50 | 9,915 | 90 | 50 | 446,175 |

B. The value of other farm buildings in each year reviewed was estimated by assigning value to them relative to selected buildings which was in the same ratio as that found between Department of Agriculture (later Department of Agriculture and Fisheries) grants paid towards selected versus other categories of farm buildings. For 1960, the ratio was that found for grants paid in the year 1960/61. For 1965 and 1970, respectively, the ratio was that found in each of the five-year periods preceding the year of valuation.

**Value of Farm Machinery**

The number of machines was obtained from CSO sources as follows:

1960: Agricultural Statistics 1960, pp. 82-83;
1965: Agricultural Statistics 1965, p. 27;
1970: CSO private communication (June 1972).

Subjective estimates of the number of machines in the county were made in cases where categories of machines listed in CSO sources did not correspond in different years.

Representative average prices of new machines in the categories listed in CSO sources, for each of the three years reviewed were obtained from Mr. N. O'Reilly, Machinery Editor, *Irish Farmers' Journal.*

Capital value was taken at half of replacement value.

**Value of Livestock**

Livestock numbers were obtained from CSO publications.

Representative livestock prices were obtained as follows:

Cows, cattle, working horses and ponies: average of range of prices published in July issues of the *Farm Bulletin* in years 1960, 1965, and 1970.

Sheep: private estimate.

Pigs: Mr. P. Boardman, Henry Denny & Co. Ltd., Tralee.

Sows in pig, other breeding sows, maidens and boars: Mr. Alex McNair, Pigs and Bacon Commission.

Thoroughbred horses: R. J. Goff & Co. Ltd., Bloodstock Auctioneers, RDS.

Poultry: Miss Mary Gleeson, PI. Kerry County Committee of Agriculture.

**Value of Working Capital**

The value of working capital was taken at half of items of variable costs as published by Michael Ross, ESRI, in County Incomes 1960 and 1965, and Further Data on County Incomes in the Sixties (May 1972).

## DERIVATION OF INFORMATION IN TABLE 6 3.

**Land Improvement**

**Land** Project capital grant for Section A work, Fencing and Keep Scheme, estimated at 66 per cent of total capital investment in land improvement by Mr. G. Lee, District Officer, Land Project Office, Tralee. Land Commission expenditure on farm land development obtained from Irish Land Commission (ILC) through Mr. M. Kemple, ILC Office, Tralee.

**Investment in Farm Buildings**

Capital grant for farm buildings estimated at 25 per cent of total capital investment in farm buildings by Mr. D. O'Neill, PASO, Tralee. ILC expenditure on farm buildings in County Kerry was estimated by Mr. M. Kemple, ILC Office, Tralee.

**Investment in Farm Machinery**

The investment in farm machinery was taken as the product of change in the number of each type of machine and the average replacement price for that type of machine over each five-year period.

**Investment in Livestock**

The investment in livestock was taken as the product of change in the number of each category of livestock and the average price for that category of animal over each five-year period. The average prices for cows, cattle and horses were calculated on the basis of yearly average prices for each five-year period.

**Additional Working Capital**

Additional working capital was taken as the remainder, when working capital at the beginning of each five-year period was subtracted from the working capital being used at the end of the corresponding five-year period.

DERIVATION OF INFORMATION IN TABLE 6 7.

| *Unit* | *Additional units (No.)* | *Cost per unit* (£) | *Total cost* (£) |
|---|---|---|---|
| Land reclamation and fencing | | | |
| Lowland (st. ac.) | 75,000 | 50 | 3,750,000 |
| Mountain (st. ac.) | 20,000 | 12 | 240,000 |
| Total | | | 3.990,000 |
| Farm buildings | | | |
| Cowspaces | 50,000 | 45 | 2,250,000 |
| Loose boxes | 5,000 | 100 | 500,000 |
| Milking parlours | 1,600 | 800 | 1,280,000 |
| Cattlespaces (over 1 year old) | 4,000 | 25 | 100,000 |
| Cattlespaces (under 1 y.o.) | 5,000 | 15 | 75,000 |
| Silos (1 ft. longx 30 ft. wide) | 120,000 | 8 | 960.000 |
| Farm paddocking (roadway, fence removal and erection per L.U. of cows and cattle) | 67.000 | 5 | 335,000 |
| Total | | | 5,500,000 |
| Farm machinery | | | |
| Milking units | 6,400 | 190 | 1.216,000 |
| Forage harvesting and muck-spreading (contractor owned) | 70 | 6,000 | 420.000 |
| Other machinery (yard scraping, etc., per L.U. of cows and cattle) | 67,000 | 5 | 335,000 |
| Total | | | 1.971.000 |
| Livestock | | | |
| Total (as elaborated in table 6-8) | | | 12,119.000 |
| Variable costs | | | |
| Cows and cattle (per L.U.) | 67,000 | 20 | 1.340,000 |
| Sheep (per L.U.) | 14,000 | 3 | 42,000 |
| Total | | | 1.382.000 |

**Opinion survey on use of credit by Kerry farmers**

Bank managers, and Credit Finance House managers in Tralee,

an agricultural goods merchant in each county town, and four creamery managers in widely distributed parts of the county were interviewed by an agricultural adviser and asked:

1. what proportion of farmers in the catchment area normally serviced from your premises, ask for or avail of credit accommodation?
2. for which main items of agricultural merchandise do farmers avail of credit?
3. what is the usual term (time-interval) or seasonal pattern of credit used by farmers?
4. what changes have you noticed in the pattern of use of credit by farmers over the past ten (10) years?

## APPENDIX E.

Catchment areas of cattle for (a) and supply areas (counties) of cattle from (b) marts in Co. Kerry, Millstreet mart and Abbeyfeale calf fair.

*Tralee mart:*

(a) Ardfert — Causeway — Ballyheigue — Abbeydorney — Tralee —Ballymacelligott—Kilduff—small amount from Killarney. Approximately 50 per cent of sales from Annascaul and Castlegregory/Cloghane areas.

(b) Roscommon—Meath—Tipperary—Clare—Mayo (approx - imately 50 per cent.

*Listowel mart:*

(a) North Kerry—West Limerick. (Glin, Tarbert, Moyvane, Listowel, Lixnaw, Ardfert, BallydiuT.)

(b) Galway—Roscommon—Mayo—Meath—Carlow—Clare.

*Castleisland mart:*

(a) Rathmore — Ballydesmond — Headford — Killarney — Ballymacelligott—Knocknagoshel—Brosna.

(b) Galway—Mayo—Carlow—Roscommon—Kilkenny—Meath.

*Castlemaine mart:*

(a) Killorglin — Beaufort — Glenbeigh — Listry — Castlemaine — Fines — Ballyhar — Kilcummin.

(b) Most go to Mayo, Roscommon and Sligo.

*Millstreet mart (from Kerry):*

(a) Rathmore—Headford—Barraduff—Gneeveguilla.

(b) Mayo—South Tipperary—Galway—Longford and Carlow.

*Abbeyfeale fair:*

(a) Listowel—Duagh—Moyvane—Knocknagoshel—Castleisland
(b) Longford—Roscommon—Mayo.

SOURCE: Mart managers and cattle dealers with good knowledge of the cattle trade.

## APPENDIX F

## STANDARD GROSS MARGINS

Owing to the fact that actual gross margins for all livestock and crops are not available on a county basis from any one source, some estimates had to be made for particular categories based on the information available. The source of the gross margins used and their value in each case are as follows:

**Dairy Cows**

Gross margins were based on the average value of 1967 milk sales per cow in the county. In this case the value of the calf at birth was taken to cover the variable costs of production per cow. The gross margin used was £49-9.

SOURCE: Department of Agriculture and Fisheries.

**Other Cows**

A figure of £20 was used.

SOURCE: Farm Management Accounts, Agricultural Advisory Service.

**Other Cattle**

£19-4 per livestock unit. This figure is based on the average financial return per head of cattle for the period 1964 to 1968, less an estimated deduction for variable costs.

SOURCE: Department of Agriculture and Fisheries, Report of the Store Cattle Study Group (Dublin: The Stationery Office, Prl. 297) Appendix table 5, pg. 222.

**Sheep**

(a) Lowland ewes, £6.
(b) Hill ewes, £2.
(c) Lambs under 1 year, £1.
(d) Other sheep and rams, £1.

SOURCE: Farm Management Accounts, Agricultural Advisory Service.

Sows
(To weaning), £47.
Fattening Pigs, £2-40.

SOURCE: Joan Gaughan, J. F. Heavey, B. C. Hickey, Farm Management Survey 1966-67 (Dublin: An Foras Taluntais 1969).

**Crops**

| | |
|---|---|
| Wheat | £29-4. |
| Oats | £17-5. |
| Barley | £22-0. |
| Potatoes | £79-3. |
| Sugar Beet | £70-9. |
| Other Crops | £600. |

SOURCE: Gaughan *et al. op. cit.*

## APPENDIX G

| *Livestock* | *Standard man-days per head* | *Crops* | *Standard man-days per acre* |
|---|---|---|---|
| Cows | 1800 | Wheat | 3-36 |
| Calves | 7-20 | Oats | 3-48 |
| Other Cattle | 4-20 | Barley | 2-88 |
| Horses | 7-20 | Potatoes | 31-20 |
| Ewes — lowland | 1-68 | Sugar beet | 20-40 |
| — hill | 0-96 | Feed Roots | 13-68 |
| Lambs under 1 year | | | |
| — lowland | 0-90 | | |
| — hill | 0-60 | | |
| Other sheep | | | |
| — lowland | 0-90 | | |
| — hill | 0-60 | | |
| Sows | 10-20 | | |
| Fattening pigs | 2-40 | | |

SOURCE: Department of Agriculture and Fisheries.

## APPENDIX H

## FORESTRY AMENITY PROJECTS

| *Forest* | *Wood* | *Location* | *Facilities* |
|---|---|---|---|
| Kenmare | Dromore | Kenmare/Sneem Rd. on T66. 6 miles west of Kenmare. | Lay-by. picnic areas and walks, viewing pt., outstanding view of Kenmare Bay. |
| Killorglin | Lickeen | On road around Caragh Lake at south end of Lake. | Lay-by, picnic area and walks. |
| Killorglin | Glenbeigh | On Ring Road 166 adjacent to village. | Forest walks with view over village and sea. |
| Killorglin | Gleesk | On Ring Road T66 8 miles west of Glenbeigh. | Lay-by and picnic area. |
| Killorglin | Ballaghisheen | Minor Ring Road between Waterville and Caragh Lake. 13 miles off Waterville. | Car park and picnic area. |
| Killorglin | Ballygamboon | Tralee/Castlemaine Road. T66. 1 mile from Milltown. | Entrance lay-by and picnic area. |
| Killorglin | Kilderry | Milltown/Killorglin Road. T66. 1 mile from Milltown. | Entrance lay-by and picnic area. |
| Cahirciveen | Mastergeehy | Lay-by on Caragh L./ Waterville Rd. 5 mis. from Waterville. | Entrance lay-by and picnic area. |

# APPENDIX I

## Snipe Habitat

Daytime roosts. Usually in wet bog area where there is sufficient cover for daytime protection. The cover may be in the form of sedges, reeds, heather and in particularly bad weather along streams which contain cover in the form of willows. The daytime roost must be near areas which are soft and wet, as the snipe can probe for food with its long bill. Snipe fly from the daytime roost to their feeding ground at dusk.

## Woodcock Habitat

The woodcock habitat is similar to that of the snipe, but at times is confined to more open heather vegetation on hillsides. In harder weather the birds are found in glens in thicket vegetation. They are also found in fuchsia vegetation and in willows along water courses.

At dusk the birds will leave their daytime roost and fly to places with soft wet ground which contain earthworms on which the birds feed.

## A List of the Commoner Wildfowl found in Kerry

Brent Geese, Mute Swan, Bewicks Swan, Whooper Swan, Mallard, Gadwall, Widgeon and (American widgeon at Arkeragh), Teal, Shoveler, Pintail, Sheld Duck, Tufted Duck and Pochard.

*Bird Sanctuary at Annascaul*

Annascaul gun clud embarked on a mallard development project in 1972. One and a half acres of marshy land was purchased from the Land Commission. It was then fenced to make it vermin proof and a number of ponds were developed. In early April, 10 mallard (8 females and 2 males) were let free in the enclosed area. Brails were put on their wings to render them flightless. They quickly adapted themselves to their new environment.

On average 8 ducklings per nest were hatched out and they are thriving at the present time. The gun club intend to double the stock of parent birds next year. Indications are that much more could be done to increase the numbers of mallard in the county.

# APPENDIX J

## GRANT AIDS TO AGRICULTURE

A number of grants are available to improve the level of efficiency in the production of farm products. These are more fully dealt with from a national point of view in the booklet *Specially for the Farmer* which is available free of charge from the Department of Agriculture.

### Land Project

The purpose of the Land Project is to improve the productive capacity of agricultural or potentially agricultural lands which are unproductive or seriously underproductive. The following Land Project Schemes are available to farmers:-

A. Land Reclamation and Drainage Work

The type of improvement work undertaken covers the making and improvement of water courses, field drainage and the removal of scrub, boulders and unnecessary fences. Grants payable are two-thirds of the estimated cost of the work subject to a maximum of £50 per acre. Not more than £5 per acre is withheld if the reclaimed land is deficient in lime, phosphate or potash, until these materials are applied.

The position in Kerry for the 10 year period 1961-1970 (inclusive) is as follows:-

| | | |
|---|---|---|
| 1. | No. of Applications received | 15,522 |
| 2. | No. of grants paid | 11,143 |
| 3. | Total amount of grants paid | £1,317,971 |
| 4. | Area improved | 52,642 acres |

B. Fencing Scheme for Mountain Grazing

Grants of two-thirds of the estimated cost of labour and materials subject to a maximum of £18 per acre, of land enclosed, are available to farmers or groups of farmers who enclose mountain grazing or land in mountain areas used in conjunction with mountain grazing.

C. Supplementary Keep Scheme

The work for which grants are provided under the Scheme consists of fencing, limited reclamation and surface treatment.

The fencing must conform to conditions and standards under (B) above.

The limited reclamation work consists mainly of shallow surface drains and a detailed specification of the work to be undertaken is given to the applicant. The grant for this work is two-thirds of the estimated cost of the approved reclamation work, subject to a maximum of £5 per acre. The surface treatment consists of approved operations such as surface seeding and the application of lime and fertilizers. The grant in respect of approved surface treatments is half the estimated cost of the materials and work specified, subject to a maximum of £5 an acre. Further grants not exceeding £1-50 per acre may be paid in respect of specified fertilizer treatment carried out during the season following the first fertilizer treatment and in the next subsequent season. Grants for limited reclamation and surface treatment are not provided unless the lands to be treated are adequately fenced.

The position in Kerry for a 10-year period, September 1961 to December 1970 is as follows >

| | | |
|---|---|---|
| 1. | No. of applications received | 1,499 |
| 2. | No. of grants paid | 528 |
| 3. | Area enclosed with fencing | 12,114 acres |
| 4. | Total amount of grants paid | £49,711 |

D. **Fertilizer Credit Scheme**

A credit scheme for the purchase of lime and fertilizers is operated by the Land Project. Farmers may have a soil analysis of their lands for a fee of 5p per statute acre and may obtain the phosphates, potash and ground limestone shown to be needed and have these materials spread on the land. Nitrogenous fertilizers may also be obtained under the Scheme. Applicants are required to pay a deposit of 10 per cent of the cost before the materials are supplied and may repay the balance by way of annuity at a low interest rate. Applicants may have the whole of the arable land of their holdings treated under the scheme or, if they prefer, one-third of the arable land or 10 acres, whichever is the greater. Lands already treated under the scheme can again be dealt with, provided that the cost of the previous treatment has been repaid and five years have elapsed since the work was completed.

The position in Kerry for a 10-year period 1961-1970 (inclusive) is as follows:-

| | | | | |
|---|---|---|---|---|
| 1. | No. of applications received | | | 362 |
| 2. | No. of schemes fully completed | | | 239 |
| 3. | Area treated with lime and fertilizers | | | 7,007 acres |
| 4. | Total fertilizers spread: | Lime | 22,237 | tons |
| | | Phosphates | 27,104 | cwt. |
| | | Potash | 7,782 | cwt. |
| | (since July '64) | Nitrogen | 3,630 | cwt. |
| | (since 1965) | Compound | 906 | cwt. |

## BUILDINGS AND EQUIPMENT

### Farm Buildings

Grants under the Farm Buildings Scheme will be paid to the rated occupiers of agricultural holdings for the construction and, where appropriate, the extension, improvement or repair of :-

(a) cattle housing, including byres, loose houses (with or without cubicles), kennels, piggeries, stables and poultry houses;
(b) milking parlours, dairies;
(c) haybarns, grain lofts, grain or meal storage bins, concrete silos;
(d) houses required for general farming purposes such as the storage of grain, potatoes and other agricultural produce, agricultural machinery and the simplified housing of cattle and sheep. Accommodation for more than one of these purposes may be provided under the one roof;
(e) cattle enclosures or stock yards, roofless cubicles, cattle crushes;
(f) sheep-dipping and handling facilities;
(g) concrete bases for the storage and loading of sugar beet or vegetables and bases for silage making in the open;
(h) farmyards, farm roads, concrete paths adjacent to farm buildings, concrete water tanks, tanks for the storage of whey or skim for feeding, liquid manure tanks.

Grants will also be paid for the conversion of any other buildings into the buildings mentioned at (a), (b), (c) and (d), and for the provision of equipment for forced draught ventilation in seed potato storage and of equipment for the conditioning and drying of grain on farms.

Works proposed for grants must be justified by the farming activities on the holding.

Grants paid in the county from 1960/'61 to 1970/71 inclusive are as follows:-

| | |
|---|---|
| No. of applications | 18,345 |
| No. of payments made | 15,631 |
| Total Grant paid | £880,179 |

**Water Supplies**

To pipe a water supply to his farmyard and fields, the rated occupier of an agricultural holding may obtain a grant not exceeding either two-thirds of the approved estimated cost or £150. Grants are not paid for work estimated to cost less than £10.

The position in the county is as follows:

| | |
|---|---|
| No. of applications | 3,456 |
| No. of payments made | 2,646 |
| Total grant paid | £200,298 |

**Grants for Milk Coolers**

This scheme of grants assists small dairy farmers to benefit from Creamery Milk Quality Grading. It is confined to the creamery milk supplier who (a) derives his income wholly or mainly from farming; (b) is the rated occupier of agricultural holding(s) of rateable valuation not exceeding £60 (exclusive of buildings), and (c) delivered not more than 20,000 gallons of milk to a creamery in the calendar year preceding the application for grant.

The grants are: £5 for an in-can cooler, £15 for a fully equipped surface cooler and £75 for an ice-bank cooler. The number of applicants and grants paid per year since the scheme was introduced is as follows:-

| Year: | 1967 | 1968 | 1969 | 1970 | Total |
|---|---|---|---|---|---|
| Applicants: | 292 | 235 | 164 | 141 | 832 |
| Grant: (£) | 1,590 | 1,325 | 905 | 965 | 3,785 |

**Small Farm (Incentive) Bonus Scheme**

This scheme is aimed at helping the smaller farmer, whose holding is capable of providing a reasonable family income, to develop his farm on a planned basis.

The Scheme is open to all fanners who are farming an area of land of not more than 50 acres or £25 Valuation, who have not reached a level of production which would give a Gross Margin of £1,000 per year and whose holdings are deemed to be capable of reaching that level within four, or at most six, years. (Gross margin represents total output of the farm less the variable costs attributable to the farm enterprise).

Two conditions are necessary in order to qualify for the special bonus grant of up to £500 which is available under the Scheme. Firstly, the farmer is required to follow a farm development plan drawn up in consultation with his Agricultural Adviser, and, secondly, he is required to keep simple farm accounts.

The farm development plan is drawn up in four stages and is expected to be completed within four or, at most, six years. The bonus grant is payable in instalments of up to £100 on completion of the first, £125 on completion of second and third stages, and £150 on completion of the final stage.

The bonus grant is additional to the normal grants available under the Department's other schemes.

*The following is the position in the county at the end of June* '72:

| | | |
|---|---|---|
| 1. | Number of applications received and registered | 1,352 |
| 2. | Number of acceptances returned by farmers | 749 |
| 3. | Number of applications being processed | 99 |
| 4. | No. of applications withdrawn after registration | 361 |
| 5. | No. of applications rejected (breakdown below) | 117 |
| | (a) Outside acreage/P.L.V. Limit | 7 |
| | (b) Already over £1,000 Gross Margin | 80 |
| | (c) Incapable of reaching £1,000 G.M. | 30 |
| 6. | Number of S.F.5 (acceptance slips) not received | 26 |

**Grants for Forage Harvesting Equipment**

In order to encourage the expansion of silage making, a grant of approximately one-third of the purchase price of forage harvesters became available in 1964. Since then 326 grants have been paid as follows :-

| Year | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 |
|---|---|---|---|---|---|---|---|
| No. of grants paid | 51 | 61 | 57 | 34 | 27 | 53 | 43 |

There are at present 66 silage contractors in the County.

## AUTHORS OF CONTENTS OF SURVEY

| ARTICLE | AUTHOR |
|---|---|
| **Population and Employment** | John J. Scully, *Western Regional Officer, Department of Agriculture.* |
| **Climate** | M. J. Connaughton, *Meteorological Service.* |
| **Soil Resources** | J. Lee, T. Finch, R. Hammond, *An For as Taluntais.* |
| **Land Tenure** | John J. Scully, *Western Regional Officer, Department of Agriculture.* |
| **Demographic Factors** | John J. Scully, *Western Regional Officer, Department of Agriculture.* |
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| **Capital** | S. Murphy, *Kerry County Committee of Agriculture.* |
| **Crops and Grassland** | J. Healy, J. Adams, *Kerry County Committee of Agriculture.* |
| **Dairying** | T. Lyons, *Kerry County Committee of Agriculture.* |
| **Cattle** | T. G. Stack, M. Keane, T. Hannan. H. Behan, P. Hayes, *Kerry County Committee of Agriculture.* |

| ARTICLE | AUTHOR |
|---|---|
| Sheep | P. Dineen, J. Adams, P. O'Sullivan, G. Hussey, J. Burke, *Kerry County Committee of Agriculture.* |
| Horses | C. Kidney, M. Collins, *Kerry County Committee of Agriculture.* |
| Pigs | W. Costello, E. Keane, M. Kelliher, S. Brandon, M. Sullivan, *Kerry County Committee of Agriculture.* |
| Poultry | Misses M. Gleeson, M. Crean, *Kerry County Committee of Agriculture.* |
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| ARTICLE | AUTHOR |
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| Inland Fishing | Fisheries Division, *Department of Agriculture and Fisheries* |
| Game Resources | B. W. H. Stronach, *An Foras Taluntais* |

## LIST OF FINANCIAL CONTRIBUTORS

| | £ |
|---|---|
| Bank of Ireland Ltd. | 200-00 |
| Dairy Disposal Company Ltd. | 100-00 |
| North Kerry Milk Products Ltd. | 100-00 |
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| Kerryman Ltd. | 50.00 |
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