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# Grassland in the British economy

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# 19 Social and human factors in grassland farming

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## INTRODUCTION

Grass, with the exception of a very small proportion for crop drying or for herbage seed, is an intermediate crop which has to be utilised by ruminant livestock. Grass is also the crop which grows in areas which, through climate or soil type, are unsuitable for growing anything else. The necessity of being involved in livestock production, often in remote or less-favoured areas, creates human and social problems for grassland farmers. This paper describes the scale of grassland farming in comparison with other types of farming and draws attention to some factors which influence the hopes and achievements of grassland farmers in particular and farmers in general, where separate information is not available.

## PRESENT GRASSLAND FARMING

### The importance of grassland

The importance of grassland in British agriculture cannot be overemphasised, occuping over 13 million hectares (73% of the total area of crops and grass) and supporting some 13.5 million cattle and 29.5 million sheep. Ruminant livestock contribute 44% of total UK agricultural output, equal to that of non-ruminant livestock and farm crops combined (MAFF, 1979a). Livestock production contributes to the livelihood of the majority of farmers. Of all holdings in England and Wales which could be classified as full-time (more than 275 smd) 35.8 and 21.9% of holdings are dairy or livestock farms respectively (MAFF, 1977).

However, in considering grassland farming it must be remembered that there are big regional differences in the contribution made by grassland. Grass is grown mainly in the upland and higher rainfall areas of the West and North, where the proportion of permanent grass is also higher, as shown in Table 1.

Table 1
**Distribution of grassland by regions**

| Region | Area of grass[1] (kha) | Grass as a proportion of total crops plus grass (%) | Proportion of[2] grass as permanent grass (%) | |
|---|---|---|---|---|
| Northern | 1 072 | 76 | 85 | |
| Yorks/Lancs | 564 | 56 | 87 | |
| West Midlands | 733 | 65 | 75 | 82 |
| Wales | 1 349 | 93 | 88 | |
| South West | 1 347 | 75 | 75 | |
| East Midlands | 478 | 39 | 76 | |
| Eastern | 266 | 18 | 73 | 72 |
| South Eastern | 596 | 50 | 68 | |
| Total | 6 408 | 60 | 80 | |

1 Grass, lucerne and rough grazings.

2 Grassland over six years old, and rough grazings.

Source: MAFF (1979b).

Over half the grassland area is in three regions (Northern, Wales and South West) in all of which it occupies over 75% of the area, compared with less than 50% in the three eastern regions. The effect this has on the numbers of full-time holdings involved in different enterprises is shown in Table 2.

Livestock farming dominates in the North and West and cropping and horticulture dominate in the East.

## Employment in agriculture

The total number of people engaged in agriculture has shown a continuous decline for many years. Numbers of farm workers declined by 5 to 6% per

annum in the 1960s but this decline has slowed to about 3% per annum in recent years, and a breakdown of the changes is shown in Table 3.

Table 2
**Distribution of full-time holdings by type of farming (%)**

| Region | All dairy | All livestock | Pigs and poultry | All cropping | Mixed | Horti-culture |
|---|---|---|---|---|---|---|
| Northern | 37.1 | 35.2 | 4.7 | 12.6 | 7.7 | 2.7 |
| Yorks/Lancs | 35.1 | 10.3 | 12.3 | 22.2 | 6.3 | 13.8 |
| West Midlands | 45.9 | 20.4 | 5.7 | 11.2 | 7.2 | 9.6 |
| Wales | 42.9 | 47.9 | 1.7 | 1.2 | 4.4 | 1.9 |
| South West | 53.6 | 22.1 | 5.6 | 4.7 | 7.5 | 6.5 |
| East Midlands | 25.5 | 14.6 | 7.0 | 31.6 | 6.9 | 14.4 |
| Eastern | 7.0 | 3.1 | 13.7 | 50.7 | 5.8 | 19.7 |
| South Eastern | 25.6 | 16.8 | 10.4 | 15.0 | 7.7 | 24.5 |

Source: MAFF (1977).

Table 3
**Numbers engaged in agriculture (thousand persons)**

| | Average of 1964–1969 | 1978 |
|---|---|---|
| Whole-time workers – hired | | 156 |
| – family | | 41 |
| – total | 326 | 197 |
| Part-time workers – hired | | 45 |
| – family | | 23 |
| – total | 62 | 67 |
| Casual | 69 | 93 |
| Salaried managers | — | 8 |
| Total employed | 456 | 365 |

Source: MAFF (1979a).

There has been a marked reduction in the number of full-time workers, and a large increase in part-time and casual workers. At the same time (although not shown in the Table) there has been a large increase in the use of contractors.

Compared with the overall changes there have again been regional variations as shown in Table 4. In England and Wales, between 1971 and 1978, there was a 6% reduction in full-time farmers and a 27% increase in part-time farmers. Because of the different numbers of full-time and part-time farmers these percentage changes represent a similar number of farmers lost to full-time farming and gained by part-time farming. However, in grassland areas there has been a much smaller movement out of full-time farming and a greater increase in part-time farming. The smaller reduction in numbers of full-time farmers in grassland areas may be seen to have contributed to two trends. First, the proportion of family labour, as opposed to hired labour, is much higher on livestock farms than it is on arable farms as shown in Table 5. Secondly, the rate at which the size of livestock farms has increased is lower than that of arable farms.

Table 4
**Changes in numbers of farmers, partners and directors between 1971 and 1978 in England and Wales (%)**

| Region | Full-time | Part-time |
|---|---|---|
| Northern | +3 | +37 |
| Yorks/Lancs | −10 | +30 |
| West Midlands | −6 | +30 |
| Wales | +11 | +69 |
| South West | −3 | +35 |
| Mean | −2 | +39 |
| East Midlands | −2 | +23 |
| Eastern | −24 | −4 |
| South Eastern | −18 | +16 |
| Mean | −16 | +10 |
| Overall Mean | −6 | +27 |

Source: MAFF (1979a).

Table 5
**Distribution of regular whole-time male workers by farming types (%) (Excluding holdings with less than 275 smd's)**

| | All dairy | All livestock | Mixed | All cropping | Pigs and poultry | Horti-culture |
|---|---|---|---|---|---|---|
| Family labour | 36.7 | 18.1 | 7.5 | 15.8 | 3.6 | 7.1 |
| Hired labour | 21.4 | 9.4 | 11.4 | 35.8 | 5.4 | 16.0 |

Source: MAFF (1977).

## Farming systems

Farm size can be expressed in several ways but, in terms of standard man day inputs, the size of business on livestock farms is smaller than it is on arable farms. Livestock farms have smaller turnovers and in general generate smaller net farm incomes as shown in Table 6.

Table 6
**Proportion of different farm types in various business size groupings (%)**

| | Turnover | | Net Farm Income |
|---|---|---|---|
| | under £30 000 | over £50 000 | under £4 000 |
| Specialist dairy | 59 | 7 | 37 |
| Mainly dairy | 53 | 20 | 30 |
| Mainly sheep | 92 | 2 | 48 |
| Cattle and sheep | 76 | 12 | 37 |
| Cereals | 43 | 29 | 24 |
| Mixed cropping | 39 | 26 | 13 |
| Mixed | 24 | 32 | 18 |
| Pigs and poultry | 17 | 19 | 29 |

Source: MAFF (1978).

There is then a background picture to grassland farming of a major contribution to the output of British agriculture, with over half of all holdings

carrying ruminant livestock. The grassland, and therefore the livestock production, is concentrated in northern and western regions and in these areas the numbers of full-time farmers is decreasing more slowly and the number of part-time farmers is increasing more rapidly than the national average. Family labour is still the most important source of labour on livestock farms which are, in terms of standard man day requirements and net farm incomes produced, smaller than those involved in other enterprises.

## PRODUCTIVITY POTENTIAL

In addition there is another important aspect of grassland farming in that there is great potential that currently is not being achieved by average farmers, as shown in Table 7.

Table 7
**Potential productivity of grassland**

| | Potential [1] | Top 25% [2] | Average [2] |
|---|---|---|---|
| Milk (litres/ha) | 17 000 | 12 000 | 9 000 |
| Beef (kg liveweight/ha) | 10 000+ | 1 250 | 980 |
| Sheep (kg liveweight/ha) | | | |
| lowland | 900 | 700 | 480 |
| hill | 63 | — | 15 |

*1* Research: Milk – Gordon (1974); beef – Marsh (1976); lowland sheep – Newton *et al.* (1974); hill sheep – HFRO (1979).

*2* Survey data: Milk – Craven *et al.* (1977); beef – Kilkenny (1978); lowland sheep – Kilkenny (1977); hill sheep – HFRO (1979).

Whilst potential output is far from achieved by the vast majority of farmers there are limitations to research which affect the ease of uptake of its findings (Johnson & Bastiman, 1978). Particular problems exist in grassland farming in interpreting both site and seasonal variation in grass yield, and in implementing results of input/output trials without consideration of how their adoption may affect the farming system. This contrasts with arable farming where farmers are receptive to change since new varieties, chemicals and even cultivation techniques can be accommodated without much difficulty. Problems tend to be simpler and advice can be clear-cut. The livestock farmer has a much more complicated system – for example, changes in nitrogen use or method of forage production can involve changes in intensity of stocking and of forage utilisation which may have marked impact on

method of farming and capital requirements. The fear of such chain reactions constitutes a psychological obstacle to development (Plancquaert, 1978). This is especially so because many livestock farms are all-grass farms and intensification inevitably means keeping more stock; there is no scope for reducing the area of grass grown and thus releasing land for arable production.

So it is against this background of a large national resource still with a tremendous undeveloped potential, but with complex problems facing the development of this potential, that some social and human factors in grassland farming are considered. However, in doing so, it does not mean that the importance of physical limitations such as climate, topography and soil type is not also recognised.

## HUMAN AND SOCIAL FACTORS

The Farm Productivity Report produced by the Economic Development Committee (EDC) for Agriculture (NEDO, 1973) indicated from its survey of 133 farms that farm size, practical and technical ability (although not necessarily formal teaching) and good man management were associated with improved productivity, and that increased age of farmer and inability to make full use of labour were associated with low productivity. Several factors such as capital position and land tenure were not found to be important, nor were farming background, training, motivation or farming objectives.

It is now proposed to consider these aspects in more detail drawing in particular from two sources of information. First, from a survey of 293 grassland farms by Jones (1979) and secondly, from data collected by the GRI/ADAS National Farm Study (Forbes *et al.* 1980) undertaken by the Joint Permanent Pasture Group, and covering 502 farms. In doing this, several important distinctions must be made. The EDC conclusions related to factors affecting productivity and performance. Jones (1979) comments on factors affecting innovativeness, as indicated by the adoption of silage making as a method of conservation. He regarded this as showing a modern outlook towards the efficient use of grassland – a view not wholly supported by the present authors. The GRI/ADAS National Farm Study discusses factors influencing mean UME output or stocking rate.

### Farm size

As has already been mentioned, business size tends to be lower in livestock farming. The data of Jones (1979) give a more detailed breakdown of types of grassland farming, by acreage, as shown in Table 8.

In order to provide a satisfactory income, smaller grass farms tend to concentrate on dairying whereas the larger farms carry beef with the

Table 8
**Distribution of farm types by size**

| | Farm size <50 ha | 51–150 ha | >151 ha | Total |
|---|---|---|---|---|
| % of survey farms | 41.6 | 46.8 | 11.6 | 100 |
| % of farms with: | | | | |
| dairying | 71.3 | 44.5 | 32.4 | 54.3 |
| beef cattle | 16.4 | 20.4 | 32.4 | 20.1 |
| sheep | 22.1 | 45.3 | 41.2 | 35.2 |
| beef cattle/sheep | 34.4 | 57.7 | 64.7 | 48.8 |
| other livestock | 4.1 | 0.7 | 2.9 | 2.4 |
| arable | 9.5 | 16.8 | 38.2 | 9.9 |

Source: Jones (1979).

inclusion of some arable farming. In areas of adverse climate and poor soil there are many small farms with lowland values or rents. These can attract aspiring farmers, frequently from non-farming backgrounds and with little capital, and farm size remains small. Elsewhere, however, there is a tendency for the number of holdings with livestock to decrease, the loss being mainly of the smaller holdings. This has led to the tendency for dairy herds and sheep flocks to increase in size but, in livestock farming, a large proportion of the stock still remain in small units as shown in Table 9.

Table 9
**Numbers and scale of holdings of grass utilising enterprises in the UK**

| | 1975 | 1978 |
|---|---|---|
| Holdings with dairy cows (thousands) | 81.0 | 70.7 |
| Average herd size (cows) | 40 | 46 |
| % of total cows in herds >60 cows | 53 | 60 |
| Holdings with beef cows (thousands) | 102.4 | 88.7 |
| Average herd size (cows) | 19 | 18 |
| % of total beef cows in herds >50 cows | 42 | 41 |
| Holdings with breeding sheep (thousands) | 80.7 | 78.8 |
| Average flock size (ewes) | 164 | 173 |
| % of breeding sheep in flocks >500 | 38 | 40 |

Source: MAFF (1979a).

The work of Gasson (1973) indicated that smaller farmers tended to be less profit orientated than did larger ones, in which case livestock farmers might tend to be less productive. Certainly the EDC suggested that larger farm size (in terms of area) improved the efficiency of labour and machinery use and was associated with improved performance. However, apart from low innovativeness on very small farms, Jones (1979) found little difference among farms in larger size categories and concluded that there was no overall relationship of any significance between innovativeness and farm size.

As has been mentioned, innovation or intensification on livestock farms may involve major changes and major capital expenditure. The data in Table 6 show, however, that a large proportion of livestock farms which might benefit from intensification do not appear to be generating sufficient income to finance such investments.

**Practical and technical ability, education and training**

The EDC came to the somewhat obvious conclusion that practical and technical ability were vital in obtaining high outputs. Of more interest, however, is the effect of education and training on farming success.

Table 10 shows how education levels differ between farmers in different sectors of the industry and Table 11 shows the pattern of training and education received by the farmers surveyed in the GRI/ADAS National Farm Study (Forbes *et al.* 1980).

Table 10

**Proportion of farmers with one or more types of secondary education; by farm type**

| Dairy | Live-stock | Pigs and poultry | Cropping | Horti-culture | Mixed | All farms |
|---|---|---|---|---|---|---|
| 14.5 | 11.3 | 28.4 | 25.6 | 22.2 | 17.8 | 18.1 |

Source: NEDO (1972).

It can be seen that livestock farmers tend to be less well educated than those in other enterprises and the vast majority of them receive no formal training in agriculture.

Workers in the National Farm Study found that farmers educated to the age of 16 and beyond tended to use more nitrogen and carry higher stocking rates, and that farmers who had received some formal training used more

Table 11
**Education and training received by farmers in the National Farm Study**

| | % of farmers |
|---|---|
| Age at finish of full-time education (yrs) | |
| 15 and below | 46 |
| 16 | 19 |
| 17 and 18 | 24 |
| 19 and over | 11 |
| Formal training received in agriculture | |
| None | 72 |
| Part-time | 12 |
| Full-time – up to 1 year | 8 |
| – 1 to 2 years | 5 |
| – over 2 years | 3 |

Source: Forbes *et al.* (1980).

nitrogen, carried higher stocking rates and achieved higher UME outputs. These effects were most significant among dairy farmers.

These findings contrast with those of the EDC, who found no relationship between training and productivity, and Jones (1979) who found no relationship between innovativeness and the terminal age of farmer full-time education. This was despite the fact that innovative farmers read more and regarded what they read as of more use to them. However, there was a tendency for higher innovativeness to occur on non-family operated farms and among younger, better educated farmers.

Some distinction should be made here between technical and managerial ability. Technology may be well defined and the superiority of certain methods of production clear. The likelihood of farmers profiting from such methods will depend, not on their ability to recognise them, but on their ability to cope with the many new management problems which their adoption entails.

### Man management

In addition to size of farm and practical and technical ability, the other major factor recognised by the EDC as being positively related to productivity was the ability to manage men. This was obviously only relevant on medium and large farms since, as has already been mentioned, the bulk of the labour on livestock farms is family labour.

Table 12
**Average ages of farm workers by farm type**

| | Dairy | Live-stock | Pigs and poultry | Mixed | Cropping | Horti-culture | All farms |
|---|---|---|---|---|---|---|---|
| Average age | 32.7 | 34.8 | 34.3 | 38.1 | 40.3 | 39.9 | 37.4 |

Source: NEDO (1972).

There is little information on this aspect of productivity, but there is information on age of farm worker by type of farm, as shown in Table 12 and on the approaches available to farmers as employers, both of which may indicate disadvantages to livestock farmers.

Workers on livestock farms were younger than those on arable farms, and this was especially true in dairying where 61% of workers were below 34 years old compared with only 38% on arable farms. In addition to this there was a tendency for workers on smaller farms to be younger.

The lower age of workers on livestock farms may indicate labour problems with enterprises requiring a longer working week, but whatever the cause it indicates a more rapid turnover of staff. In a sector of the industry which, as an employer, competes badly with other industries, where there is a very poor career structure and where there is rapid technological change, there may be the recruitment and employment of staff with sub-optimal skills (Seabrook, 1979) and this may limit productivity on larger livestock farms. In such circumstances the provision of training and retraining in farming skills is of real benefit.

Quality of staff will depend on the approach of the employer and three major types were identified by Gasson (1976). First those with a positive approach based on wide advertising and the potential of drawing mobile staff of high quality from a wide area. Secondly, those with a conservative approach, relying on good local contacts to advertise their needs by word of mouth, and employing local men in which they look for loyalty and a sense of involvement in the community. These farmers may employ sons or relatives of existing employees and have less regard to quality of worker. Thirdly, the passive type of employer who may take the first employee who comes along.

To which of these categories a farmer belongs will depend on his personality and his position and standing within the local agricultural community. It may also depend on the type of farming area in which he lives, its relationship with industrial areas which compete for labour, and his ability to provide accommodation for his employees.

The problems of high labour turnover and the impact that this can have on the agricultural community are not all associated with small farms. Large-scale farmers also have problems. A classical example is described by Ecroyd (1976). With rapid expansion of his business, staff previously competent as herdsmen, when promoted, were not equipped for co-ordinating and supervisory roles. There was reduced job satisfaction, reduced profitability and increased labour turnover. The solution was to run the business in small independent groups – in short a return to multiples of 'family-farm' type units.

### Age of farmer

Apart from inefficient use of labour, especially on family farms where it may be almost inevitable, the major factor identified by the EDC as being negatively related to productivity was age of farmer.

Farmer age varies little with type of farming or size of farm (NEDO, 1972) but the average age on low productivity farms was significantly higher than on high productivity farms, and it was suggested that this reflected the negative association established between age and the importance attached to the profit motive. It may also reflect the reluctance of older farmers to incur debt.

A similar trend for older farmers to be less productive, in that they stocked their farms less heavily, was noted by the other workers as shown in Table 13 although the differences within groups of the National Farm Study data were not significant.

Jones pointed out that within his data the trend was not associated with differences in farm size being related to age.

With increasing age there is a tendency towards reduced intensification. In one ADAS survey (ADAS, 1976) of 102 elderly farmers, 14 had made application under the Dairy Herd Conversion Scheme. An initial interpretation would be the desire for a less demanding system, but other

Table 13
**Relationship between age of farmer and stocking rate (grazing LU/ha)**

| Age categories | Under 30 | 30 to 39 | 40 to 49 | 50 to 59 | 60 to 69 | Over 70 |
|---|---|---|---|---|---|---|
| Jones (1979) | 1.75 | 1.67 | 1.54 | 1.59 | 1.35 | 1.19 |
| Forbes *et al.* (1980) | | | | | | |
| – dairy farmers | 1.93 | 1.89 | 1.81 | 1.75 | — | — |
| – beef farmers | 1.44 | 1.38 | 1.42 | 1.23 | — | — |

general factors were found for reduced intensity of farming, such as ill health of the farmer or his wife, the need for cash to reduce debt, or problems such as needing to instal bulk milk tanks, which could not be faced financially or mentally.

Despite a desire to reduce the intensity of their farming, elderly farmers appear reluctant to make provision for retirement or to retire. Reasons may range from not wishing to lose status, lack of confidence in sons, or lack of finances either for the farm to support two families or to pay for a retirement home for the farmer. Whatever the reason, failure to retire soon enough was seen in the ADAS study to reduce the level of management and to undermine the confidence of eventual successors. Family loyalty may lead to acceptable arrangements but these might not make the best business sense.

In addition, the lack of successors (on 50% of the farms studied family succession was unlikely) was seen to be an obvious constraint on the level of management. A major factor limiting childrens' preparedness to carry on the family farm was remoteness and the lack of social amenities in many rural areas.

### Tenure

In the EDC report, method of tenure was not related to productivity. Jones (1979) indicated that owner-occupation was the predominant method of tenure. This was confirmed in the National Farm Study in which some distinction was drawn between different farming systems, as shown in Table 14.

Table 14
**Method of tenure in relation to farm type**

| | Suckler beef | Non-suckler beef | Dairy |
|---|---|---|---|
| Predominantly owned (%) | 61 | 62 | 47 |
| Predominantly rented (%) | 29 | 27 | 40 |
| Mixed tenure (less than 75% owned or rented) | 10 | 11 | 13 |

Source: Forbes *et al.* (1980).

There was a tendency for farms involved in beef production to be predominantly owned while the more intensive dairy farms had an increased proportion of rented holdings.

The ADAS study (1976) suggested that owner-occupiers are generally in a stronger position than tenants, since there is more security. In addition, it is easier for owner-occupiers to retire at the appropriate time since the appreciating value of land may cover the cost of a house for retirement.

Tenant farmers were seen to have less sense of security and to have problems in saving to amass capital for improvements. On small farms, further intensification may be restricted because of unwillingness of landlords to consent to tenants' improvements. These problems made it difficult for tenant farmers (especially small tenant farmers) to keep abreast of new developments and maintain their standards of living. Another important factor with many tenant farmers was that they may not be allowed to introduce non-farming enterprises to enable them to enjoy a higher standard of living, have a potentially easier life as energy declines, expand the business to occupy other members of the family, or build up capital for old age.

### Other factors

In the EDC report, attention was drawn to other factors such as capital position and marital status which were not related to productivity. Similar factors such as size of family and employment of non-family labour were considered in the National Farm Study and these again showed no clear relationship with intensity of stocking or level of output.

The lack of relationship with these factors to some extent is surprising in that they are factors which might be predicted as being important. The lack of relationship might reflect both the difficulties in getting information of this nature out of surveys and the complexity of the situation in which such factors may have an influence, in combination with other factors, despite having no clear effect on their own.

In addition to the human and social factors mentioned so far, there are other considerations related to attitude which suggest that farmers may not wish to achieve high levels of production and which help to explain differences in levels of production achieved. In this context it must be emphasised that farmers are under no obligation either to farm to the limits of their circumstances or to intensify their farming, however feasible this may be, for the benefit of the agricultural output of the country. Also variations in prices paid for land and in levels of overhead costs make it possible to farm profitably at a wide range of levels of intensity, and productivity is not necessarily synonymous with profitability.

## FARMER ATTITUDES

Farmer attitudes will be discussed under two broad headings of incentive and risk.

## Incentive

A great deal of work has been carried out to examine the goals and values of farmers and, in general, maximum profit has been shown to have low priority. Gasson (1973) indicated that doing the work they liked and the independence which farming gave them were more important to farmers than were financial considerations and, in their criteria of a good farmer, farmers put the production of good crops and stock at the top of the list, well above making the most money. These findings were in line with those of Smith & Capstick (1976) who found that making the most money was the seventh most important goal of farmers behind such factors as stabilising income, maintaining living standards and educating children.

Information on the reasons affecting farmers' choice of their enterprises is also available from the National Farm Study as shown below.

Table 15
**Reasons for choice of enterprise**

| | % of farmers |
|---|---|
| Positive reasons | |
| Personal preference | 49 |
| Profitability | 25 |
| Negative reasons | |
| Nature of farm | 28 |
| Experience | 19 |
| Size of farm | 19 |
| Labour limiting | 13 |
| Buildings limiting | 10 |
| Others | 14 |

Note: Farmers could give more than one reason.
Source: Forbes *et al.* (1980).

Of the positive reasons, personal preference was much more important than considerations of profitability (although the tendency was less marked with dairy farmers than it was with beef farmers). However, negative reasons associated with the nature and limitations of the farm put major limitations on farmers' choice.

In contrast to the findings above, Harmans *et al.* (1972) found that making the most profit was the most important goal of about 32% of farmers, but

maintaining or increasing standards of living and avoiding years of low profit were also very important.

In line with the finding that profitability is not a major goal is the finding, also by the National Farm Study, that a major factor limiting intensification is lack of incentive, as shown in Table 16. These were the reasons for not intensifying which were given by farmers, all of whom agreed that their grassland could carry more stock.

Table 16
**Factors limiting increasing stocking rate**

| Limitation | Farmers giving each reason (%) | |
|---|---|---|
| | Beef | Dairy |
| Lack of – incentive | 49 | 30 |
| – buildings | 19 | 28 |
| – labour | 17 | 19 |
| – capital | 9 | 15 |
| Danger of poaching | 2 | 6 |
| Others | 11 | 15 |

Source: Forbes *et al.* (1980).

These figures suggest that many farmers are not inclined to increase the intensity of their farming even though they could do so. They also indicate that buildings and labour are important limiting factors on livestock farms and that land, as a limiting factor, may be relatively unimportant.

Therefore, although the ranking of goals may differ with such factors as farmer age, education level, farming experience, number of dependents and size of business (Harmans *et al.* 1972) there is ample evidence that many farmers lack the incentive to strive for high output and profitability. To them the quality of life is more important.

## Risk

This too is an aspect of farm decision-making which has received a great deal of attention, and is an aspect which influences the levels of output at which farmers aim.

As long ago as 1961 McFarquhar (1961) indicated that farm plans aimed at maximising income also tended to increase risk. Farmers vary from optimists, who are prepared to take considerable risks, to pessimists who prefer to minimise regret (Officer & Anderson, 1968). Maximising profit, with

all its attendant risks, is seldom chosen as an alternative, however, because, as has been mentioned, farmers regard it as important to avoid years of low profitability which may result (Harmans *et al.* 1972). The basic structure of grassland farming, consisting mainly of medium to small specialist units, leads to practices which tend to minimise risk.

Farmers' attitudes to risk again vary with factors such as age, experience, size of family and of business. Many prefer to avoid the financial and agronomic risks of farming very intensively, and consequently do not strive for high levels of output which would make them susceptible to seasonal variations in grass yield. They prefer to retain the buffers which lower intensity ensures, even though this gives lower profitability.

Whilst maximum grassland production and utilisation may be the pre-occupation of research workers, farmers are concerned with optimising the use of other feeds besides grass – grass is only another feed and whilst it is still the cheapest forage to grow it may not be the easiest nor the least risky from which to profit. As soon as the problems associated with the growing and utilising of grass increase, farmers will seek easier solutions, and supplementary feeding may be one of them.

**Other factors**

The information described previously has been based on the results of surveys. In addition, the authors and others recognise further factors which, although subjective, may be appropriate when considering factors affecting grassland productivity.

Among these are hours spent working and farmer and worker health. According to the NEDO Survey (1972) farmers on average work 64 hours per week and employees 52 hours. About half of the farmers have working wives who work an average of 17 hours per week. The survey also showed that livestock farmers work longer hours than do arable farmers as shown in Table 17, and also that they spend less of their time on administration, planning and marketing, which in many circumstances can be as important in determining profitability as applying new technology.

Long hours can represent tremendous social problems and stress within the family. The feeling of being on a treadmill and not being able to afford to be ill made one adviser refer to the life of a producer-retailer in East Lancashire as 'the most refined form of slavery in the world'. The long hours, coupled with remoteness, appear to reduce matrimonial prospects since the proportion of bachelor farmers is highest in the grassland areas of Wales and the North. But, if they do get married, their wives are more likely to work on the farm than are wives in other regions.

Long working hours can also be associated with stress and injury – about 2% of farmers have time off each year suffering from stress, and livestock are

Table 17

**Proportion of farmers working more than 70 hours per week and proportion of time spent on clerical, administrative and supervisory duties**

| | Dairy | Live-stock | Pigs and poultry | Mixed | Crop-ping | Horti-culture | All farms |
|---|---|---|---|---|---|---|---|
| % working 70 hours or more | 60 | 53 | 38 | 47 | 28 | 33 | 47 |
| % time spent on administration | 8.6 | 9.4 | 13.6 | 12.1 | 16.8 | 13.5 | 11.3 |

Source: NEDO (1972).

a major source of injury. In addition, long working hours may limit the time spent in seeking information or advice.

Jones (1979) interviewed almost 300 grassland farmers and found that the vast majority took and read farming journals, that the main interests were in trends in market prices rather than technical subjects and that there was a higher level of interest in reading among silage makers. Approximately two-thirds of the farmers had attended at least one advisory event in the previous two years but only one-third had been to a lecture or evening meeting. About 58% of the farmers had used one or more advisers in the previous two years with silage makers using ADAS more than non-silage makers. (Jones regarded silage making as an index of innovativeness, but since 90% of the silage makers were dairy farmers the important factor may be dairying rather than silage making.)

At several points in the paper, reference has been made to part-time farming and non-farming enterprises and these social changes are having an increasing impact on farming. Among dairy farmers, especially those near large towns, producer-retailing has long been a way of supplementing farm income. Although this is declining it is being superseded by farm shops and farm-door sales. In Jones' survey more than one farm in six was regarded as part-time since non-agricultural activities contributed to income. Of these, contracting was a major contributor but tourism (camping and farmhouse accommodation) was also significant. This latter is likely to increase, especially in those hill areas of natural beauty, and have a marked impact on farmers' way of life. In addition, the increasing tendency for property in rural areas to be bought as weekend accommodation will affect the provision of facilities for the resident population, from bus services to schools, and modify village life. The growing horse population and the impingement of

'horseyculture' onto farmland around urban areas will also further fragment holdings and break down agricultural traditions.

## CONCLUSION

The authors are aware that this paper has highlighted problems rather than advantages of grassland farming, such as the way of life and the pleasures of working with stock. Also, that many grassland farms are large, efficient and profitable and do not suffer from remoteness or inclement climates. Nevertheless, there are large human and social problems associated with grassland farming and many of them are due to small size of business and the concentration of grassland farming in the hill areas of the North and West. From experience the authors know of the human and social problems of living with long winters, short days and incessant rain.

Grassland farmers tend to have smaller businesses run mainly on family labour. Such farms may carry surplus labour. Although it may be uneconomic, the nature of grassland farming, with its high and continuing labour demand, may justify this surplus. This is especially so if farmers are to cease thinking that they cannot afford to be ill and if the strain on family relationships, caused by lack of holidays, is to be reduced.

Many grassland farmers do not generate enough income to finance intensification, even if their landlords would permit it. Many could intensify, however, but do not do so because they do not have the incentive. Maximising output is arguably only necessary for those with large financial commitments, or those who see it as a challenge. The majority appear to put higher values on the way of life and content themselves with long hours, low incomes and, in many cases, inadequate provision for retirement.

The nature of grassland farming is complex, involving both grass growth and its utilisation by livestock, and innovations can cause complicated chain reactions. Within this complicated system the farmers tend to be stockmen first and grass producers/utilisers second – interests of the stock often come before those of profitability. Changes are taking place in grassland farming aimed at simpler or less risky systems – silage making, set-stocking and sward improvement rather than reseeding.

However, the major changes affecting grassland farmers in future will come from outside pressures. Nationally this will come from increased pressure on grassland for non-farming uses and, in areas of great scenic beauty, from the increased leisure and recreation demands of the urban population. Attitudes to diet may change and demands for animal products fall; attitudes to animal welfare may limit methods of production. Internationally, food surpluses in Europe will increase and the effects of the energy crisis will increasingly be felt. The emphasis may change from

increased productivity from cheap energy and fertilisers, to the need for less food produced with much lower energy inputs. Obviously such changes will create new human and social problems for grassland farmers and for the rest of the population as well.

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