SOCIO-ECONOMIC
EVALUATION OF
TIR GOFAL

Final Report for

Countryside Council for Wales and
Welsh Assembly Government

Submitted by

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Job No 2143/BDB/January 2005
CONTENTS

S1. EXECUTIVE SUMMARY .................................................................................................................. VI

1. INTRODUCTION .............................................................................................................................. 1
   1.1. BACKGROUND TO TIR GOFAL .................................................................................................. 1
       1.1.1. Objectives .......................................................................................................................... 2
       1.1.2. Structure ........................................................................................................................... 2
       1.1.3. Eligibility and level of grant ............................................................................................. 3

2. THE CONTEXT OF TIR GOFAL ...................................................................................................... 5
   2.1. TIR GOFAL’S PLACE IN WELSH AGRICULTURE ................................................................... 5
   2.2. NUMBERS AND LOCATION OF TIR GOFAL PARTICIPANTS .................................................... 6

3. THE CURRENT STATUS OF TIR GOFAL ...................................................................................... 11
   3.1.1. Total expenditure: (a) 2000-2003 ..................................................................................... 11
   3.1.2. Total expenditure: (b) 2003 ............................................................................................... 12
   3.1.3. Annual expenditure: (a) 2000-2003 ................................................................................. 14
   3.1.4. Annual expenditure: (b) 2003 ........................................................................................... 19
   3.1.5. Capital expenditure: (a) 2000-2003 .................................................................................. 22
   3.1.6. Capital expenditure: (b) 2003 ........................................................................................... 26

4. THE EFFECT OF TIR GOFAL ON FARM ....................................................................................... 30
   4.1. METHODOLOGY ...................................................................................................................... 30
   4.2. ON FARM RESULTS ............................................................................................................... 32
       4.2.1. Differences in payments between survey and database ..................................................... 32
       4.2.2. Capital grants .................................................................................................................... 33
       4.2.3. Impact of Tir Gofal on management practices ................................................................. 38
       4.2.4. Impact of Tir Gofal on farm business revenue ................................................................. 42
       4.2.5. Impact of Tir Gofal on farm business expenditure ......................................................... 45
       4.2.6. Impact of Tir Gofal on farm income ............................................................................... 49
       4.2.7. Impact of Tir Gofal on employment .............................................................................. 52

5. THE EFFECT OF TIR GOFAL ON THE WIDER RURAL ECONOMY .......................................... 60
   5.1. KEY INPUTS TO THE MODELLING PROCESS ....................................................................... 60
   5.2. ECONOMY-WIDE EFFECTS DURING 2003 ......................................................................... 63
   5.3. ECONOMY-WIDE EFFECTS: CAPITAL SPENDING SUPPORTED BY TIR GOFAL 2000-2003 ....... 65
   5.4. FUTURE AND NON-MARKET IMPACT OF TIR GOFAL ............................................................ 66

6. CONCLUSIONS AND RECOMMENDATIONS ............................................................................... 67
   6.1. CONCLUSIONS ON THE IMPACT ON-FARM ....................................................................... 67
       6.1.1. Management practices .................................................................................................... 67
       6.1.2. Farm business revenue .................................................................................................... 68
       6.1.3. Farm business expenditure ............................................................................................. 68
       6.1.4. Farm income .................................................................................................................... 69
       6.1.5. Employment .................................................................................................................... 69
   6.2. CONCLUSIONS ON THE IMPACT ON THE WIDER RURAL ECONOMY .................................. 70
   6.3. RECOMMENDATIONS ............................................................................................................ 70
       6.3.1. Annual payments ............................................................................................................. 71
6.3.2. Capital payments........................................................................................................ 71
6.3.3. Wider economy........................................................................................................... 71
6.3.4. Areas for further research.......................................................................................... 72
Acknowledgements

Agra CEAS Consulting would like to thank all those who assisted with this project. From Countryside Council for Wales, this includes in particular Dr Simon Bilsborough, Ann Humble, Alun Davies, Tom Bown, Dewi Davies, Jo Phenna, Mark Diggle and other members of the Bangor data team. Assistance and advice on the survey design was provided by Stuart Neil and Paul Casey from the Welsh Assembly Government and Professor Gareth Edwards-Jones.

Finally, Agra CEAS appreciates the assistance of Tir Gofal participants themselves, without the co-operation of whom this research would not have been possible.
S1. Executive summary

S1.1. Introduction

Tir Gofal is the Welsh Assembly Government’s (The Assembly) agri-environment scheme and forms part of the Wales Rural Development Plan. The scheme ensures a minimum standard of environmental care across the whole farm whilst preventing environmental improvements on part of the farm being negated by intensification on the rest of the holding. The scheme, which is available on farmed land throughout Wales, is designed to support the farming community in protecting the countryside whilst at the same time promoting sustainable agriculture. Tir Gofal is currently delivered by the Countryside Council for Wales (CCW) in partnership with The Assembly and other organisations including the Forestry Commission, CADW (Welsh Historic Monuments) and the Snowdonia National Park Authority. By January 2007, Tir Gofal will be delivered by The Assembly.

This socio-economic evaluation of Tir Gofal was carried out by Agra CEAS Consulting on behalf of CCW and The Assembly between November 2003 and October 2004.

A face to face survey of 251 Tir Gofal participants (approximately 20% of the 1,166 participants recorded on the Tir Gofal payment database at project inception) was undertaken in order to provide primary data on the impact of Tir Gofal on farm. Detailed information on farm business revenue and expenditure derived from the survey was used in conjunction with an Input-Output model of the Welsh economy to consider the impact of Tir Gofal in the wider economy.

S1.2. The context of Tir Gofal

Although agriculture in Wales accounts for in excess of 80% of land use, it, with forestry, provides employment for a little over 1% of the population and contributes just more than 1% of Gross Value Added (GVA) in Wales. However, the Welsh agricultural sector contributes significantly in terms of public goods, particularly through its role in landscape provision which helps to attract tourists, and thus also adds indirectly to GVA.

Agriculture in Wales is dominated by livestock enterprises, principally sheep and lambs. Beef is also an important sector. Dairy and arable enterprises are considerably less important. The relative importance of these sectors is reflected in Tir Gofal participation with most participating farms mainly engaged in sheep and beef activities.

The £11.29 million paid out under Tir Gofal in 2003 equated to around 2.5% of the £426.5 million Gross Value Added through agriculture and as such is fairly small in the context of agriculture in Wales as a whole. That said, just under a fifth of recipients of Tir Gofal funding consider the payments essential to their farm business revenue and a further 45% consider the payments to be very important.

1 Gross Value Added is gross output less the value of inputs used during the production process.
To the end of 2003, £20,897 million had been disbursed under the scheme.

S1.3. The current status of Tir Gofal

By the end of 2003 the Tir Gofal database recorded 1,166 agreement holders, 62% of which were with sheep and beef producers in the portion of the Less Favoured Area (LFA) classified as Severely Disadvantaged (SDA). A fifth of agreements were with sheep and beef producers in the Disadvantaged Area (DA) of the LFA. Only 1% and 3% of agreements respectively were with arable or dairy farmers.

Just over a fifth of participating farms have less than 20 hectares, a fifth have between 20 and 50 hectares, 42% have between 50 and 200 hectares and 16% have in excess of 200 hectares. The average size of TG farm in the survey was 103 hectares, compared with an average size for all farms holdings in Wales of just 40 hectares. The largest concentration of agreements is in the West (42%). Just over a fifth of agreements are in the North West, 17% in the East, 11% in the South and 9% in the North East.

The average annual payment in 2003 was £6,346, of which £1,023 comprised the whole farm payment, £3,707 the mandatory habitat payment and £1,616 the other habitat payment. Average payments for capital works amounted to £3,338. Table S.1 shows how these average payments differ by farm type.

S1.4. Key findings

Analysis of the Tir Gofal payment database revealed that:

- sheep and beef holdings within the LFA receive the majority of Tir Gofal funding (87%, £9,780 million during 2003). Almost three quarters of this (74%, £8,328 million) was disbursed within the SDA and 13% (£1,472 million) within the DA;
- the same pattern is evident for capital payments with 86% (£6,140 million) disbursed within the LFA (72%, £5,162 million SDA, 14%, £0.977 million DA, respectively) to the end of 2003;
- all farm types show a positive relationship between average grant and scale with average payments increasing with farm size, although on a per hectare basis there is an inverse relationship with scale with smaller farms receiving higher payments per hectare than larger ones. Thus farms under 50 hectares comprised 42% of holdings in Tir Gofal and received 17% of funds; farms over 50 hectares comprised 58% of farms in the scheme, receiving 83% of funds. Average total payments per hectare, however, ranged from £258 per hectare for farms under 20 hectares in size to £58 per hectare for farms with more than 200 hectares;
the highest average payments by farm type have been made for arable farmers (average payment of £11,940, 41% of which was for managing optional habitats, the highest proportion for this category across all farm types), whilst average payments made to farms in the ‘other’ category have been the smallest;

• 44% (just over £3 million) of capital expenditure over the life of the scheme has been on fencing. Dry stone walling, gates/stiles and hedgerows make up a further 35% (£2.5 million) of total capital expenditure making investment in boundaries easily the most significant activity accounting for 79% of all capital expenditure;

• the majority of annual expenditure is on mandatory habitats (58%). Spending on optional habitats accounted for a further quarter of total annual spending in 2003 and whole farm payments required 16% of the total. Almost all (94%) of spending on mandatory habitats was in the LFA;

• spending on semi-improved grassland accounts for around a quarter of expenditure on mandatory habitats, with spending on upland heath accounting for a further fifth, slightly more than on acid grassland. Farm woodlands and marshy grasslands are the only other categories where expenditure amounts to more than a tenth of the total;

• almost a third of annual expenditure on optional habitats is spent on heathland vegetation. Reversion to meadow and pasture and expenditure on unsprayed root crops followed by winter grazing were the only other categories accounting for more than a tenth of total expenditure.

The face-to-face farmer survey provided results in a range of areas. With regard to business revenue and farm income:

• farms of all types and size categories consider that payments made under Tir Gofal are important to their business revenue to some degree, almost a fifth considering them essential, 45% very important and 27% quite important; and,

• the majority of respondents (56%) found that their household income altered little since they joined Tir Gofal. More than a third (35%) reported an increase, most by just a little, and the remaining 8% found that their household income declined. Two thirds of respondents who had noted an increase in income believed that Tir Gofal had helped in this with a further 22% citing the scheme as the main reason behind the increase.

The impact of Tir Gofal on costs and expenditure showed that:

• 13% of respondents believe that the scheme led to reduced farming costs, 15% claimed it resulted in better quality livestock with 17% citing better market returns. A small proportion of respondents (6%) explained that the scheme provided more opportunities for off-farm business; and,
Tir Gofal appears to have little or no impact on where money is spent with around 55% of expenditure taking place within a ten mile radius of the farm, in total 95% of expenditure takes place in Wales both before and after scheme participation.

Impact on farm management practices:

- Tir Gofal was a key driver in change in farm management practice in that 72% of farmers would not have made management changes required by TG without the scheme. Only 5% of farmers would have made most of these changes anyway, 9% would have made about half the changes, and 10% would have made a few of the changes. A further 3% would have carried out different changes altogether. This means that Tir Gofal also delivers additional change as well as prompting new change.

Impact on labour use and employment:

- Ninety two percent of respondents indicated that their Tir Gofal agreement had resulted in greater labour requirements. This amounted to an average of 70 extra person-days labour a year where increases were recorded. This ranged from an extra 92 days for sheep and beef farms in the SDA to 41 extra days for arable farms. Across the whole sample, i.e. including those who did not report an increase in workload, the average amounted to 66 extra person-days a year;
- Most of the extra work generated by Tir Gofal has been carried out by contractors (49%), with the farmer accounting for 33% and other immediate family members for 9%. Existing employees handled 6% of labour requirements arising from the scheme and new employees (all casual/seasonal) handled just 2%;
- In terms of actual time spent on Tir Gofal activities, capital projects, such as work on boundary features and new public access, are the most time consuming accounting for 55.4 extra person-days per farm per year across the whole sample; and,
- Large scale capital projects, for example, restoration of traditional buildings, resulted in an average of 5.1 extra person-days of work per year across the whole sample.

Impact on the wider economy: 2003

- The £11.29m paid out under Tir Gofal in 2003 induced total spending worth £4.2 million, of which around 73% was with Welsh industries, with much of the remainder (23%) to Welsh households;
- Incorporating indirect effects makes the final expenditure/output impact on the local economy £6.3 million in 2003, and this was associated with around 112 full-time equivalent (FTE) jobs;

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6 The survey results for arable farms reflects just 5 respondents.
7 The remaining sum, £7.09 million, is absorbed within the farm as payments to reflect income foregone, and payments to the farmer for additional work carried out.

ix
• around half of the expenditure impact and 60% of the employment impact is concentrated in just two sectors, ‘agriculture, forestry and fishing’ and ‘construction’;

Impact on the wider economy: 2000-2003

• between 2000 and 2003, capital payments plus farmer contribution totalled £14.25 million, the majority (94%) of this stayed in the Welsh economy as payments to Welsh industries or households. Accounting for indirect effects, the overall impact of this spending on the economy was over £21 million which supports some 385 FTEs.

S1.5. The effect of Tir Gofal on farm

S1.5.1. Farm management

Tir Gofal is an important driver of change in management practice with almost three quarters of respondents indicating that they would not have made changes in the absence of the scheme. Those with larger farms (more than 200 hectares) are more likely to require support to make changes suggesting that a greater impact could be achieved by targeting this group. In terms of farm type, sheep and beef producers in the SDA were more likely to make management changes in any case compared to those in the DA suggesting that a reorientation towards the DA would deliver more change. However, this finding should be placed in context of the environmental aims of Tir Gofal and scheme targeting should reflect these as this is the primary objective.

The size and farm type differences notwithstanding, it is clear that Tir Gofal has helped to bring about a high degree of change in management practice. Even where respondents indicated that they would have made changes without the support of the scheme, these would typically have been smaller in magnitude and in some cases would have been deferred.

As far as capital works are concerned, some investments, such as those in traditional field boundaries, are more likely to be made unaided than, for example, investments in new public access or in habitat management. This would indicate that a greater impact could perhaps be achieved by targeting support on investments in the latter, although this would depend on the purpose and type of the boundary and a case by case judgement would probably be prudent. However, this does not consider the impact of support on the scale of investment and evidence suggests that support under Tir Gofal often leads to an increased scale of investment. Whether this increase results from a greater amount of the investment, for example a greater length of hedge, or whether it results in the use of more expensive materials, resulting in a better quality longer-lasting boundary feature, is unknown and further investigation of this issue would help to determine what, if any, reorientation is necessary.

8 This refers to extra expenditure in the economy by those receiving expenditure undertaken as a result of the scheme, for example, the extra spending by wholesalers and suppliers of inputs used by Tir Gofal participants.

9 Although the costs of making changes may differ and this may offer a partial explanation for this finding. Also, hypothetical questions need to be treated with a degree of caution.
Finally, smaller farms are more inclined to carry out capital investments unaided (with the exception of restoration of traditional buildings) which might suggest a greater focus on larger farms would be sensible, the environmental impact notwithstanding.

**S1.5.2. Farm business revenue**

Participation in Tir Gofal typically results in a reduction in the proportion of revenue derived from livestock enterprises. This is in part a consequence of the design of the scheme where extensification is an aim, also, as a whole farm scheme participants are unable to intensify production elsewhere on the holding. This reduction is offset for to some degree by the annual management payments and also, at least in the first year of participation, by sale of stock. No other notable changes in revenue were apparent from scheme participation.

The importance of support appears to differ by farm size with payments contributing a greater proportion of farm business revenue for smaller farms. Despite this, respondents from farms of all types and size categories consider that payments made under Tir Gofal are important to their business revenue to some degree, almost a fifth considering them essential, 45% very important and 27% quite important.

**S1.5.3. Farm business expenditure**

The main impacts of Tir Gofal on farm costs have been to increase expenditure on contractors and building materials and decrease expenditure on animal feed, fertiliser and plant protection products, veterinary and medicine. The decreases are driven by the design of the scheme, which in part, reduces livestock numbers. The increase in building materials is driven by the capital grant aspect of Tir Gofal. Contractors are used for both capital works and for specialist tasks such as hedge laying, in addition to cases where no on-farm labour is available to carry out additional tasks. Tir Gofal therefore clearly alters the pattern of spend. Extrapolating expenditure change resulting from Tir Gofal by item from the participant survey to the population suggests that the net impact on expenditure is fairly small at an increase of £137,000 in 2003. This suggests that the vast majority of the £7.4 million paid out in 2003 is absorbed within the farm business as payments for income foregone or payments to the farmer for additional work undertaken.

More than half (55%) of expenditure takes place within a ten mile radius of the farm with a further 40% spent within Wales. Tir Gofal does not appear to have had any general impact on this pattern, although analysis by farm size and type suggests that those with between 20 and 50 hectares decreased local spending (i.e. within ten miles) following participation, as did sheep/beef producers in the non-LFA. However, those with less than 20 hectares increased local expenditure, as did those with farm types classed as ‘other’. It is not known whether these changes are coincidental or are driven by the nature of these groups’ involvement with the scheme.

**S1.5.4. Farm income**

The majority (88%) of those who had experienced an increase in income since joining Tir Gofal believed that the scheme was a factor in this increase. A quarter of these believed that Tir Gofal was
the main factor in the increase. Interestingly, 83% of those noting an increase in income felt that the annual payment was a reason for this, which might suggest that support under the scheme more than replaces revenue lost as a result of the activities undertaken. This does not necessarily provide evidence of over payment as farmers may be carrying out additional tasks for which they do not pay themselves. Some evidence to support this hypothesis comes from a survey finding that some payments are retained as farm income (see Section S1.5.5).

Again, 46% of respondents felt that the capital grants they had received had resulted in increased income. Whilst it is possible that some of these respondents take the view that they would have carried out the investment in the absence of support, again it is likely that additional labour provided by existing on-farm resources is not being considered. This is especially likely when it is recalled that capital grants also require funding from the recipient and that some materials might be drawn from existing on-farm stocks.

Other factors leading to increased net farm income include the impact of Tir Gofal in reducing costs, (although one would expect these reductions to be accompanied by reductions in output), higher quality livestock and better market returns.

S1.5.5. Employment

In the vast majority of cases (92%), participation in Tir Gofal has resulted in an increased demand for labour. For those experiencing this increased demand it amounted to an additional 70 days work per farm per year. Sheep and beef producers in the SDA experienced the greatest increase in demand for labour by farm type and there was a clear positive association with scale.

It appears that where additional demand for labour is small, this is typically met through existing resources, mainly the farmer’s own labour through the input of additional hours, but also through the reallocation of on-farm labour from other tasks. As demand increases further, then contractors are brought in. This is supported further by the fact that respondents with smaller farm sizes were least likely to use contractors whilst respondents from the larger farm sizes were most likely to use them. Although not tested in this research, it is likely in theory that as demand for additional labour increases still further it will become more cost effective to employ additional staff. However, this may not in fact be the case with respect to Tir Gofal where additional work supported by capital grants is disproportionately loaded to the beginning of the agreement and there is a tendency to use casual/seasonal labour in preference to a full or part-time workforce.

Tir Gofal often generates enough additional demand for labour (or creates the type of demand for labour) for contractors to be necessary with 49% of additional labour demand met in this way, creating new work. In contrast, only 2% of respondents expanded their own workforce and this was only with casual/seasonal workers. In total, 42% of the additional work is carried out by the farmer (33%), the farming family (9%) or by existing employees (6%), providing evidence that Tir Gofal helps safeguard on farm employment for farming families and existing employees. This result complements evidence from other research carried out on Tir Gofal by Agra CEAS as part of the mid-term

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evaluation of the Wales Rural Development Plan suggests that the scheme is likely to play an important role in improving job security for both farmers and their employees.

Ninety percent of respondents were required to spend more time on small-scale capital projects whereas less than 50% were required to spend additional time on habitat management. This suggests that habitat management investments are generally not as labour intensive. However, 29% of one-off capital expenditure on habitat management was retained as farm income which suggests either that farmers are very aware of the additional work required on habitat management tasks and ensure that they receive payment for their labour, or that there is a degree of overpayment here that perhaps should be considered further.

Generally speaking contractors are used for certain capital works such as those relating to the restoration of traditional buildings whilst farmers are more likely to use their own (or existing on-farm labour) for field boundary work and protective fencing. This is likely to be partly a function of the type of work and the skills required.

S1.6. The effect of Tir Gofal on the wider economy

The market impact of Tir Gofal on the wider rural economy was estimated using an Input-Output model and this showed that the £4.2 million additional expenditure resulting from Tir Gofal in 2003 resulted in a spend of £6.3 million after consideration of indirect effects and the equivalent of 112 full-time jobs. Of this spend, 73% went to Welsh industries (half of this impact is concentrated in the agricultural, forestry and fishing and construction sectors), 23% to Welsh households and the remaining 4% to taxes and imports.

Taking just capital payments over the period 2000 to 2003, Tir Gofal resulted in increased expenditure in the wider Welsh economy of £21 million and the creation of the equivalent of 385 full-time jobs.

Whilst these figures are fairly small in the context of the Welsh economy as a whole, the impact on isolated rural communities is likely to be disproportionate and the creation of 385 full-time jobs is likely to be significant.

S1.7. Recommendations

S1.7.1. Annual payments

It appears that owners of small and mid-sized farms, i.e. those with up to 200 hectares, are generally more likely than farmers of large units (more than 200 hectares) to carry out changes to management practices in line with those promoted under Tir Gofal in the absence of support. Re-orientating annual payments towards the larger size group could therefore offer greater value for money. By the same token, sheep and beef producers in the SDA are more likely to make management changes than their counterparts in the DA and again focusing money towards those needing it to prompt a change could offer greater effectiveness.
S1.7.2. Capital payments

Some types of capital investment are more likely to have been carried out even in the absence of support and there is therefore a risk that there is some degree of overpayment here. It is possible that greater change could be facilitated by reorienting capital grants towards those areas where investment would otherwise not take place. This would mean focusing less on traditional field boundaries, for example, and more on facilities for new public access and habitat management. However, whilst this might be appropriate from an economic point of view, it may not be from the environmental perspective which is the main driver of the scheme.

The requirement for support to facilitate investment also differed by farm size with respondents from larger units being less likely to carry out investments unaided. Reorientation of capital works towards larger farms might therefore offer greater value for money in this regard.

Tir Gofal had little impact on the type of materials used in capital works. It is noted that greater support is currently offered for the use of certain materials, for example traditional oak gates, but if CCW would prefer to see an increase in the use of certain materials, then a greater range of increased payments for doing so may be required. Tir Gofal had little general impact on where money is spent beyond the farm gate, although a high proportion (55%) is spent within ten miles of the farm and a further 40% within Wales in any case.

S1.7.3. Wider economy

The impact of capital works on the wider rural economy is greater than annual payments. If CCW wish to maximise the impact of Tir Gofal on the wider rural community, then funds should be focused on this element of the scheme which more often involves off-farm labour and generally requires a greater expenditure on inputs (although it is recognised that capital works result in one off investments rather than recurring expenditure).

Relatively low levels of additional demand for labour are often met from within the farming household or existing workforce. However, as the demand for additional labour increases, there is a tendency to use contractors. It is possible that as demand for additional labour rises still further, farmers might find it more cost effective to increase the size of their regular workforce, although this is questionable in the context of Tir Gofal as set out above. In order to generate greater demand for labour and hence promote additional employment, CCW could consider making prescriptions more labour intensive, although there is clearly a balance between this and the level of support required to achieve environmental objectives.

S1.7.4. Areas for further research

It is clear that in many cases the availability of support under Tir Gofal prompts participants to make larger (more expensive) capital investments than they would otherwise have done. It is not clear whether this results in more environmental outputs, for example, greater length of hedge, or use of specialist labour. In the latter case this may result in a better quality of investment, but it could also
simply represent greater expenditure for no additional gain. Limited additional information on this
could be drawn out from the payment database in the first instance.

The factors that lead to choice of materials and where these are sourced from would benefit from
further investigation. This would help to inform CCW as to whether it would be worth considering
additional funds to prompt the use of certain materials (perhaps renewable materials, certain types of
wood or stone, locally produced goods, etc.). Although generally Tir Gofal had little impact in terms
of where spending took place, different farm sizes and types altered local spending patterns in
different ways. Establishing whether this is related to Tir Gofal at all and if so, understanding the
factors behind this might prove useful to CCW.

A relatively large proportion of capital grant for habitat management appears to be considered by
participants as farm income and the reasons for this could be clarified. It may be that this is a
recognition of payment for additional labour, but farmer treatment of additional labour in general
(including that arising from annual management prescriptions) could be assessed in more detail.

Although it is clear that a significant proportion of the extra work generated by Tir Gofal is carried
out by contractors, it is not clear whether this is existing contractors doing extra work or taking on
additional labour, or whether the work is carried out by new contractors able to establish
themselves as a result of Tir Gofal. Further research should be undertaken to investigate this issue
in greater detail.

Finally, a great deal of statistical information on the use of funds within Tir Gofal is available from the
payment database. Although not presented in this report, it would be possible to provide detailed
analysis of where, and on what, money is being spent in order to assist the managing of the economic
impact of the scheme. This process would be facilitated by reducing the number of different
prescriptions and making clear the uses to which individual prescriptions could be put, for example,
prescriptions for gates can be used under new public access or under field boundaries and separate
codes could be introduced to make it clear in which context a gate had been used. However, a
careful balance between operating the scheme itself and facilitating monitoring would need to be
struck. This is something that CCW could do in-house, but it is also a task which would lend itself
well to outsourcing.
Table S.1: Summary of key statistics by farm type

<table>
<thead>
<tr>
<th>Category</th>
<th>Arable</th>
<th>Dairy</th>
<th>Sheep/beef SDA</th>
<th>Sheep/beef DA</th>
<th>Sheep/beef non LFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in sample</td>
<td>5</td>
<td>7</td>
<td>115</td>
<td>54</td>
<td>42</td>
</tr>
<tr>
<td><strong>Average Size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From database (ha)</td>
<td>84</td>
<td>104</td>
<td>157</td>
<td>57</td>
<td>61</td>
</tr>
<tr>
<td>From sample (ha)</td>
<td>59</td>
<td>103</td>
<td>136</td>
<td>67</td>
<td>91</td>
</tr>
<tr>
<td><strong>Average payments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole farm</td>
<td>£1,168 (10%)</td>
<td>£1,047 (12%)</td>
<td>£1,241 (11%)</td>
<td>£674 (10%)</td>
<td>£681 (9%)</td>
</tr>
<tr>
<td>Mandatory habitat</td>
<td>£1,295 (11%)</td>
<td>£1,554 (18%)</td>
<td>£5,265 (45%)</td>
<td>£1,374 (21%)</td>
<td>£1,141 (16%)</td>
</tr>
<tr>
<td>Optional habitat</td>
<td>£4,943 (41%)</td>
<td>£2,280 (26%)</td>
<td>£1,685 (14%)</td>
<td>£1,157 (18%)</td>
<td>£2,101 (29%)</td>
</tr>
<tr>
<td>Capital</td>
<td>£4,534 (38%)</td>
<td>£3,853 (44%)</td>
<td>£3,456 (30%)</td>
<td>£3,250 (50%)</td>
<td>£3,268 (45%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>£11,940</td>
<td>£8,734</td>
<td>£11,647</td>
<td>£6,455</td>
<td>£7,191</td>
</tr>
<tr>
<td><strong>Management practices without TG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would have made none of the changes</td>
<td>5 of the 5</td>
<td>5 of the 7</td>
<td>67%</td>
<td>80%</td>
<td>76%</td>
</tr>
<tr>
<td>Would have made most of changes</td>
<td>6%</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would have made half the changes</td>
<td>2 of the 7</td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would have made few of the changes</td>
<td>9%</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would have made different changes</td>
<td>5%</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average farm revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before TG</td>
<td>£38,415</td>
<td>£108,538</td>
<td>£47,717</td>
<td>£35,484</td>
<td>£46,672</td>
</tr>
<tr>
<td>After TG</td>
<td>£46,846</td>
<td>£144,944</td>
<td>£54,519</td>
<td>£34,955</td>
<td>£44,227</td>
</tr>
<tr>
<td><strong>Importance of TG revenue to farm business</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essential</td>
<td>23%</td>
<td>17%</td>
<td></td>
<td></td>
<td>14%</td>
</tr>
<tr>
<td>Very important</td>
<td>2 of the 5</td>
<td>3 of the 7</td>
<td>51%</td>
<td>41%</td>
<td>43%</td>
</tr>
<tr>
<td>Quite important</td>
<td>3 of the 5</td>
<td>4 of the 7</td>
<td>20%</td>
<td>35%</td>
<td>31%</td>
</tr>
<tr>
<td>Minor importance</td>
<td>8%</td>
<td>8%</td>
<td></td>
<td></td>
<td>12%</td>
</tr>
<tr>
<td><strong>Average farm expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before TG</td>
<td>£32,154</td>
<td>£60,629</td>
<td>£41,283</td>
<td>£41,899</td>
<td>£38,587</td>
</tr>
<tr>
<td>After TG</td>
<td>£33,165</td>
<td>£75,855</td>
<td>£47,249</td>
<td>£34,140</td>
<td>£31,578</td>
</tr>
</tbody>
</table>
## SOCIO-ECONOMIC EVALUATION OF TIR GOFAL

### Composition of household income

<table>
<thead>
<tr>
<th></th>
<th>Farm business</th>
<th>Off farm employment</th>
<th>Off farm business</th>
<th>Diversified on-farm business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>67%</td>
<td>43%</td>
<td>61%</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>53%</td>
<td>39%</td>
<td>48%</td>
<td>29%</td>
</tr>
</tbody>
</table>

### Change in household income since joining TG

<table>
<thead>
<tr>
<th></th>
<th>Risen significantly</th>
<th>Risen a little</th>
<th>Stayed about the same</th>
<th>Fallen a little</th>
<th>Fallen a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13%</td>
<td>29%</td>
<td>51%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>3%</td>
<td>36%</td>
<td>54%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>23%</td>
<td>55%</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

### Role of TG in income increase

<table>
<thead>
<tr>
<th></th>
<th>N = 48</th>
<th>N = 21</th>
<th>N = 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main reason</td>
<td>31%</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Helped to increase</td>
<td>63%</td>
<td>77%</td>
<td>62%</td>
</tr>
<tr>
<td>Income would have increased more without TG</td>
<td>7%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>No impact</td>
<td>7%</td>
<td>9%</td>
<td>8%</td>
</tr>
</tbody>
</table>

### Why TG increased income

<table>
<thead>
<tr>
<th></th>
<th>N = 48</th>
<th>N = 21</th>
<th>N = 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual payments</td>
<td>86%</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>Capital payments</td>
<td>42%</td>
<td>48%</td>
<td>62%</td>
</tr>
<tr>
<td>Reduced costs</td>
<td>17%</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>Better quality livestock</td>
<td>18%</td>
<td>10%</td>
<td>23%</td>
</tr>
<tr>
<td>Better market returns</td>
<td>22%</td>
<td>4%</td>
<td>23%</td>
</tr>
<tr>
<td>Off farm business opportunities</td>
<td>4%</td>
<td>10%</td>
<td>8%</td>
</tr>
</tbody>
</table>
### Impact on employment

<table>
<thead>
<tr>
<th>Respondents citing increased demand</th>
<th>100%</th>
<th>100%</th>
<th>89%</th>
<th>94%</th>
<th>93%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of extra days/year</td>
<td>41</td>
<td>78</td>
<td>92</td>
<td>53</td>
<td>58</td>
</tr>
<tr>
<td>Average number of extra days across whole sample</td>
<td>41</td>
<td>78</td>
<td>85</td>
<td>50</td>
<td>54</td>
</tr>
</tbody>
</table>

### Supply of labour

<table>
<thead>
<tr>
<th></th>
<th>Contractors</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34%</td>
<td>63%</td>
<td>53%</td>
<td>51%</td>
<td>38%</td>
</tr>
<tr>
<td>Contractors</td>
<td>61%</td>
<td>31%</td>
<td>28%</td>
<td>31%</td>
<td>46%</td>
</tr>
<tr>
<td>Farmer</td>
<td>0%</td>
<td>4%</td>
<td>10%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Farming family</td>
<td>0%</td>
<td>2%</td>
<td>7%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Existing employees</td>
<td>5%</td>
<td>0%</td>
<td>2%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>New employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Introduction

Tir Gofal is the Welsh Assembly Government’s (The Assembly) agri-environment scheme and forms part of the Wales Rural Development Plan. The Countryside Council for Wales (CCW) and The Assembly requested tenders to carry out a socio-economic assessment of Tir Gofal. Agra CEAS Consulting were subsequently awarded the contract. This document presents our final report on the research.

This contract was carried out between November 2003 and October 2004 with a face to face survey of 251 participants (approximately 20% of total participants at project inception) carried out in two phases between February 14 and April 01, 2004 and May 17 and July 16, 2004. The survey was designed to consider the on-farm impact of Tir Gofal. In addition to the survey, analysis of the Tir Gofal payments database was undertaken to provide a profile of participants by farm size and type and to present a breakdown of work undertaken under the scheme. Finally, data from the survey were used in conjunction with an Input-Output model to consider the impact of Tir Gofal in the wider economy.

The research was carried out by Dr Dylan Bradley, Matthew Morris and Dr Victoria Schoen for Agra CEAS Consulting. The survey was carried out by Kynetec and managed by Lesley Selby. Finally, the Input-Output modelling work was carried out by Dr Max Munday and Dr Annette Roberts.

This report begins by explaining the background to Tir Gofal including the scheme objectives, structure, eligibility and level of grant. Chapter 2 places Tir Gofal in context within agriculture in Wales. The third Chapter presents analysis of the Tir Gofal database. The on-farm impact of the scheme is considered in Chapter 4 and Chapter 5 presents the impact of Tir Gofal on the wider rural economy. Finally, conclusions and recommendations are contained in Chapter 6.

Appendix 1 contains additional material not central to the main objectives of the research. It begins with further detail on the survey sample, considers the methodology used to investigate the Tir Gofal database and then outlines the methodology used in the Input-Output modelling. Additional material on the evolution of payments made under Tir Gofal is then set out. This is followed by additional material on the impact of Tir Gofal on farm. The Appendix concludes by considering the impact of Tir Gofal in the wider economy taking into account the non-market benefits.

1.1. Background to Tir Gofal

Tir Gofal is the Welsh Assembly Government’s (The Assembly) agri-environment scheme and forms part of the Wales Rural Development Plan. The scheme ensures a minimum standard of environmental care across the whole farm whilst preventing environmental improvements on part of the farm being negated by intensification on the rest of the holding. The scheme, which is available on farmed land throughout Wales, is designed to support the farming community in protecting the countryside whilst at the same time promoting sustainable agriculture. Tir Gofal is currently delivered by the Countryside Council for Wales (CCW) in partnership with The Assembly and other
organisations including the Forestry Commission, CADW (Welsh Historic Monuments) and the Snowdonia National Park Authority. By January 2007, Tir Gofal will be delivered by The Assembly.

1.1.1. Objectives

Tir Gofal has four stated objectives:

- to protect and enhance habitats of importance to wildlife;
- to protect and enhance the beauty of the landscape;
- to protect and enhance historic and archaeological features; and,
- to provide opportunities for new access to the countryside.

Tir Gofal agreements apply to the whole farm and last for ten years with a break clause after five years.

1.1.2. Structure

Tir Gofal is comprised of obligatory management prescriptions and voluntary options and is available on farmed land throughout Wales. The intention is to reward farmers for caring for the wildlife, historical and cultural features on their land (see Box 1.1).

The development in policy represented by Tir Gofal reflected a growing dissatisfaction with area-targeted schemes and as such Tir Gofal differs from earlier Welsh agri-environment schemes in a number of ways. Primarily, Tir Gofal is a ‘broad and shallow’ approach to sustainable agriculture and as such all qualifying holdings across Wales can benefit from the support that the scheme offers whilst at the same time contributing to rural development objectives. This approach should in theory result in a wider distribution of environmental and biodiversity benefits, greater potential for contiguous habitats, coalescence of protected areas, and the provision of wildlife ‘corridors’ that assist the movement of species between fragmented habitat patches.

Tir Gofal has undergone some changes since its initial launch. The scoring system has been amended from a competitive to queuing system. The current application process ensures that all successful applications provide a minimum level of environmental benefits. The scoring is based on a mixture of presence/absence criteria and a series of ‘weightings’ ensure that higher-priority activities, such as those applied to key habitats, attract additional points. The scoring system is based on proven ecological principles and as such the application process has been optimised so as to deliver maximum environmental and biodiversity benefits (CRER, 2002).

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A number of other changes involved with simplifying the Tir Gofal application and administration process have occurred (including a reduction in number of prescriptions and different assessment procedures).

There have been over 5,000 applications for Tir Gofal during the current EU rural development programming period (2000-06) with an associated total expenditure of over £30 million.

Box 1.1: Structure of Tir Gofal

1. **Obligatory section**: designed to ensure that farms comply with a series of measures which are aimed at ensuring that land entered into the scheme is compatible with good environmental practice. Activities in this part of the scheme include, *inter alia*, the retention and management of traditional field boundaries, the protection and maintenance of historic and traditional landscape features and landforms, the protection of water features from damage or pollution, and the management of stocking rates, including stock reduction and exclusion from certain habitats. The payment per hectare in return for these activities is tiered according to farm size. This section is referred to as **whole farm payment** in this report.

2. **Farm management plan**: created for all agreements and includes the obligatory management of certain mandatory habitats such as semi-natural broad-leaved woodland, saltmarsh and upland heath. Each habitat is subject to a series of detailed management prescriptions, each with specific environmental objectives, which are proven to provide environmental and/or biodiversity benefits. For example, the prescriptions for semi-natural broad-leaved woodland include stock exclusion or the maintenance of light grazing in order to encourage saplings and a diverse woodland structure, as well as the creation of a programme of managed work to maximise the environmental, economic or recreational use of the woodland. In return, agreement holders are paid between £10 per hectare/year and £125 per hectare/year depending on the level of grazing. This section is referred to as **mandatory habitats** in this report.

3. **Optional measures**: ensures that farmers with little wildlife habitat can still contribute towards the objectives of the scheme. Activities under this section include hedgerow restoration, establishing new crops, winter stubbles, wildlife cover crops, management of grassland for farmland birds, establishing new habitats, etc. Again, payments are made according to a fixed price menu. This section is referred to as **optional habitats** in this report.

4. **Additional works**: includes activities such as habitat enhancement and creation, restoration of historic features, and ‘special projects’ such as pest control on lapwing breeding sites. This section is referred to as **capital works** in this report.

1.1.3. **Eligibility and level of grant**

In order to be eligible to join Tir Gofal, the applicant must have control over the land to be entered into the scheme for a minimum of ten years from when the agreement comes into force\(^\text{11}\). There is also a minimum farm size of three hectares and all land farmed by the applicant has to be entered into the scheme. Land covered by grants from other agencies such as CADW is excluded from the agreement.

\(^{11}\) Subject to the five year break clause.
The scheme is open to individual farmers throughout Wales, including tenants, although in this case, the landlord’s approval is required. Individual applications can be submitted in groups (maximum 6) if farms are within 0.5 km of each other.
2. The context of Tir Gofal

2.1. Tir Gofal's place in Welsh agriculture

Although agriculture accounts for much of the land use in Wales (in excess of 80%), it (with forestry) accounts for little more than 1% of employment\(^{12}\) (Digest of Welsh Statistics, 2003) and in 2002 accounted for just over 1% of Gross Value Added in Wales\(^{13}\). Total Income From Farming was estimated to be £165 million in 2003 with gross output at a little over £1 billion (of which 15% was derived from subsidy\(^{14}\)) (National Assembly for Wales Statistics, Statistical release 30/2004). However, these measures of importance do not take into consideration the contribution agriculture makes to the provision of public goods, nor its role in attracting tourism.

There were some 36,473 agricultural holdings in Wales in 2002 with an average size of 40 hectares. The distribution of holdings and land by size class is presented in Table 2.1, as is average size within each category.

### Table 2.1: Agricultural holdings in Wales 2002

<table>
<thead>
<tr>
<th>Size Class</th>
<th>Holdings</th>
<th>Hectares</th>
<th>Average size (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19.9 ha</td>
<td>21,444</td>
<td>102,899</td>
<td>4.8</td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>6,080</td>
<td>204,163</td>
<td>33.6</td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>7,848</td>
<td>746,292</td>
<td>95.1</td>
</tr>
<tr>
<td>200+ ha</td>
<td>1,101</td>
<td>398,844</td>
<td>362.3</td>
</tr>
<tr>
<td>Total holdings</td>
<td>36,473</td>
<td>1,452,198</td>
<td>39.8</td>
</tr>
</tbody>
</table>


Table 2.2 presents the structure of agricultural holdings in Wales in terms of enterprise. Agriculture in Wales is predominantly livestock with sheep and lambs being held by almost half of all holdings with an average of 624 head per holding. A quarter of holdings have beef animals with an average of 22 per holding. Dairy is carried out by just over 10% of holdings. Arable farming in Wales is not widespread with just 7% of holdings having a cereals enterprise. (Farming Facts and Figures, 2004 forecasts that 85% of gross agricultural output in 2003 will be from livestock and livestock products compared to just 4% from crops.)

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\(^{12}\) Total labour engaged in agriculture amounted to 55,600 in 2003 including family labour, full-time, part-time and seasonal/casual employees (Farming Facts and Figures, Wales 2004).

\(^{13}\) This figure includes subsidies and the removal of these would reduce this figure.

\(^{14}\) This does not include Tir Mynydd subsidies which are now decoupled from production.
Table 2.2: Structure of Welsh agriculture by enterprise

<table>
<thead>
<tr>
<th>Holdings</th>
<th>Cereals</th>
<th>Cattle and calves</th>
<th>Dairy</th>
<th>Beef</th>
<th>Sheep and lambs</th>
<th>Breeding sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hectares/Head</td>
<td>2,709</td>
<td>14,828</td>
<td>4,004</td>
<td>9,020</td>
<td>16,118</td>
<td>15,331</td>
</tr>
<tr>
<td>Average size (ha or head)</td>
<td>45,304</td>
<td>1,195,146</td>
<td>267,737</td>
<td>195,779</td>
<td>10,050,140</td>
<td>5,154,804</td>
</tr>
<tr>
<td>Proportion of all holdings</td>
<td>7%</td>
<td>41%</td>
<td>11%</td>
<td>25%</td>
<td>44%</td>
<td>42%</td>
</tr>
</tbody>
</table>


It is not possible to comment with great precision on the congruence between agriculture in Wales as defined above and uptake of Tir Gofal because data for the latter is by predominant enterprise rather than all enterprises undertaken. However, it is likely that cereal farmers and dairy producers are under-represented in Tir Gofal (see Figure 2.1 in Section 2.2).

The £11 million paid out under Tir Gofal in 2003 (see Section 3) equated to around 2.5% of the £426.5 million Gross Value Added through agriculture and as such is fairly small in the context of agriculture in Wales as a whole, although this may have a disproportionate impact, see Section 4.2.4.

2.2. Numbers and location of Tir Gofal participants

By the end of 2003 there were 1,166 Tir Gofal agreements in place\(^\text{15}\), 62% of which were with sheep and beef farmers in the SDA. A fifth of agreements were with sheep and beef farmers in the DA (Figure 2.1). This represents a good match with LFA status in Wales which amounts to 81%. Forty two percent of participants have a farm with between 50 and 200 hectares. A similar proportion have a farm with less than 50 hectares, slightly more than half of these participants have fewer than 20 hectares. Large farms, those with more than 200 hectares, account for 16% of participants (Figure 2.2).

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\(^{15}\) The payment database reflects the financial (payment) evolution of the scheme and as such lags behind total agreements signed. To the end of 2003 the total number of agreements signed was actually 1,742. All analysis of the payments database derives from the 1,166 agreements recorded.
The vast majority of early participants in Tir Gofal were sheep and beef producers in the SDA who accounted for 93% of new participants in 2000 and 81% of new participants in 2001. However, in
2002 and 2003 the proportion of new participants drawn from this group declined to 53% and 52% respectively as an increasing number of sheep and beef producers in the DA, and to a lesser extent sheep and beef producers outside the LFA, were accepted into the scheme. With the exception of an increase in the proportion of farmers with between 50 and 200 hectares joining Tir Gofal in 2002, the annual breakdown of new entrants by size has remained fairly constant between 2000 and 2003.

A map showing the spatial location of Tir Gofal agreements on 31/12/2003 is presented in Figure 2.3 below.
Figure 2.3: Tir Gofal agreements to end 2003
Data on the distribution of agreements by region is presented in Figure 2.4. This Figure shows agreements to 7/11/2003. Almost half of Tir Gofal agreements are in the west, with a further fifth in the north west. Around a tenth of agreements are in the north east and another tenth in the south with the remaining agreements in the east.16

![Figure 2.4: Distribution of agreements by CCW area](image)

16 North west is Anglesey, Meirionydd, North Gwynedd (inside and outside Snowdonia National Park). North east is Conwy, East Clwyd, Y Berwyn. East is Mid-Powys, North Powys, South Powys. West is Carmarthenshire, Ceredigion, Pembrokeshire. South is Cardiff & Newport, Eastern, Mid (Vale & Valleys), Western.
3. The current status of Tir Gofal

This Chapter briefly describes the current status of Tir Gofal in terms of payments using data drawn from the payments database (see the Appendix for the methodology used). It begins with consideration of total expenditure, then focuses on annual and capital expenditure in turn. In each case the evolution of expenditure between 2000 and 2003 is considered first to provide context and this is followed by a more detailed examination of 2003, the last complete year for which data are available.

3.1.1. Total expenditure: (a) 2000-2003

Figure 3.1 shows the increase in Tir Gofal expenditure between 2000 and 2003. In all years expenditure on annual payments dominates and accounts for approximately two thirds of total payments. Overall, a total of £20.897 million was paid to Tir Gofal agreement holders to the end of 2003. The split between annual and capital expenditure was £13.748 million and £7.148 million, respectively.

Sheep/beef producers in the SDA account for the largest proportion of total expenditure, although this declined by 17% between 2000 and 2003 as the proportion spent on sheep/beef producers in the DA and outside the LFA increased. The proportion of expenditure disbursed to arable farmers decreased notably between 2000 and 2001 and more slowly afterwards to finish the period 79% lower as they became a smaller group within the total.
The proportion of total expenditure allocated to each category of farm size remained fairly consistent during the first five years of the scheme. The only noticeable change occurred between 2000 and 2001 when the proportion of total expenditure disbursed to holdings in the 50 to 200 hectare size category fell from 52% to 42% and the amount disbursed to those with more than 200 hectares increased from 28% to 39%. This resulted from a combination of a relatively larger expansion in numbers in the largest size group and also an increase in the average payments made for annual payments for larger farmers. This was mitigated to some extent by a relatively larger increase in average capital grants for those with between 50 and 200 hectares, but the net impact was to boost the proportion of Tir Gofal disbursements made to those with more than 200 hectares. However, this change was from a small base (28 participants in 2000 to 344 in 2001) which was also skewed towards those in the 50 to 200 hectare size category and the latter years are therefore more typical of the distribution of funds.

3.1.2. Total expenditure: (b) 2003

The amount and proportion of expenditure disbursed in 2003 by type of farm and the average payment for each category of spending is presented in Table 3.1. Sheep/beef producers in the SDA make up 61% of holdings, but receive 74% of total funding. In contrast, sheep/beef farmers in the DA account for a fifth of holdings, but just 13% of expenditure. This is likely to be the result of scale with sheep/beef producers in the SDA tending to be larger than those in the DA and annual payments linked to area (see Table 3.2 where expenditure is examined by size).

Table 3.1: Summary of total expenditure by holding type 2003

<table>
<thead>
<tr>
<th>Holding type</th>
<th>Number of holdings</th>
<th>Proportion of holdings</th>
<th>Total spend</th>
<th>Average capital payment</th>
<th>Average mandatory habitat payment</th>
<th>Average optional habitat payment</th>
<th>Average whole farm payment</th>
<th>Proportion of total spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable</td>
<td>16</td>
<td>1%</td>
<td>£191,034</td>
<td>£4,534</td>
<td>£1,295</td>
<td>£4,943</td>
<td>£1,168</td>
<td>2%</td>
</tr>
<tr>
<td>Dairy</td>
<td>39</td>
<td>3%</td>
<td>£340,628</td>
<td>£3,853</td>
<td>£1,554</td>
<td>£2,280</td>
<td>£1,047</td>
<td>3%</td>
</tr>
<tr>
<td>Sheep/beef</td>
<td>715</td>
<td>61%</td>
<td>£8,327,868</td>
<td>£3,456</td>
<td>£5,265</td>
<td>£1,685</td>
<td>£1,241</td>
<td>74%</td>
</tr>
<tr>
<td>(SDA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep/beef</td>
<td>228</td>
<td>20%</td>
<td>£1,471,798</td>
<td>£3,250</td>
<td>£1,374</td>
<td>£1,157</td>
<td>£674</td>
<td>13%</td>
</tr>
<tr>
<td>(DA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep/beef</td>
<td>98</td>
<td>8%</td>
<td>£704,584</td>
<td>£3,268</td>
<td>£1,141</td>
<td>£2,101</td>
<td>£681</td>
<td>6%</td>
</tr>
<tr>
<td>(non LFA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>70</td>
<td>6%</td>
<td>£255,235</td>
<td>£1,950</td>
<td>£741</td>
<td>£590</td>
<td>£365</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>1,166</td>
<td></td>
<td>£11,291,148</td>
<td>£3,338</td>
<td>£3,707</td>
<td>£1,616</td>
<td>£1,023</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.2 presents the spending breakdown by farm size. Holdings with between 50 and 200 hectares received 45% (£5.126 million) of disbursements in 2003 with those with more than 200 hectares receiving a further 38% (£4.232 million). Together these size categories (58% of holdings) accounted for 83% of total payments. The smallest size category (less than 20 hectares) received 6% (£0.660 million). The remaining 11% (£1.274 million) went to holdings with between 20 and 50
hectares. This means that the two smallest size categories account for 42% of the holdings, but that they receive only 17% of payments.

Again, the ratio of spending on annual payments and capital grants differs by size category. There is an equivalent split for the 20 to 50 hectare size category whilst in the smallest size group spending on capital grants exceeds that on annual payments. For the other size groups the proportion of spending on annual payments accounts for 59% of the total for the 50 to 200 hectare group and 83% for the largest size group.

Figure 3.2: Total expenditure by holding size 2003

Table 3.2 summarises the amount and proportion of expenditure for each holding size band and the average payment for each category of spending. As expected the Table shows that larger holdings tend to benefit from larger average annual payments compared to smaller holdings. This is a natural consequence of scale since annual payments are predominantly linked to area. For example, upland heath, a priority Tir Gofal habitat, is paid on a per hectare basis (£50 per hectare) and therefore the more hectares entered into Tir Gofal, the higher the total annual payment. This effect is mitigated in the case of the whole farm payment which is capped to a maximum of £3,000 per annum. Despite this, the 16% of holdings with more than 200 hectares received 38% of total expenditure in 2003.
### Table 3.2: Summary of total expenditure by holding size 2003

<table>
<thead>
<tr>
<th>Holding Size</th>
<th>Number of holdings</th>
<th>Proportion of holdings</th>
<th>Total spend</th>
<th>Average capital payment</th>
<th>Average mandatory habitat payment</th>
<th>Average optional habitat payment</th>
<th>Average whole farm payment</th>
<th>Proportion of total spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19.9 ha</td>
<td>256</td>
<td>22%</td>
<td>£659,752</td>
<td>£1,554</td>
<td>£248</td>
<td>£548</td>
<td>£226</td>
<td>6%</td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>232</td>
<td>20%</td>
<td>£1,274,136</td>
<td>£2,762</td>
<td>£756</td>
<td>£1,359</td>
<td>£616</td>
<td>11%</td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>494</td>
<td>42%</td>
<td>£5,125,504</td>
<td>£4,294</td>
<td>£1,809</td>
<td>£3,066</td>
<td>£1,206</td>
<td>45%</td>
</tr>
<tr>
<td>200+ ha</td>
<td>184</td>
<td>16%</td>
<td>£4,231,755</td>
<td>£3,977</td>
<td>£12,787</td>
<td>£4,082</td>
<td>£2,152</td>
<td>37%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,166</strong></td>
<td></td>
<td><strong>£11,291,148</strong></td>
<td><strong>£3,337</strong></td>
<td><strong>£3,707</strong></td>
<td><strong>£1,616</strong></td>
<td><strong>£1,023</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: percentage columns may not add to 100% as a result of rounding.

Table 3.3 presents average expenditure per hectare in 2003 by farm size. Whilst Table 3.2 shows that larger farms take a disproportionate share of total expenditure given their share of beneficiaries, Table 3.3 demonstrates that the largest group actually receives the lowest total payments per hectare at £58.08 and that those in the smallest size group actually receive the highest total payments per hectare, more than four times those in the largest size group.

The same pattern of declining payments per hectare as farm size increases is evident for all types of payment with the exception of those for mandatory habitats where the largest farms receive the most. This is due to the correlation between farm size and SDA status where most of the mandatory habitats are located.

### Table 3.3: Summary of average expenditure per hectare by holding size 2003

<table>
<thead>
<tr>
<th>Holding Size</th>
<th>Total payment/ha</th>
<th>Capital/ha</th>
<th>Priority/ha</th>
<th>Other/ha</th>
<th>Whole Farm Payment/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19.9 ha</td>
<td>£257.72</td>
<td>£155.40</td>
<td>£24.80</td>
<td>£54.80</td>
<td>£22.60</td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>£156.91</td>
<td>£78.91</td>
<td>£21.60</td>
<td>£38.83</td>
<td>£17.60</td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>£105.87</td>
<td>£43.82</td>
<td>£18.46</td>
<td>£31.29</td>
<td>£12.31</td>
</tr>
<tr>
<td>200+ ha</td>
<td>£58.08</td>
<td>£10.04</td>
<td>£32.29</td>
<td>£10.31</td>
<td>£5.43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£94.02</strong></td>
<td><strong>£32.40</strong></td>
<td><strong>£35.99</strong></td>
<td><strong>£15.69</strong></td>
<td><strong>£9.93</strong></td>
</tr>
</tbody>
</table>

#### 3.1.3. Annual expenditure: (a) 2000-2003

Figure 3.3 presents the evolution of expenditure on annual payments (whole farm, mandatory habitat and optional habitat) by farm type between 2000 and 2003. The key point to note is that the vast majority of payments are made to sheep/beef farmers in the SDA. However, the proportion of annual expenditure disbursed to this group has declined from 90% of the total in 2000 to 79% in 2003.

Analysis by type of annual expenditure reveals that the proportion disbursed to sheep/beef farmers in the SDA decreased between 2000 and 2003 for mandatory habitats and whole farm payments, but actually increased over the period for optional habitats at the expense of the arable sector.
However, this is most likely to be a function more of the profile of early participants rather than any deliberate shift in targeting.

Figure 3.3: Evolution of total annual expenditure by farm type 2000-2003

The evolution of total annual expenditure between 2000 and 2003 by farm size is presented in Figure 3.4. With the exception of 2000, farms with more than 200 hectares have received the highest share of annual expenditure which is the result of the area-based system as there have always been less than half as many farms with more than 200 hectares vis-à-vis those with between 50 and 200 hectares.
Table 3.4 presents average annual payments (for those receiving them) between 2000 and 2003 by farm type and size. Key points to note are as follows:

- the effect of scale is apparent for each type of annual payment with a progressively higher average payment as farm size increases;
- average payments for mandatory habitats were the largest of all annual payments, almost two and a half time average payments for optional habitats and almost four times average whole farm payments;
- the average payment in the whole farm payment category across all farm types and sizes over the period was £964 with the largest average payments being made to sheep and beef producers in the SDA (16% above the average) and the lowest being made to farms in the ‘other’ category (68% lower than average);
- again, the highest average payments for mandatory habitats were recorded for sheep and beef producers in the SDA at £4,871, 33% higher than the average of £3,649. This includes average payments of £13,275 made to participants in the largest size category. The lowest average payments were disbursed in the ‘other’ category (81% lower than average);
- payments for optional habitats follow a different pattern with the highest average disbursement being to arable farmers (£4,607 c.f. an average of £1,483). Sheep and beef producers in the SDA received only the fourth highest average payment. However, once again the smallest average payment was to farms in the ‘other’ category at just £484, 67% lower than average; and,

17 Although this appears to be a lot of money, as Table 3.3 shows, average payment per hectare for mandatory habitats for farms with more than 200 hectares in 2003 was just £32.29.
• arable farmers received the highest average payment for optional habitats (a reflection on the relative lack of mandatory habitats on these farms), as did dairy and sheep/beef producers outside the LFA. Sheep and beef producers in both the DA and the SDA and ‘other’ farms received the highest average annual payments for mandatory habitats.

Table 3.4: Average annual payments 2000-2003

<table>
<thead>
<tr>
<th></th>
<th>Arable</th>
<th>Dairy</th>
<th>Sheep/beef (SDA)</th>
<th>Sheep/beef (DA)</th>
<th>Sheep/beef (Non-LFA)</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole farm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-19.9 ha</td>
<td>£158</td>
<td>£143</td>
<td>£245</td>
<td>£213</td>
<td>£211</td>
<td>£154</td>
<td>£218</td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>£696</td>
<td>£549</td>
<td>£604</td>
<td>£554</td>
<td>£498</td>
<td>£578</td>
<td>£579</td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>£1,147</td>
<td>£1,089</td>
<td>£1,175</td>
<td>£990</td>
<td>£1,116</td>
<td>£957</td>
<td>£1,138</td>
</tr>
<tr>
<td>200+ ha</td>
<td>£1,380</td>
<td>£2,058</td>
<td>£1,764</td>
<td>£2,119</td>
<td>£1,153</td>
<td>£2,040</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>£1,084</td>
<td>£955</td>
<td>£1,121</td>
<td>£622</td>
<td>£661</td>
<td>£306</td>
<td>£964</td>
</tr>
<tr>
<td>Mandatory habitats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-19.9 ha</td>
<td>£225</td>
<td>£563</td>
<td>£608</td>
<td>£521</td>
<td>£416</td>
<td>£434</td>
<td>£536</td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>£883</td>
<td>£865</td>
<td>£1,579</td>
<td>£1,179</td>
<td>£652</td>
<td>£1,106</td>
<td>£1,342</td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>£1,327</td>
<td>£1,856</td>
<td>£3,562</td>
<td>£1,804</td>
<td>£1,698</td>
<td>£1,486</td>
<td>£3,029</td>
</tr>
<tr>
<td>200+ ha</td>
<td>£1,395</td>
<td>£13,275</td>
<td>£4,549</td>
<td>£6,128</td>
<td>£2,704</td>
<td>£12,677</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>£1,261</td>
<td>£1,579</td>
<td>£4,871</td>
<td>£1,267</td>
<td>£1,151</td>
<td>£657</td>
<td>£3,649</td>
</tr>
<tr>
<td>Optional habitats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-19.9 ha</td>
<td>£99</td>
<td>£196</td>
<td>£290</td>
<td>£212</td>
<td>£374</td>
<td>£166</td>
<td>£258</td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>£4,455</td>
<td>£571</td>
<td>£577</td>
<td>£716</td>
<td>£945</td>
<td>£689</td>
<td>£681</td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>£4,757</td>
<td>£2,223</td>
<td>£1,302</td>
<td>£1,987</td>
<td>£3,964</td>
<td>£1,936</td>
<td>£1,706</td>
</tr>
<tr>
<td>200+ ha</td>
<td>£5,316</td>
<td>£3,500</td>
<td>£3,220</td>
<td>£9,456</td>
<td>£3,204</td>
<td>£3,646</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>£4,607</td>
<td>£1,947</td>
<td>£1,495</td>
<td>£1,051</td>
<td>£2,051</td>
<td>£484</td>
<td>£1,483</td>
</tr>
</tbody>
</table>

The Table above considers the period 2000-2003 in its entirety. However, over this period, average payments per farm have increased. The evolution of average annual payment by farm size is illustrated in Figure 3.5. Again the general trend over the period was up with the largest increase in the largest size category, although most of this increase took place between 2000 and 2001 (the large increase was presumably related to the change in selection process), after which average annual payments have been more stable. There was virtually no change in the average annual payment for the smallest size category.

Figure 3.6 shows the evolution of average annual payments by farm type between 2000 and 2003. Following a large increase between 2000 and 2001, increases were modest by comparison year on year from this point on for all farms, the pattern was quite different for different types of farms. Arable farms saw a large decrease in average annual payments between 2000 and 2001 and sheep/beef farms outside the LFA saw a small reduction in average annual payments between 2002 and 2003.
Figure 3.5: Evolution of average annual payment by farm size (2000-2003)
Approximately two thirds of spending on Tir Gofal is in the form of annual payments. The profile of spending by farm type is very similar to expenditure on capital grants with the majority (89%, £6.857 million) being disbursed to sheep and beef holdings within the LFA. Of this, 79% (£5.857 million) was disbursed within the SDA and 10% (£0.731 million) within the DA. Arable, dairy and non-LFA sheep and beef holdings received 2% (£0.118 million), 3% (£0.190 million), and 5% (£0.384 million), respectively.

### 3.1.4. Annual expenditure: (b) 2003

Figure 3.7 splits annual payments by farm type in 2003 by whole farm payments, mandatory habitat payments and optional habitat payments. The majority of expenditure is on mandatory habitats (58% across all farm types). Spending on optional habitats accounted for a further quarter of total annual spending in 2003 and whole farm payments required 16% of the total. Almost all (94%) of spending on mandatory habitats was in the LFA suggesting good targeting at the farm level.
Figure 3.7: Annual expenditure by holding type 2003

Figure 3.8 shows the breakdown of annual payments in 2003 by farm size and payment type. As expected given the positive relationship between payments and farm size the larger farm sizes received most of the payments disbursed. Whilst mandatory habitat payments are the most important for each farm size, the importance of whole farm payments and optional habitat payments vary, with whole farm payments decreasing as a share of total annual payments as farm size increases (this is probably partly a function of the ceiling on whole farm payments).
Figure 3.8: Annual expenditure by payment type and holding size 2003

The two components of annual expenditure that can be broken down by prescription, mandatory habitats and optional habitats, are analysed below in Table 3.5 and Table 3.6 respectively. Individual prescriptions have been amalgamated into larger sub-sets.

Spending on semi-improved grassland accounts for around a quarter of expenditure on mandatory habitats, with spending on upland heath accounting for a further fifth, slightly more than on acid grassland. Farm woodlands and marshy grasslands are the only other categories where expenditure amounts to more than a tenth of the total.

As far as expenditure on optional habitats is concerned, almost a third is spent on heathland vegetation. Reversion to meadow and pasture and expenditure on unsprayed root crops followed by winter grazing were the only other categories accounting for more than a tenth of total expenditure.
Table 3.5: Total expenditure on mandatory habitats by category (to 31/12/2003)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total expenditure</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-improved grassland</td>
<td>£2,028,516</td>
<td>24.6%</td>
</tr>
<tr>
<td>Upland heath</td>
<td>£1,585,985</td>
<td>19.3%</td>
</tr>
<tr>
<td>Acid grassland</td>
<td>£1,495,811</td>
<td>18.2%</td>
</tr>
<tr>
<td>Farm woodlands</td>
<td>£1,048,167</td>
<td>12.7%</td>
</tr>
<tr>
<td>Marshy grassland</td>
<td>£890,924</td>
<td>10.8%</td>
</tr>
<tr>
<td>Bog</td>
<td>£395,161</td>
<td>4.8%</td>
</tr>
<tr>
<td>Reedbed/swamp/fen</td>
<td>£220,463</td>
<td>2.7%</td>
</tr>
<tr>
<td>Farmed Parkland and Orchards</td>
<td>£147,357</td>
<td>1.8%</td>
</tr>
<tr>
<td>Lowland heath</td>
<td>£145,316</td>
<td>1.8%</td>
</tr>
<tr>
<td>Neutral grassland</td>
<td>£128,127</td>
<td>1.6%</td>
</tr>
<tr>
<td>Saltmarsh</td>
<td>£64,649</td>
<td>0.8%</td>
</tr>
<tr>
<td>Scrub</td>
<td>£28,371</td>
<td>0.3%</td>
</tr>
<tr>
<td>Coastal cliffs</td>
<td>£18,413</td>
<td>0.2%</td>
</tr>
<tr>
<td>High mountain heath</td>
<td>£17,258</td>
<td>0.2%</td>
</tr>
<tr>
<td>Unimproved limestone grassland</td>
<td>£13,575</td>
<td>0.2%</td>
</tr>
<tr>
<td>Sand dune</td>
<td>£1,347</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td><strong>£8,229,440</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.6: Total expenditure on optional habitats by category (to 31/12/2003)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total expenditure</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heathland vegetation</td>
<td>£974,323</td>
<td>29.1%</td>
</tr>
<tr>
<td>Revert improved grassland to meadow and pasture</td>
<td>£574,237</td>
<td>17.2%</td>
</tr>
<tr>
<td>Unsprayed root crops followed by winter grazing</td>
<td>£340,221</td>
<td>10.2%</td>
</tr>
<tr>
<td>Grazing marsh and floodplain grassland</td>
<td>£300,734</td>
<td>9.0%</td>
</tr>
<tr>
<td>Unsprayed cereals, rape &amp; linseed crops</td>
<td>£281,563</td>
<td>8.4%</td>
</tr>
<tr>
<td>Convert semi-improved to unimproved</td>
<td>£173,395</td>
<td>5.2%</td>
</tr>
<tr>
<td>Winter stubbles</td>
<td>£134,797</td>
<td>4.0%</td>
</tr>
<tr>
<td>Undersown spring cereals</td>
<td>£109,918</td>
<td>3.3%</td>
</tr>
<tr>
<td>Birds</td>
<td>£100,226</td>
<td>3.0%</td>
</tr>
<tr>
<td>Buffer zones</td>
<td>£76,983</td>
<td>2.3%</td>
</tr>
<tr>
<td>Streamside corridors</td>
<td>£65,397</td>
<td>2.0%</td>
</tr>
<tr>
<td>Conversion of arable to grassland</td>
<td>£60,577</td>
<td>1.8%</td>
</tr>
<tr>
<td>Wild life cover crop</td>
<td>£52,058</td>
<td>1.6%</td>
</tr>
<tr>
<td>Broadleaved woodland</td>
<td>£45,589</td>
<td>1.4%</td>
</tr>
<tr>
<td>Rough grass margins/uncropped fallow margin</td>
<td>£29,180</td>
<td>0.9%</td>
</tr>
<tr>
<td>Raised water levels</td>
<td>£21,986</td>
<td>0.7%</td>
</tr>
<tr>
<td>Reedbeds and saltmarsh</td>
<td>£4,080</td>
<td>0.1%</td>
</tr>
<tr>
<td>New sand dune</td>
<td>£0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td><strong>£3,345,264</strong></td>
<td></td>
</tr>
</tbody>
</table>

3.1.5. Capital expenditure: (a) 2000-2003

Figure 3.9 presents the evolution in capital expenditure by farm type between 2000 and 2003. Over the period some 86% (£6.140 million) of capital payments were disbursed within the LFA (72%, £5.162 million SDA, 14%, £0.977 million DA, respectively). The fact that sheep and beef producers in the SDA receive by far the greatest support for capital works is evident in each year of the
scheme, although the proportion of total expenditure going to sheep and beef farmers in the DA did increase at the expense of those in the SDA in 2003.

![Expenditure Graph](image)

**Figure 3.9: Evolution of capital expenditure by farm type 2000-2003**

Figure 3.10 details the evolution in capital expenditure by farm size between 2000 and 2003. For all years disbursements to holdings in the 50 to 200 hectare size category dominate and these account for 52% of total capital expenditure over the period. Holdings with more than 200 hectares received 21% of total capital disbursements. The smallest size group accounted for a tenth of total expenditure with the remaining 17% disbursed to farms with between 20 and 50 hectares.
Figure 3.10: Evolution of capital expenditure by holding size 2000-2003

Average capital payments made over the period 2000 to 2003 are presented in Table 3.7 by farm size and type\(^{18}\). All farm types show a positive relationship between average grant and scale with average payments increasing with farm size. The average grant for all farm types for those with more than 200 hectares is almost three times that disbursed to farmers with less than 20 hectares. The highest average payments by farm type have been made for arable farmers whilst average payments made to farms in the ‘other’ category have been the smallest.

Table 3.7: Average capital payments 2000-2003

<table>
<thead>
<tr>
<th></th>
<th>Arable</th>
<th>Dairy</th>
<th>Sheep/beef (SDA)</th>
<th>Sheep/beef (DA)</th>
<th>Sheep/beef (Non-LFA)</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19.9 ha</td>
<td>£629</td>
<td>£1,522</td>
<td>£1,594</td>
<td>£1,321</td>
<td>£1,252</td>
<td>£2,815</td>
<td></td>
</tr>
<tr>
<td>20-49.9 ha</td>
<td>£3,315</td>
<td>£2,587</td>
<td>£2,762</td>
<td>£2,560</td>
<td>£1,957</td>
<td>£5,202</td>
<td></td>
</tr>
<tr>
<td>50-199.9 ha</td>
<td>£4,266</td>
<td>£3,765</td>
<td>£3,930</td>
<td>£3,604</td>
<td>£4,336</td>
<td>£7,474</td>
<td></td>
</tr>
<tr>
<td>200+ ha</td>
<td>£4,144</td>
<td>£4,144</td>
<td>£4,291</td>
<td>£5,167</td>
<td>£4,420</td>
<td>£8,309</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>£4,187</td>
<td>£3,422</td>
<td>£3,428</td>
<td>£2,662</td>
<td>£2,550</td>
<td>£6,131</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.11 presents the evolution of average capital grant by farm size between 2000 and 2003. The general trend in average grant during this period is up, although there was a marginal decrease between 2001 and 2002 for all farms caused predominantly by a decline in average grants to those with between 50 and 200 hectares. The largest increase in average capital grant over the period was in the 20 to 50 hectare size group.

\(^{18}\) These data are average payments made to those receiving them. They do not include those participants not receiving capital payments.
Figure 3.11: Evolution of average capital grant by farm size (2000-2003)

Figure 3.11 presents the evolution of average capital payments by farm type over the same period and shows that whilst the average increased over the period for all farms, this masked considerable variation by farm type with average capital payments to arable farmers increasing and then decreasing, only to increase and then decrease again over the four years, most likely as a result of changes in the make up of the arable participants over time. This variation aside, all farm types were receiving higher average capital payments in 2003 than they were in 2000.
3.1.6. Capital expenditure: (b) 2003

Spending on capital grants accounts for approximately one third of total expenditure. The majority (83%, £3.212 million in 2003) was disbursed to sheep and beef holdings within the LFA. Of this, 64% (£2.471 million) was disbursed within the SDA (although these holdings account for just 20% of the total) and 19% (£0.741 million) within the DA (61% of total holdings). This demonstrates clearly that the SDA receives a disproportionate share of the capital funding. Arable, dairy and non-LFA sheep and beef holdings received 2% (£0.073 million), 4% (£0.150 million), and 8% (£0.320 million), respectively (see Figure 3.13).
Figure 3.13: Capital expenditure by holding type 2003

Figure 3.14 shows that holdings with between 50 and 200 hectares (42% of the total) received 55% (£2.121 million) of total capital works disbursements in 2003. Holdings with between 20 and 50 hectares (20% of holdings) received 17% (£0.641 million) and those with at least 200 hectares (16% of holdings) were granted 19% (£0.732 million). Those with less than 20 hectares received a tenth of total payments (£0.398 million). It can therefore be seen that the distribution of capital payments is much more evenly distributed by holding size than by type.
Figure 3.14: Capital expenditure by holding size 2003

CCW provided Agra CEAS with a coding framework to analyse the breakdown of capital expenditure by prescription. Unfortunately some prescriptions can be taken up under more than one category, for example, the hedgerow restoration category can fall under either traditional field boundaries or under landscape and historic feature management and restoration. For this reason the prescriptions have been combined into more intuitive and discrete categories. The total expenditure in each of these categories is presented in descending order of magnitude in Table 3.8. Fencing accounts for by far the greatest proportion of capital expenditure at 44% and over £3 million. Dry stone walling, gates/stiles and hedgerows make up a further 35% and £2.5 million between them making investment in boundaries easily the most significant activity accounting for 79% of all capital expenditure.
**Table 3.8: Total expenditure on capital items (to 31/12/2003)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total expenditure</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fencing</td>
<td>£3,157,957</td>
<td>44.2%</td>
</tr>
<tr>
<td>Dry stone waling</td>
<td>£1,091,179</td>
<td>15.3%</td>
</tr>
<tr>
<td>Gates/stiles</td>
<td>£729,644</td>
<td>10.2%</td>
</tr>
<tr>
<td>Hedgerows</td>
<td>£655,835</td>
<td>9.2%</td>
</tr>
<tr>
<td>Traditional buildings</td>
<td>£526,042</td>
<td>7.4%</td>
</tr>
<tr>
<td>Access related</td>
<td>£397,293</td>
<td>5.6%</td>
</tr>
<tr>
<td>Vegetation management</td>
<td>£200,730</td>
<td>2.8%</td>
</tr>
<tr>
<td>Ponds</td>
<td>£95,665</td>
<td>1.3%</td>
</tr>
<tr>
<td>Water-related items</td>
<td>£90,718</td>
<td>1.3%</td>
</tr>
<tr>
<td>Earth works</td>
<td>£70,850</td>
<td>1.0%</td>
</tr>
<tr>
<td>Surfacing</td>
<td>£40,542</td>
<td>0.6%</td>
</tr>
<tr>
<td>Trees</td>
<td>£33,550</td>
<td>0.5%</td>
</tr>
<tr>
<td>Special projects</td>
<td>£22,859</td>
<td>0.3%</td>
</tr>
<tr>
<td>Wildlife</td>
<td>£16,450</td>
<td>0.2%</td>
</tr>
<tr>
<td>Slate fencing</td>
<td>£12,010</td>
<td>0.2%</td>
</tr>
<tr>
<td>Seed mixes</td>
<td>£6,840</td>
<td>0.1%</td>
</tr>
<tr>
<td>Historical sites</td>
<td>£0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£7,148,164</strong></td>
<td></td>
</tr>
</tbody>
</table>
4. The effect of Tir Gofal on farm

4.1. Methodology

The effect of Tir Gofal on farm was researched by means of primary data collection through a face-to-face survey and subsequent analysis.

A sample of 251 participants in Tir Gofal (just over 20% of the 1,166 participants who had received payments at project inception\(^{19}\)) were surveyed between February 14 and April 04, 2004, at which point 176 interviews had taken place, and again between May 17 and July 16, 2004. This approach was necessary for a number of reasons, principally as a result of delays arising through obtaining survey approval and through bad weather once the survey was underway. This resulted in the survey still being on-going when lambing began and it was agreed that a pause was necessary to facilitate farmer participation.

The average farm size amongst those interviewed was 103 hectares compared with 109 hectares for the 1,166 Tir Gofal farms as a whole and 40 hectares for all Welsh agricultural holdings. The breakdown by farm size category and by farm type is presented in Figure 4.1.

The majority (87%) of respondents are owner-occupiers with the balance tenants. There was a lower incidence of tenancy in the 20-50 hectare size group and 99% of respondents in the smallest size group were owner-occupiers. There was a slightly higher proportion of tenants in the

\(^{19}\) The payment database reflects the financial (payment) evolution of the scheme and as such lags behind total agreements signed. To the end of 2003 the total number of agreements signed was actually 1,742.
sheep/beef samples in the Less Favoured Area (LFA) Severely Disadvantaged Area (SDA) and Disadvantaged Area (DA).

Figure 4.2 presents the activities that the sample are engaged in (respondents could cite multiple activities). The most frequent activity is sheep, cited by almost three quarters (73%) of the sample, with beef cited by 61% of respondents. As farm size increases there is a tendency to become more specialised with a lower incidence of pigs, poultry and equine enterprises and a generally lower tendency to have diverse non-agricultural activities. Whilst clearly arable respondents focus on arable enterprises, etc., sheep/beef farmers outside the LFA have a higher incidence of diverse non-agricultural activities and a higher incidence of other livestock enterprises, particularly poultry, than other sheep/beef farmers, especially those in the SDA. The ‘other’ group is by far the least specialised into any particular enterprise.

**Figure 4.2: Type of activities engaged in**

The majority (69%) of respondents employ full-time labour, more than half have part-time labour (59%) and just more than a third (35%) employ seasonal labour. On average across the sample this equates to 1.1 full-time employees, 0.9 part-time employees and 0.4 seasonal employees per respondent. There is a positive relationship with scale for full-time and seasonal employees, but this is not evident for part-time employees and the only difference of note by farm type is that beef/sheep farmers outside the LFA tend to employ more part-time workers than all other farm types.

A quarter of respondents joined Tir Gofal in 1999, just under a third (31%) in 2000 and 29% in 2001. Smaller proportions of the sample joined in 2002 and 2003 (Figure 4.3). Whilst year of joining was
fairly evenly spread by farm size, a disproportionate number of respondents in the sheep/beef SDA group joined in 1999 and a disproportionate number of sheep/beef farmers outside the LFA joined in 2001, which may be related to the change in selection process. The sample of ‘other’ farm types showed that a large number joined in 2002, but disproportionately less joined in 1999 and 2000.

Figure 4.3: Year in which respondents joined Tir Gofal

Almost a quarter (24%) of respondents have participated in other schemes since 2000 and of these, 48% are in the Organic Farming Scheme and 49% are in the Woodland Grant Scheme, most respondents had joined these schemes in 2003. Eleven percent had received a Farm Improvement Grant and 7% had received other grants. Almost half (46%) of those receiving other grants were in the 50 to 200 hectare size group and the same proportion were sheep/beef farmers in the SDA, suggesting that agri-environment/rural development schemes in Wales are well targeted on family farms, i.e. not small, possibly part-time or hobby farms, and not the largest farms either, in the most disadvantaged regions.

4.2. On farm results

The reader should bear in mind that the survey sample sizes for arable and dairy farms are too small to draw meaningful conclusions from and are therefore omitted from the farm type analysis. However, the responses from these farm types are included in the overall analysis and in the analysis by farm size in order to make these analyses representative of the overall Tir Gofal participant population.

4.2.1. Differences in payments between survey and database

The results obtained from the survey differ from evidence from the database in two main respects. First, while the database shows average annual payments generally rising marginally over time (see Figure 3.5 in Section 3.1.3), evidence from the survey suggests a decline over time with the exception
of the smallest size category. The large fall between 2002 and 2003 is expected to result from a lag between disbursement of funds and recognition by the farmer that these have been put through the accounts. Secondly, the average annual payments for farms with more than 200 hectares is lower using the data from the survey. This is the result of the inclusion of farms with more than 1,000 hectares in the database (9 farms) and their virtual exclusion from the survey in order not to skew the results from the 200 or more hectare category\(^\text{20}\). Similar differences can be noted with regard to average capital payments.

### 4.2.2. Capital grants

Almost all respondents (93%) had received a capital grant under Tir Gofal and this proportion was little altered according to farm size or type. The most common project on which capital grants have been paid is protective fencing with 199 grants among the 234 respondents receiving capital grants (85%). Capital grants for traditional field boundaries and habitat management (restoration and creation) also featured prominently with 73% and 60% those receiving grants using them for these purposes respectively. There were some fairly minor differences according to farm size with those respondents with the smallest farms more likely to have received capital grants for traditional field boundaries compared to those in the largest size category and those in the 50 to 200 hectare size group disproportionally likely to receive grants for new permissive public access\(^\text{21}\) (see Figure 4.4). There was very little difference in the purpose of capital grants received by farm type.

\(^{20}\) Although the intention was to exclude farms with more than 1,000 hectares from the survey, one farm with more than 1,000 hectares was in fact included. Including this farm, there were seven farms with more than 500 hectares in the survey.

\(^{21}\) Respondents could provide multiple answers and only types of grants received by more than 10% of respondents are shown. The ‘other’ category includes grants for landscape management, educational access, ponds and owl boxes.
Figure 4.4: Purpose of capital grants received

The average total value (i.e. including farmer contribution) of capital projects is highest for traditional buildings at just over £15,000 and lowest for new public access (£555). This is consistent with expectation given the different nature of these types of works. Figure 4.5 presents the average (mean) cost of projects including the farmer contribution.

As might be expected *a priori*, there is a relationship between some types of capital grant and scale with average cost increasing with farm size for field boundary, protective fencing and habitat management (restoration and creation) investments. Interestingly there is no obvious relationship between scale and average investment costs for landscape and historic feature management which might suggest that the onus here is on the historic feature element and that these are not evenly distributed. Similarly, there is no real relationship between scale and traditional building investments, nor between scale and facilities for new public access. The latter is slightly surprising as larger farms might have a greater area suitable for public access, but apparently do not pursue this, or at least do not do so with the assistance of Tir Gofal\(^{22}\).

\(^{22}\) It is possible that some respondents were waiting for the new rights of public access to open land to come into force.
Figure 4.5: Average cost of capital investments by farm size (including farmer contribution)

The key differences in the total size of capital projects according to farm type as presented in Figure 4.6 are:

- **traditional buildings**: the largest projects were reported on sheep/beef farms in the DA with sheep/beef farms in the SDA and outside the LFA spending less on average;
- **traditional field boundaries** and **protective fencing**: higher investments took place on sheep/beef farms in the SDA; and,
- **habitat management**: larger projects were reported on sheep/beef farms outside the LFA compared to those in the SDA and then those in the DA.
Figure 4.6: Average cost of capital investments by farm type (including farmer contribution)

The average contribution to the total investment made by the farmer varied from 39% in the case of investments in traditional field boundaries and protective fencing to 51% for investments in traditional buildings. Figure 4.9 in Section 4.2.3 shows the proportion of beneficiaries who would have made investments in the absence of support and this informs that 64% of those investing in traditional field boundaries would not have made the investment without the support of the scheme. More than half (54%) of those investing in traditional buildings would not have done this without support. Tir Gofal has therefore induced a reasonable degree of additional spending on the part of beneficiaries.

Figure 4.7 presents the breakdown in expenditure on capital works in percentage terms by category (reference to all farm data in Figure 4.6 above shows the relative magnitudes of expenditure). Contractors accounted for the majority of expenditure on traditional buildings with farmers more usually using on-farm resources for labour for traditional field boundaries and protective fencing investments. Perhaps the most interesting finding is that 29% of ‘expenditure’ on habitat management is retained as farm income. Whether intentional or not, this effectively means that participants are using some of the payments to compensate for their labour.
Figure 4.7: Proportion of expenditure

Figure 4.8 compares expenditure on field boundaries and shows that farms with more than 200 hectares tend to use contractors more frequently to carry out the whole job and that those with between 50 and 200 hectares are least likely to use contractors. The highest proportion retained as farm income is amongst those with less than 20 hectares. There was little difference by farm type with sheep/beef producers in the SDA using contractors marginally more than their counterparts in the DA being the only notable difference.
Contractors are employed to construct protective fencing and to restore/create habitat least often on farms with between 20 and 50 hectares and most often on farms with more than 200 hectares. By farm type, sheep/beef producers in the SDA are most likely to use contractors for both these types of investment. Expenditure retained as farm income from habitat management investments accounted for 40% of the total for farms with between 50 and 200 hectares compared to the average for all farms of 29%. This figure was as low as 7% for farms with between 20 and 50 hectares. Thirty nine percent of total expenditure on habitat investment was taken as farm income by beef/sheep producers outside the LFA compared to 19% by those in the DA, suggesting that the former group incurred less additional expenditure as a result of those investments than latter group.

4.2.3. Impact of Tir Gofal on management practices

Whilst the majority of respondents (72%) indicated that they would not have changed their management practices in the absence of Tir Gofal, 27% suggested that they would have made changes anyway. Size of farm made a marginal difference to responses with fewer respondents from the largest farms (those more than 200 hectares) indicating that they would have made changes in the absence of the scheme (15%, compared to 31% of those with between 20 and 50 hectares). Again, there was a marginal difference in response by farm type with 33% of respondents with sheep/beef farms in the SDA indicating that they would have made changes to management practices without Tir Gofal compared to just 20% with sheep/beef farms in the DA.

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23 This figure is comparable to the 23% cited in the Agra CEAS mid-term evaluation of the Wales Rural Development Plan.
Of those who would have made the changes anyway, 19% would have carried out most of the changes they made under the scheme (i.e. 5% of total respondents), just under a third (32%) would have made about half the changes (9% of total respondents), 38% would have carried out a few of the changes (10% of total respondents) and 12% would have carried out different changes altogether (3% of total respondents). Whilst it is not possible to say what these other changes might have been, logically they would not have been the type of change promoted under Tir Gofal.

The Agra CEAS mid-term evaluation of the Wales Rural Development Plan suggested that 51% of Tir Gofal participants interviewed had to undertake what they described as a lot of additional work under the scheme, 37% some additional work, 10% very little additional work and only 2% no additional work. This, with the above suggests that Tir Gofal has a relatively low level of deadweight in that most farmers would not have made changes to their management practices without the scheme and that even where changes would have been undertaken, Tir Gofal has helped to make these more far-reaching and additional than they might otherwise have been.

The extent to which respondents would not have carried out capital investments in the absence of support under Tir Gofal varies according to the type of investment made (Figure 4.9). Tir Gofal had the greatest impact in prompting investments in new public access with more than two thirds of respondents (68%) stating that they would not have made the investment without the support of the scheme. Around half of respondents indicated that they would not have invested in habitat management (55%), protective fencing (51%) or landscape management (50%) without the scheme. At the other end of the spectrum, around a third (36%) of respondents said that they would not have invested in traditional field boundaries in the absence of support. These findings conform to expectation in that farmers need to maintain field boundaries of some description whereas they do not need to invest in habitat/landscape management or protective fencing. The proportion of respondents who only invested in traditional buildings because of the availability of support appears low at 46%, but this is most likely to be because these buildings were being renovated to provide a specific use.

The Agra CEAS Consulting mid-term evaluation of the Wales Rural Development Plan in 2003 suggested that 63% of respondents would not have carried out capital works without the support available through the scheme and this compares well to the findings above.

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24 The Agra CEAS mid-term evaluation of the Wales RDP suggested that 5% of respondents would definitely have made the changes they did in the absence of the scheme and 18% would probably have made these changes.

25 As part of this evaluation a face to face survey of 103 Tir Gofal participants was undertaken. The full report is available on-line at the following address: http://www.wefo.wales.gov.uk/residprops/link-rural.htm.
Where analysis by farm size was possible it shows that Tir Gofal capital grants were more important in traditional field boundary investment decisions for farmers with between 50 and 200 hectares compared to other size groups and the same was also the case with respect to protective fencing (those in the largest size category were also less likely to invest in protective fencing without support than those in smaller size groups). The basic point from the above is that smaller farmers are more likely to make the type of investments supported by Tir Gofal in any case whereas respondents from larger farms are less likely.

Analysis by farm type suggests that sheep/beef farmers in the SDA are more likely to invest in new public access in the absence of support than their counterparts elsewhere. This is probably a function of the type of farming and the relative lack of disruption public access could cause relative to more lowland farms. However, this group are less likely to invest in traditional field boundaries without support. Sheep/beef farmers in the DA are more likely to invest in protective fencing than other types of respondent.

Capital grants available under Tir Gofal have clearly had an impact in both bringing forward investment and also increasing its scale (Figure 4.10)\(^4\). In terms of the former, the largest impact was reported with respect to investments in landscape management where a quarter of total respondents (56% of those who would have invested in the absence of the grants) said that the availability of

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\(^4\) Respondents who would have invested in the absence of Tir Gofal could provide multiple answers here.
support had brought forward planned investment. Investments in new public access were only brought forward by 5% of total respondents (a third of those who would have invested anyway).

The scale of investment in traditional field boundaries was increased by 39% of total respondents (71% of the sample that would have made the investments in any case). The scale of investments in protective fencing and habitat management were also increased according to more than a fifth of total respondents (60% and 57% respectively of those who would have invested without support) as a result of capital grants available under Tir Gofal (Figure 4.10).

![Figure 4.10: Proportion of total respondents who brought forward or increased the scale of investments as a result of Tir Gofal capital grants](image)

Analysis by farm size suggests that farmers with less than 20 hectares are far more likely to have brought forward investment in traditional field boundaries and protective fencing as a result of the capital grants, however, they are least likely to have increased the scale of these investments. Those in the 50 to 200 hectare size category are most likely to have brought forward investments in habitat management.

Sheep/beef producers outside the LFA were more likely than other respondents to have brought forward investments in traditional field boundaries, protective fencing and habitat management, although they were less likely to have increased the scale of investments in the latter two areas.

Only a small proportion of respondents (6% and 3% of those who would have invested without support in protective fencing and traditional field boundaries respectively) indicated that they would
have made the investments with different material in the absence of Tir Gofal suggesting that the scheme has little influence over the type of materials used.

4.2.4. Impact of Tir Gofal on farm business revenue

Figure 4.11 presents average annual revenue both before and after joining Tir Gofal. This average includes those who said they had no business revenue, but excludes those who did not provide an answer. Those without a business revenue have been included because a) the impact of foot and mouth disease may explain this, and b) because some small units, possibly part-time, may not be operated for profit and it is therefore plausible that revenue has been zero in some years. The difference between the averages calculated with and without zero answers suggests that before joining Tir Gofal 12% of the sample answered zero, although after participation in the scheme this figure declined to 5%. This is consistent with the hypothesis above and suggests that Tir Gofal helped 7% of respondents move from zero revenue to positive revenue.

The average annual revenue before joining Tir Gofal was £43,945. This increased to £46,790 following participation27. As Figure 4.11 illustrates, there is a clear relationship between revenue and scale. The median values are considerably less (at £19,914 before and £22,407 after joining for all farms) demonstrating that the distribution of revenues both before and after participation is skewed towards the lower end of the scale. The largest size group was the only one to see a decline in revenue since participation in the scheme.

Analysis by farm type is presented in Figure 4.12. Sheep/beef farms in the SDA were the only group to see an increase in revenue following participation in Tir Gofal (see Table 3.4 where this group received an average of £5,764 for mandatory habitats over the period 2000-2003). The decrease in revenue for the sheep/beef farms in the DA is marginal.

27 These figures are nominal and inflation will erode this increase to some extent in real terms.
Figure 4.11: Average annual revenue before and after joining Tir Gofal by farm size

Figure 4.12: Average annual revenue before and after joining Tir Gofal by farm type

Figure 4.13 shows the proportion of respondents experiencing change in their revenue since joining Tir Gofal by 10% change bands. The main point to note is that 19% of respondents noted no change.
Just over half (54%) of respondents noted a change in revenue between +30% and -30% while 10% reported that their revenue had more than doubled. Just over a quarter (27%) of respondents saw their revenue decrease and just more than half (54%) saw it increase. Figure 4.13 counts responses whereas Figure 4.12 considers average values. This explains why only sheep/beef producers in the SDA noted an average increase in revenue whilst more than half of respondents recorded an increase- as the largest farm type group they are over-represented in the count of those showing increases in revenue.

![Figure 4.13: Magnitude of change in revenue before and after participation](image)

Prior to joining Tir Gofal, respondents derived the majority of their revenue from their livestock enterprises (84%). This was still the case after joining the scheme, although the proportion of total revenue decreased (to 72%), which might be expected given the nature of some of the prescriptions and payments promoting extensification\(^{28}\). Two areas of revenue which did not exist prior to acceptance into the scheme are Tir Gofal annual management payments themselves and sale of stock resulting from Tir Gofal prescriptions. These accounted for 8% and 2% of revenue respectively following participation and essentially replace the proportion of revenue derived from the livestock enterprises\(^ {29}\). Other changes in the make-up of revenue were minor.

Figure 4.14 shows the importance of selected revenue elements following participation in Tir Gofal by farm size. There is a clear relationship between both the importance of livestock enterprises and

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\(^{28}\) Just over three quarters (76%) of respondents said that the scheme contributed to a change in their revenue from livestock. However, almost half the total respondents (46%) claimed that Tir Gofal was responsible for a quarter or less of the change noted.

\(^{29}\) Clearly the sale of stock represents a one-off revenue stream and on balance this only partially replaces income forgone.
Tir Gofal payments and scale with the former increasing and the latter decreasing as farm size increases. The relationship between Tir Gofal annual management payments and scale is perhaps a little surprising as payments are area based and therefore larger areas entered into Tir Gofal should see a proportional increase in revenue, although there is a ceiling on annual payments of £3,000 which would tend to decrease the importance of the annual payments as farm size increases. The relationship between revenue from livestock enterprises and scale is essentially a function of specialisation with larger farms showing smaller contributions from cropping enterprises and diversified activities.

![Figure 4.14: Importance of selected revenue streams in total revenue for Tir Gofal participants](image)

Just under a fifth (19%) of all respondents consider their Tir Gofal payments to be essential to their business revenue with a further 45% considering them very important. Just over a quarter (27%) claim that their payments are quite important with just 8% saying that they have only minor importance. There was no real difference in response according to either farm size or type.

### 4.2.5. Impact of Tir Gofal on farm business expenditure

Average annual expenditure before and after participation in Tir Gofal is presented by farm size in Figure 4.15. This average includes those who claimed not to have any business expenditure (11% prior to joining Tir Gofal and 3% after joining). Those claiming not to have any business expenditure may not have operated their holding as a business prior to joining the scheme, although they are highly likely to incur some expenditure following acceptance onto the scheme. The fact that the proportion of those answering zero declines post-scheme acceptance tends to bear this out in most
cases. This would suggest that the scheme has induced 8% of respondents to start spending money, most of which is spent in the local economy (see below).

The average annual expenditure before joining Tir Gofal was £38,050, increasing to £39,218 following participation (3%)\(^{30}\). As might be expected \textit{a priori}, and in line with revenue (see Section 4.2.4), there is a clear relationship between expenditure and scale with larger farms spending more. Average expenditure increased following participation by 15% in the largest size group, but decreased by 20% amongst farms with between 20 and 50 hectares.

![Figure 4.15: Average annual expenditure before and after joining Tir Gofal by farm size](image)

Analysis by farm type reveals more variability in terms of whether particular groups experienced increases or decreases since participation in Tir Gofal (Figure 4.16). Sheep/beef farms in the DA and those outside the LFA saw expenditure fall whilst sheep/beef producers in the SDA saw expenditure increase, as did the ‘other’ category.

\(^{30}\) This increase is nominal and inflation will reduce it in real terms.
Figure 4.16: Average annual expenditure before and after joining Tir Gofal by farm type

Figure 4.17 presents a breakdown of expenditure by type both before and after participation in Tir Gofal. The first point to note is that the majority of expenditure is on the ‘other’ category. Examples of expenditure cited under this category include:

- Seeds
- Soil Association fee
- Interest on loans
- Educational tools
- Tree planting/plants
- Land rental
- Pension
- Consultancy fees
- Woodland upkeep
- Shearing
- Slaughter costs
- Farm/land purchase

In virtually all cases the expenditure listed under ‘other’ was cited by only one respondent and in many cases this expenditure can be considered to be atypical, i.e. would not be expected to occur every year, although when this expenditure is incurred it is clearly significant.

Aside from this category, most recurring expenditure is associated with animal feed, and although not shown in the Figure, 30% of this was accounted for by sheep before joining Tir Gofal. The proportion increased to 41% following participation. This result follows in part from a decrease in total expenditure on animal feed and partly by an increase in the proportion of this spent on sheep suggesting that sheep enterprises increased in importance relative to other livestock enterprises following acceptance onto the scheme.

Spending on building materials and contractors increased following joining, perhaps as expected (see below), whilst spending on fertilisers and pesticides declined, again as might be expected, as did spending on veterinary and medicine, albeit more marginally. Other categories of expenditure
remained in approximately similar proportions. There were few notable differences in spending patterns by either farm size or type.

### Figure 4.17: Average annual expenditure before and after joining Tir Gofal

Tir Gofal had the biggest influence on expenditure on building materials with 83% of respondents who noted a change in their expenditure attributing it, at least in part, to the scheme. Almost a quarter (23%) of total respondents felt that Tir Gofal was the sole reason that their expenditure on building materials changed. The next greatest area of impact was total animal feed, although in this case 38% of all respondents claimed that Tir Gofal was responsible for no more than a quarter of the change that they experienced. Just over half of those who reported a change in expenditure on fertilisers and chemicals claimed that Tir Gofal was an influence, with roughly half of these respondents claiming that the scheme was responsible for no more than a quarter of the observed change and 13% claiming that Tir Gofal was the sole factor.

Tir Gofal appears to have little or no impact on where money is spent with around 55% of expenditure taking place within a ten mile radius, approximately a further 40% being spent in Wales and the balance outside the country\(^\text{31}\) both before and after scheme participation. Whilst it therefore appears that in general money is spent locally, this does not necessarily mean that this money remains in Wales. The extent to which companies receiving the money operate at the UK scale, or the extent to which they are Welsh-owned is not known.

\(^{31}\) Most commonly by farms outside the LFA which is probably simply the result of their location along the border with England.
Differences by farm size and type are that the proportion spent within 10 miles by farms with less than 20 hectares increased by 18% and the proportion spent locally by ‘other’ farms more than doubled. Conversely, the proportion of local spending by farms with between 20 and 50 hectares declined by 15% and that by sheep/beef producers outside the LFA by 16%. The extent to which these changes were influenced by participation is unknown, however, it is the contention of Tir Gofal project officers that smaller farms tend to buy locally whereas larger farms, usually with more substantial capital works and more money to spend are more concerned with value for money and so compare prices more widely.

4.2.6. Impact of Tir Gofal on farm income

The farming business contributes 49% of total household income32 for all farms with off-farm employment adding a further 40%. The remainder is made up of diversification, both on-farm and off-farm. Analysis by farm size shows that the importance of off-farm employment declines as farm size increases while the importance of the farming business increases. The importance of diversified activities alters little (Figure 4.18).

Figure 4.18: Make-up of total household income

There is less difference according to farm type with sheep/beef producers in the SDA reporting 60% of total household income from the farming business compared to 39% of sheep/beef producers outside the LFA. Again, the importance of diversified activities remained approximately the same across farm types.

32 Household income is defined as income from the farmer, spouse and dependants and therefore includes off-farm income earned by any of this group.
The majority of respondents (56%) found that their household income altered little since they joining Tir Gofal. More than a third (35%) reported an increase, most by just a little and the remaining 8% found that their household income declined (Figure 4.19).

![Figure 4.19: Change in household income since joining Tir Gofal](image)

Analysis by farm size shows that as farms get larger, more respondents reported an increase in household income with 53% of those in the largest size category reporting an increase compared to 24% in the smallest size category. There was little difference in the propensity to report decreases in household income by size, whilst those with less than 20 hectares were more likely to report no change than the other groups. The main difference according to farm type was that sheep/beef farmers outside the LFA were most likely to have recorded a decline in household income.

Two thirds of respondents who had noted an increase in income believed that Tir Gofal had helped in this with a further 22% citing the scheme as the main reason behind the increase (Figure 4.20). Only one respondent felt that participation in Tir Gofal had hindered the growth of their income.
Figure 4.20: Influence of Tir Gofal on increases in income

Figure 4.21 presents the reasons cited for Tir Gofal’s positive impact on income. Respondents were able to provide multiple reasons and 83% simply cited the provision of annual payments which suggests that these outweigh any costs incurred in meeting prescription terms. Forty six percent cited capital payments, again, presumably because the income outweighed any expenditure. In both cases this is likely to be because additional labour was met by the farmer himself or by the existing workforce and thus did not incur additional expenditure. According to some respondents Tir Gofal led to reduced farming costs (13%), better quality livestock (15%) and better market returns (17%). A small proportion of respondents (6%) explained that the scheme provides more opportunities for off-farm business.

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33 It is expected that there is a lag time before improvements in stock are noticed and the impact of Tir Gofal in this area may be more significant than is suggested presently.

34 Although not mentioned by respondents it is likely that participation in Tir Gofal leads to a net increase in the capital value of holdings due to improvements in environmental capital, habitats, etc.
It is not possible to provide meaningful analysis of Tir Gofal’s role in income decreases due to the small number of respondents who experienced such a decrease.

4.2.7. Impact of Tir Gofal on employment

Ninety two percent of respondents indicated that their Tir Gofal agreement had resulted in greater labour requirements. This amounted to an average of 70.2 extra person-days labour a year where increases were recorded. Across the whole sample, i.e. including those who did not report an increase in workload, this amounted to 65.6 extra person-days a year. The median increase in workload where recorded amounted to 49.0 suggesting that the distribution was skewed towards relatively smaller increases (the median increase in workload across the whole sample was 41.2 person-days a year). As might be expected a priori, this is a result of scale with larger farms experiencing higher increases in labour requirements (see Figure 4.22 showing the mean and median increases in workload per person per year across the whole sample). To place this in context, on average across the sample, participants have 1.1 full-time employees, 0.9 part-time employees and 0.4 seasonal/casual employees.

If we take this additional 65.6 days from the sample and apply it to the 1,166 agreements it equates to 76,490 extra days of work. Almost half (49%) of this is carried out by contractors (see below), equivalent to 37,480 days, 170 new jobs at 220 days per year assuming that contractors are not simply working longer hours. The 42% carried out by the farming family (see below) equates to 146 jobs safeguarded under the same assumptions, although farmers and their families are likely to work more than 220 days in a year on the farm, especially where livestock are involved, in which case the
number of jobs safeguarded will be an over-estimation. That said, most of the capital works under Tir Gofal are most labour intensive in the earlier stages of the agreements and additional work as a result of this element may not be sustained throughout participation in the scheme, although some capital works, fencing for example, will require subsequent maintenance.

![Figure 4.22: Extra days labour per year as a result of Tir Gofal agreements](image)

**Figure 4.22: Extra days labour per year as a result of Tir Gofal agreements**

Extra work created by Tir Gofal is presented by farm type in Figure 4.23. The greatest amount of extra work was created on SDA sheep/beef farms (an average of 84.7 extra days per year). The difference between mean and median for sheep/beef farms in the SDA suggests that the distribution of increases is skewed towards the lower end in this category.
As would be expected *a priori*, where a relatively small amount of additional work is created by Tir Gofal the majority tends to be carried out by existing farm labour (i.e. the farmer, family and existing employees). As the amount of additional work increases, a larger proportion is carried out by additional labour, mainly contractors (Figure 4.24). Although the data cannot test the theory, it is likely that after a certain number of extra days labour have been generated farmers would find it most cost effective to employ additional workers. The implication from this is that as Tir Gofal generates higher levels of additional work there is an increasing likelihood that it will create additional employment beyond the farm.
Figure 4.24: Proportion of additional labour carried out by existing and additional workers

Most of the extra work generated by Tir Gofal has been carried out by contractors (49%), with the farmer accounting for 33% and other immediate family members for 9%. Existing employees handled 6% of labour requirements arising from the scheme and new employees handled just 2%.

A comparison by farm size shows that, as expected, larger farms had more additional work as a result of Tir Gofal participation (Figure 4.25). Whilst farmers tend to take on roughly similar amounts of this extra work, larger farms have a greater ability to draw on existing labour resources and use contractors to manage the increased demand.

The picture is more varied by farm type with sheep/beef farms in the SDA showing the greatest levels of increased demand overall and the greatest use of contractors to meet this demand. Farmers carried out the smallest proportion of additional work in the sheep/beef farms in the DA (Figure 4.26).
Figure 4.25: Labour sources for increased workload by farm size

Figure 4.26: Labour sources for increased workload by farm type
Most of the additional labour resulting from Tir Gofal related activities came from longer hours (cited by 70% of respondents), with a reduction in time spent on other activities being cited by 42% of respondents (it was possible for respondents to cite both explanations). Within this, farmers and their families were more likely to work longer hours whereas employees were more likely to reduce time spent on other activities. As farm size increases it is more common to find a reduction in other activities rather than an increase in hours. The only noticeable difference according to farm type is that a higher proportion of respondents with non-LFA sheep and beef farms worked extra hours to meet additional labour demands.

Just over 90% of respondents spent extra time on on-farm capital projects (such as footpaths, boundaries, etc.) whilst just under half spent more time on habitat management. Only a small proportion (11%) spent additional time on large capital projects (for example, building renovations). This breakdown is likely to reflect the overall disbursement of funds (Figure 4.27).

An analysis by farm size reveals that less respondents from large farms (with more than 200 hectares) spend additional time on habitat management compared to other groups, especially those with between 20 and 50 hectares. Breaking down the results by farm type shows that a higher proportion of respondents from the ‘other’ category spend more time on large capital projects and less time on on-farm capital projects. Sheep/beef farms in the SDA are least likely to spend extra time on habitat management.

![Figure 4.27: Activities requiring extra time input under Tir Gofal](image)
In terms of actual time spent on Tir Gofal activities, on-farm capital projects are the most time consuming accounting for 55.4 extra person-days per year across the whole sample. As Figure 4.28 illustrates, as farm size gets larger, time spent on these projects increases as might be expected given that the extent of boundary features and footpaths is likely to increase with scale. Also as might be expected there is no such association between scale and additional workload with respect to large capital projects. On average this activity resulted in 5.1 extra person-days per year. However, where respondents were engaged with this type of activity, the average number of extra days that resulted amounted to 47.6.

![Figure 4.28: Extra person-days spent annually on Tir Gofal activities by farm size](image)

Figure 4.28: Extra person-days spent annually on Tir Gofal activities by farm size

Whilst an association between scale and extra time spent on habitat management might have been expected *a priori*, this does not appear to be the case at first glance. On average, and across all respondents, an extra 7.7 days of work per year have been generated by habitat management provisions with most work, on average, being undertaken in the 20-50 hectare size group. However, when only those respondents incurring additional work as a result of habitat management are considered, those in the largest size group incur an average of 24.8 additional days per year compared to an average across all farm sizes of 16.5 additional days. This implies that whilst there is a positive relationship with scale, more farmers in smaller size groups undertake additional work in this area.

Analysis by farm type reveals little difference in terms of large capital works and habitat management, but sheep/beef farms in the SDA incur more additional days of work as a result of on-farm capital works (80.1 c.f. an average of 55.4) than the other farm types.
Just 15 respondents (i.e. 7% of the sample) reported that they had created new jobs as a result of the scheme and all of these were casual/seasonal rather than full or part-time. This is broadly consistent with the results from the survey of Tir Gofal participants undertaken as part of the mid-term evaluation of the Wales Rural Development Plan where only 2% of respondents stated that they had taken on full-time employees as a result of the scheme, 6% reported taking on one part-time employee with a further 6% taking on more than one part-time worker. Nine percent of respondents took on one casual/seasonal worker and 13% took on more than one as a result of participation.

However, it is possible that Tir Gofal has contributed to job security for existing employees, although this was not assessed in this survey. The results of the Wales RDP mid-term evaluation show that 53% of respondents felt that Tir Gofal had increased job security for themselves and their employees.
5. The effect of Tir Gofal on the wider rural economy

5.1. Key inputs to the modelling process

The face-to-face survey contained a number of sections relating to farm spending patterns before and after successful Tir Gofal applications. In particular, the survey examined total business expenditure (excluding capital works payments) before joining Tir Gofal (1998 was selected for consistency across participants who joined at different times) and then total business expenditure in the last completed year of account (again for consistency this was set as 2002/03). This part of the survey also required respondents to provide details on business expenditure by item. This information, as highlighted in the Appendix, is also useful for modelling the indirect effects of spending changes. These items include, for example, animal feed, vets fees, fertilisers and chemicals, financial services and spending on contractors.

The expenditure detailed in the last completed year of account encompasses any Tir Gofal annual grants, and ‘own’ (matched) spending associated with capital works grants. Together these questions provide an indication of aggregate changes in spending, and also how the main expenditure components have changed following successful Tir Gofal applications. There are, however, further adjustments required before this data can be used to assess the effects of Tir Gofal.

The first relates to the grossing-up of sample information to represent the population. There were 1,166 Tir Gofal agreements in 2003. Assuming each respondent represents one agreement, the sample of 251 who answered the relevant survey questions represented just over 20% of the population. The sample data was then grossed-up to represent the population of Tir Gofal beneficiaries on this basis. Table 5.1 shows expenditure before and after participation for the surveyed sample in nominal terms, and then adjusted up to represent the Tir Gofal population.

As highlighted in the methodology (see the appendix), another factor which is relevant to an assessment of the effects of Tir Gofal within Wales is the extent to which expenditure is made within Wales. Some payments made by farmers will be to individuals and companies from the rest of the UK or overseas. Once again the survey asked respondents to estimate spatial expenditure patterns and how they have changed over the period. Only a small percentage of total expenditure was estimated to be made directly outside Wales. Before participation this was an average of 4.7% and this fell marginally to 3.7% following acceptance onto the scheme. Details of local sourcing by item were not sought from the questionnaire, although this is expected to vary somewhat by spending component. For the purposes of this analysis the average figures have been applied to all expenditure items. This adjustment is also shown in Table 5.1.

There are further issues related to imports. Whilst the majority of payments are made directly to individuals and organisations in Wales, some of these payments will be made, for example, to local wholesalers, who import the product from outside Wales. In this case the wholesale margin is
allocated as a ‘Welsh’ payment, whilst the product would be allocated to imports. This adjustment is made at a later stage prior to estimating the impacts of the Tir Gofal programme.

A direct comparison of spending before and after successful Tir Gofal application only provides an indication of nominal change. To gain a more accurate picture of real expenditure differences before and after Tir Gofal, the data pre-participation should be adjusted into comparable prices. These prices (1998) have been inflated into 2002/03 prices using information from the retail price index. This adjustment, shown in Table 5.1, shows that the estimated total expenditure of Tir Gofal participants had fallen by £1.29 million over the period. Importantly, this change is undoubtedly a result of many factors, including FMD, only one of which is Tir Gofal.

### Table 5.1: Gross Spending derived from Tir Gofal Survey (£ million)

<table>
<thead>
<tr>
<th></th>
<th>Before participation</th>
<th>After participation</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample only (nominal) (n=251)</td>
<td>£9.551</td>
<td>£9.844</td>
<td>£0.293</td>
</tr>
<tr>
<td>Tir Gofal Population (nominal)</td>
<td>£44.422</td>
<td>£45.785</td>
<td>£1.364</td>
</tr>
<tr>
<td>Adjusted for direct imports</td>
<td>£42.334</td>
<td>£44.091</td>
<td>£1.757</td>
</tr>
<tr>
<td>Tir Gofal Population (real)</td>
<td>£45.382</td>
<td>£44.091</td>
<td>-£1.291</td>
</tr>
</tbody>
</table>

There is no certain way to untangle these confounding factors and therefore survey respondents were asked to assess the impact of Tir Gofal on any changes in expenditure that they reported. These proportions varied significantly by item. Table 5.2 presents expenditure before and after participation and change by item. Within the overall decrease in expenditure, expenditure on some items actually increased. As expected a priori spending on fertilisers and chemicals decreased, as did veterinary fees, whilst expenditure on contractors and building materials increased. The ‘other’ expenditure listed in the Table includes a range of different items mentioned by respondents, including fees, rental and hire, equipment, plants and trees, repairs and slaughter costs (see Section 4.2.5 for further details).

Table 5.2 also shows the proportion of the expenditure change that respondents cited as being due to Tir Gofal. These proportions varied from 49% in relation to building materials, to less than 1% in relation to waste disposal. Applying the percentage change resulting from Tir Gofal to the data on overall change in expenditure results in the nominal change due to Tir Gofal shown in the final column. Interestingly, due to the varying influence of Tir Gofal on expenditure change, the net change resulting from the scheme is actually positive, even though the overall change was negative. The change as a result of Tir Gofal is, however, small at around £0.137 million, but nonetheless the scheme has helped to mitigate the general decline in spending.

This impact encompasses expenditure changes as a result of Tir Gofal annual grants and any own (matched) capital works expenditures. In relation to the value of the annual grants during the period, the overall expenditure change is small (although the reader should note the change in the pattern of expenditure). In addition, when asked about farm income changes over the period, the majority of respondents said there had been no significant change as a result of Tir Gofal. These results
therefore suggest that the Tir Gofal annual grants had compensated for income forgone through participation in the scheme.

### Table 5.2: Spending Changes as a Result of Tir Gofal £’000s

<table>
<thead>
<tr>
<th>Item</th>
<th>Expenditure before</th>
<th>Expenditure after</th>
<th>Expenditure change</th>
<th>% due to TG</th>
<th>Change due to TG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total animal feed</td>
<td>£8,959</td>
<td>£7,716</td>
<td>-£1,244</td>
<td>26%</td>
<td>-£318</td>
</tr>
<tr>
<td>of which sheep</td>
<td>£2,522</td>
<td>£2,119</td>
<td>-£403</td>
<td>12%</td>
<td>£56</td>
</tr>
<tr>
<td>Total vet fees</td>
<td>£2,491</td>
<td>£2,119</td>
<td>-£373</td>
<td>17%</td>
<td>-£65</td>
</tr>
<tr>
<td>of which sheep</td>
<td>£1,050</td>
<td>£828</td>
<td>-£221</td>
<td>8%</td>
<td>-£18</td>
</tr>
<tr>
<td>Cost of sheep sent away</td>
<td>£1,268</td>
<td>£1,666</td>
<td>£398</td>
<td>9%</td>
<td>£34</td>
</tr>
<tr>
<td>Fertilisers &amp; Chemicals</td>
<td>£3,454</td>
<td>£2,890</td>
<td>-£564</td>
<td>25%</td>
<td>-£142</td>
</tr>
<tr>
<td>Building materials</td>
<td>£2,770</td>
<td>£4,290</td>
<td>£1,519</td>
<td>49%</td>
<td>£750</td>
</tr>
<tr>
<td>Vehicle costs</td>
<td>£4,137</td>
<td>£4,418</td>
<td>£281</td>
<td>15%</td>
<td>£42</td>
</tr>
<tr>
<td>Financial services</td>
<td>£2,753</td>
<td>£2,654</td>
<td>-£99</td>
<td>10%</td>
<td>-£10</td>
</tr>
<tr>
<td>Other bus services</td>
<td>£1,345</td>
<td>£1,471</td>
<td>£126</td>
<td>10%</td>
<td>£13</td>
</tr>
<tr>
<td>Waste disposal</td>
<td>£99</td>
<td>£78</td>
<td>-£21</td>
<td>0%</td>
<td>£0</td>
</tr>
<tr>
<td>Contractors</td>
<td>£3,469</td>
<td>£4,606</td>
<td>£1,137</td>
<td>31%</td>
<td>£356</td>
</tr>
<tr>
<td>Other</td>
<td>£14,635</td>
<td>£12,184</td>
<td>-£2,451</td>
<td>21%</td>
<td>-£522</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>£45,382</strong></td>
<td><strong>£44,091</strong></td>
<td><strong>-£1,291</strong></td>
<td><strong>138</strong></td>
<td></td>
</tr>
</tbody>
</table>

A further input to the modelling process involves an analysis of capital works spending. The survey collected information on capital works grant payments separately\(^{35}\), therefore to obtain a full picture of expenditure change, the spending of the capital works grants needs to be added to the change in expenditure as a result of Tir Gofal calculated in the final column of Table 5.2.

The Tir Gofal payments database provided information on total capital works grants payments. During 2003, payments were £4.05 million\(^{36}\). The survey provided information on the distribution of capital spending. It is important to recognise that the survey required responses relating to total project spending (that is the grant plus matched spending). For estimation purposes it is assumed that a similar allocation can be used to allocate the grant-funded element. One issue related to this component of expenditure is the extent of additionality/deadweight, that is, would this work have been carried out in the absence of the grant. The survey results show that in the majority of cases the investment was only made because of the availability of support. However, some respondents reported that investments would have been undertaken, but either at a reduced scale or at a later date. Finally, some respondents indicated that they would have undertaken the investment even without support under Tir Gofal. It is assumed here that the capital grants fund additional work.

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\(^{35}\) This was done to distinguish between annual (and hence recurring) expenditure and one off capital expenditure.

\(^{36}\) Estimates of expenditure in this Chapter are derived from a later database extraction than the full extraction used earlier in the research and reported on in Chapter 4 and as a result these estimates differ slightly being marginally higher here.
It is difficult to derive an accurate estimate of deadweight from the questionnaire results as responses relate to the number of individuals receiving the grants, and not to the amount of the grant. Furthermore, multiple responses were allowed to the additionality question. Finally, there is always some degree of uncertainty surrounding responses to hypothetical questions. However, between 5% and 10% of respondents said that investments would have been carried out in the absence of the grant (depending on grant type, for example, field boundaries, traditional buildings, etc.). This figure excludes those who said works may have been undertaken at a later date, and/or using alternative materials and/or at a smaller scale as this additionality impact is more difficult to quantify. Hence, if some allowance were made for deadweight, this would reduce the direct capital grant impact by between 5% and 10%.

### 5.2. Economy-wide effects during 2003

Combining the information from the above, the total expenditure change as a result of Tir Gofal is estimated at around £4.2 million (including match funding). The items of expenditure listed in Table 5.2, and those relating to capital spending were allocated to industry sectors within the Welsh Input-Output framework. At this stage further adjustments to the figures were made for wholesale/retail margins and indirect imports and any taxes (such as those on fuel). This process then provides a sectoral allocation of expenditure that can be used together with the modelling framework to estimate the full effects of expenditure changes.

Figure 5.1 provides a summary of the allocation of expenditure. Of the total £4.2 million spending, around 73% is with Welsh industries, with much of the remainder (23%) to Welsh households (direct payments to labour, or grant payments retained as farm income). The remaining 4% leaks out of the Welsh economy as taxes or imports (recall that a separate initial adjustment for imports was made in Table 5.1).
The impact of the expenditure change on the Welsh economy was then estimated using the Input-Output framework. Once indirect effects are incorporated the final expenditure/output impact on the local economy is £6.3 million\[37\], and this is associated with around 112 full-time equivalent (FTE) jobs. In terms of the sectoral impacts, around half of the expenditure impact is concentrated in just two sectors, agriculture, forestry and fishing and construction. In terms of employment, over 60% of the impact is in these two sectors. These impacts are illustrated in Figure 5.2 which shows how the initial expenditure change finds its way to local industries and households which in turn generate indirect effects.

\[37\] This implies a multiplier of 1.5 which compares favourable to the 1.3 usually quoted as reasonable. WE NEED A REFERENCE FOR THIS FROM THE PERSON WHO MENTIONED THIS POINT AT THE PRESENTATION.
### Figure 5.2: The impact of expenditure change as a result of Tir Gofal on the Welsh economy 2003

#### 5.3. Economy-wide effects: capital spending supported by Tir Gofal 2000-2003

One further scenario to consider is the economic impact of the whole of the capital works programme over the 2000-2003 period. If the total value of these investments (i.e. the grant element and the matched funding) are considered to be fully additional, and if the spending patterns of capital grants are assumed to match those provided in the sample, then the economic impact can again be modelled using the Input-Output framework.

The approach used here has been to sum capital work grant payments in each year, from 2000 to 2003, using information from the Tir Gofal payments database. This totals around £8.17 million. The totals for each year were then adjusted into 2003 prices to give an overall total of £8.27 million. Using information from the survey, the Tir Gofal capital grant comprised an average of 58% of total investment across all types of investments made. On this basis the total grant payment was scaled up from £8.27 million to £14.25 million, which is the estimated total capital investment for the period. Using the methodology outlined above, the impacts of this spend can be traced through the local economy, and indirect effects estimated. The results are illustrated in Figure 5.3.
TG related capital works spending, (grant plus matched funds) £14.25m

- Industry £10.00m
- Households £3.46m
- Imports & Tax £0.80m

Indirect effects

Impact on Welsh economy £21.28m 385 FTEs

Figure 5.3: The impact of expenditure change as a result of Tir Gofal on the Welsh economy 2000-03

Figure 5.3 shows that the majority of the £14.25 million stays in the economy as payments to Welsh industries or households. This spending then generates indirect effects and gives an overall impact on the economy of over £21 million which supports some 385 FTEs.

5.4. Future and non-market impact of Tir Gofal

The Input-Output framework quantifies the impact of Tir Gofal on the wider rural economy for one year. However, the modelling framework assumes that the grant payments made in 2003 were spent in 2003. This means that the estimates above are conservative because the capital spending will result in benefits for the regional economy in future years.

Total Tir Gofal payments made in 2003 amount to around £12 million. In the context of this sum the additional jobs created may be considered to be fairly small, but this impact may be noted in small rural communities and local rural economies were it is difficult to create jobs. That said, job creation and the support of activity in the value chain of the regional economy is not a primary aim of the Tir Gofal scheme. The role that Tir Gofal plays in the provision of public goods from amenity value to general environmental improvements in terms of habitats, biodiversity, etc. means that using conventional economic aggregates through the Input-Output framework will always underestimate the potential and underlying value of the scheme in terms of public welfare.
6. Conclusions and recommendations

This Chapter provides conclusions and recommendations based on the data collected and analysed through the course of this research. The next sub-section presents conclusions on the effect of Tir Gofal on-farm, Section 6.2 offers conclusions on the impact of the scheme on the wider rural economy and Section 6.3 provides recommendations based on the research findings.

It should be noted that this has been a socio-economic assessment of Tir Gofal. The conclusions and recommendations therefore are derived very much from an economic point of view. However, Tir Gofal is first and foremost an agri-environmental scheme and it is in this context that scheme performance should mainly be considered.

6.1. Conclusions on the impact on-farm

6.1.1. Management practices

Tir Gofal is an important driver of change in management practice with almost three quarters of respondents indicating that they would not have made changes in the absence of the scheme. Those with larger farms (more than 200 hectares) are more likely to require support to make changes suggesting that a greater impact could be achieved by targeting this group. In terms of farm type, sheep and beef producers in the SDA were more likely to make management changes in any case compared to those in the DA suggesting that a reorientation towards the DA would deliver more change. However, this finding should be placed in context of the environmental aims of Tir Gofal and scheme targeting should reflect these as this is the primary objective.

The size and farm type differences notwithstanding, it is clear that Tir Gofal has helped to bring about a high degree of change in management practice. Even where respondents indicated that they would have made changes without the support of the scheme, these would typically have been smaller in magnitude and in some cases would have been deferred.

As far as capital works are concerned, some investments, such as those in traditional field boundaries, are more likely to be made unaided than, for example, investments in new public access or in habitat management. This would indicate that a greater impact could perhaps be achieved by targeting support on investments in the latter, although this would depend on the purpose and type of the boundary and a case by case judgement would probably be prudent. However, this does not consider the impact of support on the scale of investment and evidence suggests that support under Tir Gofal often leads to an increased scale of investment. Whether this increase results from a greater amount of the investment, for example a greater length of hedge, or whether it results in the use of more expensive materials, resulting in a better quality longer-lasting boundary feature, is

38 Although the costs of making changes may differ and this may offer a partial explanation for this finding. Also, hypothetical questions need to be treated with a degree of caution.
unknown and further investigation of this issue would help to determine what, if any, reorientation is necessary.

Finally, smaller farms are more inclined to carry out capital investments unaided which might suggest a greater focus on larger farms would be sensible, the environmental impact notwithstanding. Tir Gofal has little impact in terms of the types of materials used for capital works.

6.1.2. Farm business revenue

Participation in Tir Gofal typically results in a reduction in the proportion of revenue derived from livestock enterprises. This is in part a consequence of the design of the scheme where extensification is an aim, also, as a whole farm scheme participants are unable to intensify production elsewhere on the holding. This reduction is offset for to some degree by the annual management payments and also, at least in the first year of participation, by sale of stock. No other notable changes in revenue were apparent from scheme participation.

The importance of support appears to differ by farm size with payments contributing a greater proportion of farm business revenue for smaller farms. Despite this, respondents from farms of all types and size categories consider that payments made under Tir Gofal are important to their business revenue to some degree, almost a fifth considering them essential, 45% very important and 27% quite important.

6.1.3. Farm business expenditure

The main impacts of Tir Gofal on farm costs have been to increase expenditure on contractors and building materials and decrease expenditure on animal feed, fertiliser and plant protection products, veterinary and medicine. The decreases are driven by the design of the scheme, which in part, reduces livestock numbers. The increase in building materials is driven by the capital grant aspect of Tir Gofal. Contractors are used for both capital works and for specialist tasks such as hedge laying, in addition to cases where no on-farm labour is available to carry out additional tasks. Tir Gofal therefore clearly alters the pattern of spend. Extrapolating expenditure change resulting from Tir Gofal by item from the participant survey to the population suggests that the net impact on expenditure is fairly small at an increase of £137,000 in 2003. This suggests that the vast majority of the £7.4 million paid out in 2003 is absorbed within the farm business as payments for income foregone or payments to the farmer for additional work undertaken.

More than half (55%) of expenditure takes place within a ten mile radius of the farm with a further 40% spent within Wales. Tir Gofal does not appear to have had any general impact on this pattern, although analysis by farm size and type suggests that those with between 20 and 50 hectares decreased local spending (i.e. within ten miles) following participation, as did sheep/beef producers in the non-LFA. However, those with less than 20 hectares increased local expenditure, as did those with farm types classed as ‘other’. It is not known whether these changes are coincidental or are driven by the nature of these groups’ involvement with the scheme.
6.1.4. Farm income

The majority (88%) of those who had experienced an increase in income since joining Tir Gofal believed that the scheme was a factor in this increase. A quarter of these believed that Tir Gofal was the main factor in the increase. Interestingly, 83% of those noting an increase in income felt that the annual payment was a reason for this, which might suggest that support under the scheme more than replaces revenue lost as a result of the activities undertaken. This does not necessarily provide evidence of over payment as farmers may be carrying out additional tasks for which they do not pay themselves. Some evidence to support this hypothesis comes from a survey finding that some payments are retained as farm income (see Section S1.5.5).

Again, 46% of respondents felt that the capital grants they had received had resulted in increased income. Whilst it is possible that some of these respondents take the view that they would have carried out the investment in the absence of support, again it is likely that additional labour provided by existing on-farm resources is not being considered. This is especially likely when it is recalled that capital grants also require funding from the recipient and that some materials might be drawn from existing on-farm stocks.

Other factors leading to increased net farm income include the impact of Tir Gofal in reducing costs, (although one would expect these reductions to be accompanied by reductions in output), higher quality livestock and better market returns.

6.1.5. Employment

In the vast majority of cases (92%), participation in Tir Gofal has resulted in an increased demand for labour. For those experiencing this increased demand it amounted to an additional 70 days work per farm per year. Sheep and beef producers in the SDA experienced the greatest increase in demand for labour by farm type and there was a clear positive association with scale.

It appears that where additional demand for labour is small, this is typically met through existing resources, mainly the farmer’s own labour through the input of additional hours, but also through the reallocation of on-farm labour from other tasks. As demand increases further, then contractors are brought in. This is supported further by the fact that respondents with smaller farm sizes were least likely to use contractors whilst respondents from the larger farm sizes were most likely to use them. Although not tested in this research, it is likely in theory that as demand for additional labour increases still further it will become more cost effective to employ additional staff. However, this may not in fact be the case with respect to Tir Gofal where additional work supported by capital grants is disproportionally loaded to the beginning of the agreement and there is a tendency to use casual/seasonal labour in preference to a full or part-time workforce.

Tir Gofal often generates enough additional demand for labour (or creates the type of demand for labour) for contractors to be necessary with 49% of additional labour demand met in this way, creating new work. In contrast, only 2% of respondents expanded their own workforce and this was only with casual/seasonal workers. In total, 42% of the additional work is carried out by the farmer
(33%), the farming family (9%) or by existing employees (6%), providing evidence that Tir Gofal helps safeguard on farm employment for farming families and existing employees. This result complements evidence from other research carried out on Tir Gofal by Agra CEAS as part of the mid-term evaluation of the Wales Rural Development Plan suggests that the scheme is likely to play an important role in improving job security for both farmers and their employees.

Ninety percent of respondents were required to spend more time on small-scale capital projects whereas less than 50% were required to spend additional time on habitat management. This suggests that habitat management investments are generally not as labour intensive. However, 29% of one-off capital expenditure on habitat management was retained as farm income which suggests either that farmers are very aware of the additional work required on habitat management tasks and ensure that they receive payment for their labour, or that there is a degree of overpayment here that perhaps should be considered further.

Generally speaking contractors are used for certain capital works such as those relating to the restoration of traditional buildings whilst farmers are more likely to use their own (or existing on-farm labour) for field boundary work and protective fencing. This is likely to be partly a function of the type of work and the skills required.

6.2. Conclusions on the impact on the wider rural economy

The market impact of Tir Gofal on the wider rural economy was estimated using an Input-Output model and this showed that the £4.2 million additional expenditure resulting from Tir Gofal in 2003 resulted in a spend of £6.3 million after consideration of indirect effects and the equivalent of 112 full-time jobs. Of this spend, 73% went to Welsh industries (half of this impact is concentrated in the agricultural, forestry and fishing and construction sectors), 23% to Welsh households and the remaining 4% to taxes and imports.

Taking just capital payments over the period 2000 to 2003, Tir Gofal resulted in increased expenditure in the wider Welsh economy of £21 million and the creation of the equivalent of 385 full-time jobs.

Whilst these figures are fairly small in the context of the Welsh economy as a whole, the impact on isolated rural communities is likely to be disproportionate and the creation of 385 full-time jobs is likely to be significant.

6.3. Recommendations

It should be reiterated that this research has examined the socio-economic impact of Tir Gofal and that recommendations made from this point of view will require consideration within the framework of the environmental objectives of the scheme.
Recommendations fall into four categories relating to annual payments, capital payments, the wider rural economy and areas for further research. These are considered in turn in the sub-sections below.

### 6.3.1. Annual payments

It appears that owners of small and mid-sized farms, i.e. those with up to 200 hectares, are generally more likely than farmers of large units (more than 200 hectares) to carry out changes to management practices in line with those promoted under Tir Gofal in the absence of support. Re-orientating annual payments towards the larger size group could therefore offer greater value for money. By the same token, sheep and beef producers in the SDA are more likely to make management changes than their counterparts in the DA and again focusing money towards those needing it to prompt a change could offer greater effectiveness.

### 6.3.2. Capital payments

Some types of capital investment are more likely to have been carried out even in the absence of support and there is therefore a risk that there is some degree of overpayment here. It is possible that greater change could be facilitated by reorienting capital grants towards those areas where investment would otherwise not take place. This would mean focusing less on traditional field boundaries, for example, and more on facilities for new public access and habitat management. However, whilst this might be appropriate from an economic point of view, it may not be from the environmental perspective which is the main driver of the scheme.

The requirement for support to facilitate investment also differed by farm size with respondents from larger units being less likely to carry out investments unaided. Reorientation of capital works towards larger farms might therefore offer greater value for money in this regard.

Tir Gofal had little impact on the type of materials used in capital works. It is noted that greater support is currently offered for the use of certain materials, for example traditional oak gates, but if CCW would prefer to see an increase in the use of certain materials, then a greater range of increased payments for doing so may be required. Tir Gofal had little general impact on where money is spent beyond the farm gate, although a high proportion (55%) is spent within ten miles of the farm and a further 40% within Wales in any case.

### 6.3.3. Wider economy

The impact of capital works on the wider rural economy is greater than annual payments. If CCW wish to maximise the impact of Tir Gofal on the wider rural community, then funds should be focused on this element of the scheme which more often involves off-farm labour and generally requires a greater expenditure on inputs (although it is recognised that capital works result in one off investments rather than recurring expenditure).

Relatively low levels of additional demand for labour are often met from within the farming household or existing workforce. However, as the demand for additional labour increases, there is a
It is possible that as demand for additional labour rises still further, farmers might find it more cost effective to increase the size of their regular workforce, although this is questionable in the context of Tir Gofal as set out above. In order to generate greater demand for labour and hence promote additional employment, CCW could consider making prescriptions more labour intensive, although there is clearly a balance between this and the level of support required to achieve environmental objectives.

### 6.3.4. Areas for further research

It is clear that in many cases the availability of support under Tir Gofal prompts participants to make larger (more expensive) capital investments than they would otherwise have done. It is not clear whether this results in more environmental outputs, for example, greater length of hedge, or use of specialist labour. In the latter case this may result in a better quality of investment, but it could also simply represent greater expenditure for no additional gain. Limited additional information on this could be drawn out from the payment database in the first instance.

The factors that lead to choice of materials and where these are sourced from would benefit from further investigation. This would help to inform CCW as to whether it would be worth considering additional funds to prompt the use of certain materials (perhaps renewable materials, certain types of wood or stone, locally produced goods, etc.). Although generally Tir Gofal had little impact in terms of where spending took place, different farm sizes and types altered local spending patterns in different ways. Establishing whether this is related to Tir Gofal at all and if so, understanding the factors behind this might prove useful to CCW.

A relatively large proportion of capital grant for habitat management appears to be considered by participants as farm income and the reasons for this could be clarified. It may be that this is a recognition of payment for additional labour, but farmer treatment of additional labour in general (including that arising from annual management prescriptions) could be assessed in more detail.

Although it is clear that a significant proportion of the extra work generated by Tir Gofal is carried out by contractors, it is not clear whether this is existing contractors doing extra work or taking on additional labour, or whether the work is carried out by new contractors able to establish themselves as a result of Tir Gofal. Further research should be undertaken to investigate this issue in greater detail.

Finally, a great deal of statistical information on the use of funds within Tir Gofal is available from the payment database. Although not presented in this report, it would be possible to provide detailed analysis of where, and on what, money is being spent in order to assist the managing of the economic impact of the scheme. This process would be facilitated by reducing the number of different prescriptions and making clear the uses to which individual prescriptions could be put, for example, prescriptions for gates can be used under new public access or under field boundaries and separate codes could be introduced to make it clear in which context a gate had been used. However, a careful balance between operating the scheme itself and facilitating monitoring would need to be
struck. This is something that CCW could do in-house, but it is also a task which would lend itself well to outsourcing.