

VALUE FOR MONEY REVIEW

THE FOREST ROAD SCHEME

Department of Agriculture, Fisheries and Food 2010



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EXECUTIVE SUMMARY

Background

This Value for Money (VFM) Review was undertaken under the Government's Value for Money and Policy Review Initiative, which was introduced to ensure improved value for money from public expenditure. VFM reviews aim to analyse public expenditure in a systematic manner, and to provide a basis for informed decisions on priorities both within and between public expenditure programmes. This review examines the efficiency and effectiveness of the Forest Road Scheme.

The Forest Road Scheme seeks to improve the forest infrastructure by supporting and providing grant aid for the construction of forest roads. As forest plantations mature, a good road structure is essential for extracting the timber and for the proper management of the forest itself, as well as providing further biodiversity opportunities in the forest by increasing open space and forest edges and access for other uses. The Forest Road Scheme grant is cost-based and is a single payment of 80% of eligible costs subject to a maximum of €45/linear metre payable on satisfactory completion of the project.

This VFM Review was confined to the 2004-2007 period commencing on January 1, 2004 when the Forest Service was integrated in to the Department from its former parent department, the Department of Communications, Energy & Natural Resources. Expenditure on the Forest Roads Scheme in this period was approximately €18 million.

Methodology

A Steering Committee was established for this Review comprising representatives of the Department of Agriculture, Fisheries and Food (DAFF) and the Public Expenditure Division (PED) of the Department of Finance. This Committee met regularly during 2008 and 2009. Forest Service personnel on the Committee carried out a detailed analysis of recent Scheme data and conducted interviews with relevant staff in the Forest Service. Other sources of primary data included postal surveys of grant recipients and industry stakeholders as well as consultation with the Forest Service Liaison Group. Secondary data sources included a study of similar schemes in other countries and a review of all relevant policy documents.

Finally, the penultimate draft review report was quality assessed by Raymond Burke Consulting, an external evaluator. This input was considered before the final report was agreed by the Steering Committee and subsequently presented to and approved by the DAFF Management Advisory Committee in April 2010.

Review Objectives

The following were the approved Terms of Reference of the Review:

- 1) Identify the objectives of the Forest Road Scheme.
- 2) Examine the current validity of these objectives and their compatibility with National and EU policy, including the National Development Plan 2007-2013 and this Department's Statement of Strategy 2008-2010.

- 3) Define the outputs associated with the Forest Road Scheme and quantify the level and trend of these outputs.
- 4) Examine the extent that the Forest Road Scheme's objectives have been achieved, and comment on the *effectiveness* with which they have been achieved.
- 5) Define the costs including staff resources associated with the Forest Road Scheme and quantify the level and trend of these costs.
- 6) Taking into account the extent that the Forest Road Scheme's objectives have been achieved, comment on the *efficiency* with which the Scheme's objectives have been achieved.
- 7) Evaluate the degree to which the objectives of the Forest Road Scheme warrant the allocation of public funding on a current and ongoing basis.
- 8) Examine the scope for an alternative policy or organisational approach to achieving the objectives of the Forest Road Scheme more *efficiently* and *effectively*.
- 9) Specify potential future performance indicators that might be employed to better monitor the performance of the Forest Road Scheme.

Review Findings

Objectives

The review period selected meant that the Forest Road Scheme straddled two distinct programming periods. In the period 2004-2006 the Scheme was part of the Regional Operational Programmes of the National Development Plan 2000-2006 and its objectives were the construction of roads to facilitate harvesting, to facilitate access and to enhance the economic value of the forests. In 2007 the Scheme was part of the State Aid-approved Forest Management Scheme 2007-2013 and included the additional objective of enhancing the economic and bio-diversity values of the forests. The Review found that the objectives of the Scheme were compatible with national and EU forest policy.

Inputs

The Scheme has three inputs – Financial, Personnel and Material costs with those associated with materials relatively insignificant. Expenditure on grants increased from €1.362 million in 2004 to €7.508 million in 2007 reflecting the increased interest in this demand-led Scheme and a 58% rise in the grant itself implemented in 2007. The personnel costs are the costs associated with the staff that administers the approvals, inspections and payments associated with the Scheme. These costs rose from €147,834 in 2004 to €435,115 in 2007 reflecting the increased workload due to the higher demand on the Scheme. The percentage of overall financial costs attributed to personnel costs declined over the Review period. The Review found that the administration of the Scheme was relatively efficient over the Review period.

Outputs

The Scheme has six activities – approvals, payments, inspections, construction, standards and felling licences. Over the period of the Review the trend for each activity increased significantly reflecting the increased demand in this demand-led Scheme. For example, the number of approval applications received increased from 148 to 847 and the number of grant payment applications received increased from 29 to 494. The actual linear meterage of new forest roads constructed with grant-aid

increased from 79,030 metres in 2004 to 240,383 metres in 2007, peaking at 315,167 metres in 2006.

Outcomes

The Scheme has six outcomes – the quantity and value of thinnings and clearfell, the hectareage thinned and clearfelled, the number of forests protected, the number of forest roads “opened” for public access and the enhancement of biodiversity. The estimated value of thinnings from forest estates that have a forest road grant-aided during the Review period is €6.5 million. The estimated value of clearfell is €359 million. In the Review period approximately 64,000 hectares were licensed for thinning with area increasing annually over the review period. 32,000 hectares were licensed for clearfell over the review period. While the total area clearfelled has not increased annually over the review period, despite the significant increases in the linear meterage of roads constructed, the Committee feels that this is a reflection of the afforestation levels 40 to 50 years ago rather than the Scheme’s failure to contribute to this objective. With regard to clearfell the committee believes the current forest road structure will lead to increases in the areas clearfelled.

The Review found that forest roads serve as firebreaks within the forests thus enhancing the overall protection of the forests. The number of forest roads “opened” to public access by grant-aided forest roads significantly exceeded the 2000-2006 RDP target. Finally although biodiversity benefits were more difficult to quantify, the Committee concluded that there was a positive correlation between the construction of forest roads and enhanced biodiversity.

Deadweight

Given the potential for “deadweight” in the Scheme the Review examined this issue and established that some level of deadweight does exist. The Committee believes that implementation of its recommendations will reduce the element of deadweight in the Scheme.

Review Conclusions

The Review concluded that:

- The objectives of the Scheme are compatible with EU and National policy,
- The Scheme’s outcomes reflect the growing awareness of the importance of forest roads in the overall Afforestation Programme,
- The objectives of the Scheme are being effectively met by the Scheme itself,
- The administration of the Scheme was operated efficiently and effectively during the review period, although some improvements can be made with the introduction of the recommendations listed below, and
- The Scheme justifies the allocation of public funding going forward, with some adjustment to the administration and operation of the Scheme, particularly given the current economic climate.

Review Recommendations

Having established that the Department is administering the Scheme efficiently and effectively and that the Scheme is achieving its objectives, the Steering Committee is of the opinion that continued public expenditure is warranted. Nevertheless, the Steering Committee made a number of recommendations that would improve the value for money of the Scheme. The key recommendations are as follows:

Scheme Objectives

That the Forest Service explicitly identifies the objectives of the Scheme in all future Scheme documentation, specifically the construction of roads to facilitate harvesting, the construction of roads to facilitate other access and the construction of roads to enhance environmental and biodiversity values.

Scheme Efficiency

That the Forest Service puts in place appropriate mechanisms to ensure that the minimum processing standard as set out in the Farmer's Charter is met from existing resources. Progress against this target should be reported under the Department's internal follow-up process established for VFM reporting.

That the Forest Service introduces an appropriate risk-based selection regime for all inspections at both approval and payment stage thereby reducing the percentage level of inspections, while simultaneously introducing a robust penalty system.

Scheme Effectiveness

That the Forest Service explores the issue of including the two eligibility criteria set out in 6.3.2 in the next Forest Road Scheme given the importance of thinning to good forest management. These criteria include issuing approvals where thinning is due to take place within two years and paying the grant in two instalments either side of the thinning.

Performance Measurement

That the Forest Service introduces the performance indicators discussed and that these indicators be used as an annual performance measurement framework for the Scheme. These performance indicators should be continually reviewed and updated as the operation of the Scheme changes.

CHAPTER 1

Review of the Forest Road Scheme

This chapter introduces the Value for Money Review process and the Forest Road Scheme. It outlines the structure and methodology employed in this Review and sets out the Terms of Reference agreed by the Steering Committee.

1.1 Background to Value for Money Reviews

Value for Money (VFM) Reviews fall under the broader umbrella of the Government's Value for Money and Policy Review Initiative and were introduced to improve the Value for Money aspect of public expenditure. Since the review programme's initial introduction as the Expenditure Review Initiative in 1997, it has undergone a number of reforms designed to enhance the efficiency and effectiveness of public expenditure. This new initiative is a further enhancement of the process and provides for a wider VFM focus. It builds on Value for Money reforms already instituted such as the introduction of multi annual capital envelopes, revised capital appraisal guidelines, public procurement reforms and additional VFM measures with regard to Information and Communication Technologies (ICT) and major consultancies.

The purpose of VFM reviews is to analyse public expenditure in a systematic manner, and to provide a basis for informed decisions on priorities both within and between public expenditure programmes. Reviews are one of a range of modernisation initiatives aimed at moving public sector management away from the traditional focus on inputs towards a focus on outputs and the achievement of specific outcomes.

Reviews, including this review of the Department of Agriculture, Fisheries and Food's (DAFF) Forest Road Scheme, are undertaken under the direction of Steering Committees that are representative of the Departments managing the programmes under review.

1.2 Forest Road Scheme

The Forest Road Scheme was established to improve forest infrastructure by supporting and providing grant aid to forest owners for the construction of forest roads. As outlined in the Scheme documentation a good forest road structure is essential for a number of reasons including:

- facilitating management and harvesting of timber thereby improving the economic value of the forests,
- improving the environmental and biodiversity value of the forests,
- providing access for emergency vehicles, and
- providing both drying and chipping areas.

Grant aid is available under the Forest Road Scheme administered by DAFF's Forest Service. The Forest Road grant is cost based and is a once off payment to forest

owners of 80% of eligible costs up to a maximum of €45/linear metre payable on satisfactory completion of the forest road project.

Expenditure relating to the Forest Road Scheme was approximately €9 million under the Regional Operational Programmes of the National Development Plan 2000-2006. Annual expenditure has increased significantly since 2000, with 2007 expenditure on Forest Roads under the State Aid approved Forestry Management Scheme totalling €7.5 million. The Scheme accounts for approximately 1% of the overall DAFF capital expenditure. The Scheme is outlined in greater detail in chapter 2.

1.3 Review Methodology

A Steering Committee was established for the purposes of overseeing the review's completion comprising representatives of both the DAFF and Public Expenditure Division (PED) in the Department of Finance (Full details at Appendix I). The Steering Committee met regularly during 2008 and 2009.

The Forest Service carried out a detailed analysis of recent Scheme data and conducted ad hoc interviews with relevant staff from all areas of the Forest Service – both administrative and inspectorate staff. Other primary data sources included:

- Postal surveys (see Appendix 2 for details) of both recent forest road grant recipients and of forest owners who obtained a felling licence from the Forest Service in the recent past,
- A postal survey (see Appendix 2 for details) of industry stakeholders, and
- Stakeholders' views received via the Forest Service Liaison Group.

Secondary data sources included:

- A study of similar schemes in other regions of the EU including Northern Ireland, Scotland and Hungary, and
- A review of relevant policy documents including the State Aid approval for Forestry Schemes in 2007-2013, the National Development Plans 2000-2006 and 2007-2013, DAFF's Statement of Strategy 2005-2007 and 2008-2010, the Agri-Vision 2015 Action Plan, the Programme for Government and the Forest Action Plan.

Finally, in line with Department of Finance VFM requirements, the penultimate draft review report was quality assessed by Raymond Burke Consulting, a member of the Independent Panel of Evaluation Experts. This assessment was considered before the final report was agreed by the Steering Committee.

1.4 Period of Review

The Steering Committee agreed that the period reviewed should commence in 2004 coinciding with the Forest Service's integration into DAFF and end in 2007. As a consequence, this review spans two distinct programme periods:

- the period from January 1, 2004 to December 31, 2006 inclusive falls under the Regional Operational Programmes of the National Development Plan 2000-2006, and
- the period January 1, 2007 to December 31, 2007 falls under the State Aid approved Forestry Management Scheme 2007-2013.

Whereas the objectives of both programmes are largely the same, the emphasis on protecting the environment and benefiting the community by providing public access is stronger in the new programme, together with a greater focus on enhancing biodiversity.

1.5 Terms of Reference

Terms of Reference were drafted by the Steering Committee in accordance with the template provided by the Department of Finance. The Secretary General of DAFF and the Assistant Secretary General of PED in the Department of Finance subsequently endorsed them. The following are the approved review Terms of Reference:

- 1) Identify the objectives of the Forest Road Scheme. (chapter 2)
- 2) Examine the current validity of these objectives and their compatibility with National and EU policy, including the National Development Plan 2007-2013 and this Department's Statement of Strategy 2008-2010. (chapter 2)
- 3) Define the outputs associated with the Forest Road Scheme and quantify the level and trend of these outputs. (chapter 3)
- 4) Examine the extent that the Forest Road Scheme's objectives have been achieved, and comment on the *effectiveness* with which they have been achieved. (chapter 5)
- 5) Define the costs including staff resources associated with the Forest Road Scheme and quantify the level and trend of these costs. (chapter 4)
- 6) Taking into account the extent that the Forest Road Scheme's objectives have been achieved, comment on the *efficiency* with which the Scheme's objectives have been achieved. (chapter 4)
- 7) Evaluate the degree to which the objectives of the Forest Road Scheme warrant the allocation of public funding on a current and ongoing basis. (chapter 5 and 6)
- 8) Examine the scope for an alternative policy or organisational approach to achieving the objectives of the Forest Road Scheme more *efficiently* and *effectively*. (chapter 6)
- 9) Specify potential future performance indicators that might be employed to better monitor the performance of the Forest Road Scheme. (chapter 7)

1.6 Review Structure

The remaining chapters of the review are as follows:

Chapter 2 Forest Road Scheme and its Objectives

This chapter provides an overview of the Forest Road Scheme and it examines its objectives and their compatibility with National and EU policy, including the National

Development Plan 2007-2013 and the Department of Agriculture, Fisheries & Food's Statement of Strategy 2008-2010.

Chapter 3 Forest Road Scheme Programme Logic Model

This chapter presents the Scheme's inputs, activities, outputs and outcomes in Logic Model format. The logic model approach helps create shared understanding of, and focus on, programme goals and methodology, relating activities to projected outcomes.

Chapter 4 Efficiency and Programme Management

This chapter assesses the level and trend of inputs and outputs and examines the cost and quality of the Scheme's administration.

Chapter 5 Outcomes and Scheme Effectiveness

This chapter analyses the effectiveness of the Scheme in achieving its objectives.

Chapter 6 Alternative Policy or Organisational Approaches to Achieving the Objectives of the Forest Road Scheme

This chapter outlines some possible amendments to the existing Scheme and sets out alternative policy approaches to reach the same or similar objectives in a manner that delivers greater VFM.

Chapter 7 Performance Indicators for the Forest Road Scheme

This chapter examines new and existing performance indicators for the Forest Road Scheme that will facilitate a more effective measurement of the extent to which the programme is providing VFM.

Chapter 8 Conclusions and Recommendations

This chapter summarises the Steering Committee's conclusions and recommendations.

CHAPTER 2

Forest Road Scheme and its Objectives

This chapter provides a synopsis of the current position, including the economic importance of forestry in Ireland together with an overview of the Forest Road Scheme. It also identifies the Scheme's objectives and examines the current validity of these objectives including their compatibility with National and EU policy. The chapter will however commence with a brief outline of the major landmarks associated with the Irish Government's afforestation policy in the 20th century.

2.1. Notable Irish Forestry Landmarks

While historically Ireland was a naturally wooded country, over time this woodland cover declined. At the beginning of the 20th century approximately 1.5% of Ireland's total land cover was under woodland comprising semi-natural woodland and broadleaf plantations. To commence redressing the low level of forest cover, a state forestry programme began shortly after the establishment of the Department of Agriculture and Technical Instruction in 1899. Since then there has been an increase in the area afforested up to its current level of approximately 725,000 hectares or 10% of land cover.

Prior to setting out the current position and the economic importance of forestry, the Steering Committee felt it would be interesting to briefly highlight some of the key landmarks that occurred over the last 100 years. They are as follows:

- The establishment in 1904 of a Forestry Branch in the Department of Agriculture and Technical Instruction;
- The purchase of Avondale House in County Wicklow in 1904 by the State which was then established as a forestry training center;
- The introduction of planting grants in 1931;
- The enactment of successive Forestry Acts, including the 1946 Act - still the principal legislative framework for forestry in Ireland;
- The introduction of the first state supported long-term afforestation plan in 1948;
- The achievement of an average planting rate of nearly 9,000 hectares during the 1970's;
- The establishment of Coillte Teoranta to manage the State's commercial forests in 1989; and
- The publication of the current forestry strategy "Growing for the Future" in 1996.

Further details relating to the history of forestry in Ireland are in Appendix III.

2.2 Current Position

Ireland currently has approximately 10%, totalling 725,000 hectares, of its land area afforested, with 250,000 hectares of this planted in the last 20 years. There are in excess of 16,000 private plantations now established in Ireland with approximately 15,000 farmers owning plantations.

Current forestry policy in Ireland is set out in the 1996 publication *Growing for the Future – A Strategic Plan for the Development of the Forestry Sector in Ireland*. The Plan is comprehensive and sets out actions across a range of sub-sectoral elements including planting, species mix, the environment, forest protection and health, and research. Fundamentally, it is about an expansion of the forestry sector over a period of 40 years. Its stated aim is “to develop forestry to a scale and in a manner which maximises its contribution to national economic and social well-being on a sustainable basis and which is compatible with the protection of the environment.” It envisages an increase in the area under forestry from the then 7% of land area to 17% in this time frame, with consequent growth in wood production and the provision of services such as recreation.

In the period 1996-2008 a total of 154,387 hectares was afforested with private afforestation comprising 92% of this planting. While private afforestation levels have fallen considerably since 2002, progress against the private forestry target of 15,000 hectares per annum has largely been positive with an average annual private afforestation figure of 10,984 hectares planted since 1996. Public planting, however, has fallen short of target primarily due to the fact that Coillte Teoranta was no longer eligible for Community support under Council Regulation 1257/99¹. Table 2.1 below sets out the annual afforestation levels in Ireland for both public and private plantings.

Table 2.1: Ireland’s Afforestation Levels 1996-2009

Year	Public	Private	Total
1996	4,426	16,555	20,981
1997	851	10,583	11,434
1998	2,926	10,002	12,928
1999	891	11,777	12,668
2000	1,464	14,231	15,695
2001	317	15,147	15,464
2002	319	14,735	15,054
2003	128	8,969	9,097
2004	122	9,617	9,739
2005	64	10,032	10,096
2006	25	8,012	8,037
2007	0	6,947	6,947
2008	67	6,181	6,248
2009	35	6,613	6,648
TOTAL	11,600	142,788	154,388

Today the Forest Service of the Department of Agriculture, Fisheries and Food, Ireland’s national forest authority, is responsible for the implementation of the national forestry policy. It is also responsible for:

- the promotion of private forestry,
- the administration of planting and other forestry grant schemes,

¹ Furthermore, ECJ Case C-339/00 of 16th October 2003 ruled that Coillte was ineligible to receive premiums under Council Regulation 2080/92.

- forest protection and the control of felling, and
- the promotion of research in forestry and forest produce.

The Forest Service was allocated funding of approximately €508 million over the review period (2004-2007) to assist the forestry sector including some €18 million for the Forest Road Scheme in the same period.

2.3 Economic Importance of Forestry in Ireland

Forestry plays an important role in the Irish economy particularly given the country's geographical spread and its largely rural emphasis. Analysis undertaken by Peter Bacon and Associates in 2004 suggests that forestry supports something in the order of 16,000 jobs in the Irish economy with much of this employment provided in rural areas.

The more recent analysis carried out for the 2006 ECONTRIB² report suggests that the economic importance of forestry is even more significant. This report examined the socio-economic contribution of forestry and found that the growing/planting sector accounted for expenditure (direct and indirect) of €472.45 million, equal to 0.3% of that year's GNP. An analysis of the processing sector in the same study estimated the economic value of forestry at €1.65 billion per annum. This includes downstream industries, primarily panelboard mills and sawmills and equates to 1.08% of GNP.

While it is not possible to total the contributions in each case, the ECONTRIB analysis suggests that the standard methods of calculating forestry's contribution to the economy, which currently estimate this contribution at €700 million per annum, have significantly understated the true position.

Meanwhile the Rural Ireland 2025 Report³ indicated that direct employment alone of up to 20,000 in forestry is possible by 2025. This would approximate to 38,000 jobs in the overall economy when appropriate multipliers are applied.

2.4 The Forest Road Scheme

The Forest Road Scheme seeks to improve the forest infrastructure by supporting and providing grant aid for the construction of forest roads. In the following chapters the Steering Committee will examine the Scheme from both an administrative and policy perspective, present its findings from both desk-based research and from independent views and outline its recommendations to enhance the Scheme's Value for Money. Firstly however this chapter provides a brief outline of the Scheme and its objectives.

2.4.1 History of Forest Road Scheme

The Government investment in forestry, in response to the introduction of the E.U. funded Western Package in 1981, included for the first time grant aid for the construction and improvement of forest roads. A Forest Road Scheme was viewed as

² The socio-economic contribution of forestry in Ireland, Áine Ní Dhubháin, Marie-Christine Fléchar, Richard Moloney, Deirdre O'Connor and Tim Crowley, 2006.

³ Rural Ireland 2025 – Foresight Perspectives, NUI Maynooth, UCD, and Teagasc, 2005

crucial as private owners need access to their forestry plantation for the extraction of their timber to supply the commercial markets.

This review covers the four-year period 2004-07 inclusive. The period January 1, 2004 to December 31, 2006 falls under the Regional Operational Programmes of the National Development Plan 2000-2006 and the period January 1, 2007 to December 31, 2007 falls under the State Aid approved Forestry Management Scheme 2007-2013.

2.4.2 Conditions, eligibility and rates of the Forest Road Grant Scheme

January 1, 2004 to December 31, 2006 - the Regional Operational Programme of the National Development Plan 2000-2006

The focus of this programme was mainly commercial, concentrating on the construction of forest roads as a means to facilitate forest management and the extraction of timber for the commercial market.

This Forest Road Scheme included certain criteria including the principal condition that the Scheme was intended for forest purposes only.

Grant rates of up to 80% of the eligible cost incurred in the construction of a forest road were available subject to a maximum upper limit. Although applicants were permitted to build roads in excess of the required standard the maximum grant rate was applied.

January 1, 2007 to December 31, 2008 – the State Aid-approved Forest Management Scheme

While the focus of these Schemes is still commercial, they also acknowledge environmental and community benefits. For example, in addition to the objectives of the old Scheme, the Forest Road Scheme also aims to improve the environmental and biodiversity value of the forests and to provide access for the wider community's recreational use. Conditions and eligibility criteria similar to that of the previous Scheme are required to obtain a grant under this Scheme.

Please see Appendix IV for full details of the conditions and eligibility criteria of both Schemes. Grants of up to 80% of the eligible costs incurred in the construction of a forest road are available subject to the maximum set out in Table 2.2 below. Grant aid may not exceed 25 metres of road per hectare of forest served, except where exceptional circumstances dictate. '*Exceptional circumstances*' means severe topographical conditions such as a slope greater than 1 in 7 or ravines/streams. A maximum density of 30m/ha may be applied in these circumstances.

Table 2.2: Forest Road Scheme Grant Rates

Category	Maximum Grant Rate per Linear Metre	Road Density	Density under Defined Exceptional Circumstances
Harvesting Road	€45	25m/ha	30m/ha
Harvesting Road Upgrade or Extension as defined	€45	15m/ha ⁴	20m/ha ⁵
Management Road	€45	10m/ha	15m/ha

2.5 Objectives of the Forest Road Scheme

The following are the Scheme objectives⁶: The construction of roads to:

1. facilitate harvesting,
2. facilitate other access, and
3. enhance environmental and biodiversity values.

While much of the available Scheme literature refers to additional objectives such as providing for drying and chipping areas and providing access for emergency vehicles the Steering Committee believes that to ensure they remain focussed and SMART⁷ they should be set out in the more concise format above.

2.5.1 Construction of Roads to Facilitate Harvesting

The primary objective of the Forest Road Scheme is to provide funding for the construction of management and harvesting roads and other infrastructural works. The absence of properly constructed forest roads increases the possibility that thinning and clearfell will not be adequately carried out, with the result that the full economic value from the forest is not realised. Henry Phillips⁸, in a paper for COFORD, cited work by Gallagher and O’Carroll in 2001 that estimated that between now and 2015 private plantations will be capable of producing 4.12 million m³ in thinnings alone. A good forest road network is essential to facilitate the extraction of timber and the consequent maximisation of the associated economic value.

Under the current Scheme this objective is supplemented with the addition of funding to provide drying areas, which are used to dry harvested timber, and chipping areas, that are used to chip timber used for the wood energy market.

⁴ 18m/ha may apply where the applicant previously received a road grant in respect of 7m/ha under a previous scheme

⁵ 23m/ha may apply in defined exceptional circumstances where footnote 4 already applies

⁶ The Scheme objectives under the State Aid-approved Forest Management Schemes are slightly different than those under the earlier EU funded programmes in the NDP. Given that the review spans both periods these distinctions are highlighted in this section.

⁷ SMART stands for: Specific – Objectives should specify what they want to achieve; Measurable – You should be able to measure whether you are meeting the objectives or not; Achievable - Are the objectives you set, achievable and attainable?; Realistic – Can you realistically achieve the objectives with the resources you have?; Time – When do you want to achieve the set objectives?

⁸ COFORD Connects, Henry Phillips, Forestry Consultant, ‘Realising the potential of private plantations’

2.5.2 Construction of Roads to Facilitate Other Access

Forest roads are constructed to provide access for a number of reasons namely:

- forest plantation maintenance and development,
- emergency vehicles, and
- recreation purposes.

The roads allow access for maintenance work to be carried out to ensure the plantations' proper and full development. Examples of these types of maintenance work are fencing, the application of fertiliser and the removal of malformed or diseased trees. The roads also act as a "*fire break*" thus helping to prevent the spread of forest fires while facilitating emergency access in the event of fires.

Under the new programme, infrastructure funded under this Scheme must also be open to the public for recreational use without charge. The European Commission believes that such access benefits the community and enables people to enjoy the forests' many recreational uses. Such recreational access may also increase tourism in some rural areas.

2.5.3 Construction of Roads to Enhance Environmental and Biodiversity Values

This is a new objective of the current Scheme and it aims to improve the environmental and biodiversity value of the forests. Forest roads provide additional biodiversity opportunities in the forest by increasing open spaces and enhancing the forest edge effect i.e. the forest road pavements and edges act as habitats for certain species and plants, that may not exist in the forest itself. The roads also allow access for thinning, which opens up the canopy of a forest and allows greater light penetration, which supports a lot of different species and plants.

Having agreed the Scheme objectives, the Steering Committee examined their compatibility with both national and EU policy while also considering the stakeholders' views on these objectives.

2.6 Objectives and their compatibility with National and EU policy

This section will examine how the Forest Road Scheme objectives discussed above are compatible with National and EU Policy, specifically:

- Regional Operational Programmes of the National Development Plan 2000-2006,
- State Aid approval for the Forestry Management Scheme in 2007-2013- Commission decision C(2007) 5132 No N 162/2007 refers,
- DAFF's recent Statements of Strategy,
- Programme for Government and Towards 2016, and
- Both Agri-Vision 2015 and Forest Action Plan

The Regional Operational Programmes of the National Development Plan 2000-2006 included a Forest Road Scheme Sub Measure and the Programme states that this measure is "*to encourage the building and upgrading of forest roads and to develop an efficient, safe and environmentally compatible road network which optimises harvesting and transport costs*". It also states that "*it allows access for plantation*

development, maintenance and fire protection and to facilitate efficient timber extraction”.

Under the State Aid approval for the Forest Management Scheme 2007-2013 the forest infrastructure measure seeks to *“improve forest infrastructure by supporting construction of forest roads and the forest infrastructure will be open to the public at no cost for recreational purposes”*. The Steering Committee is satisfied that the Scheme’s objectives to construct roads provide access and increase the economic value together with the new programmes goal of increasing the environmental and biodiversity values of the forest are compatible.

The Forest Road Scheme objectives are not identified individually in the remaining documentation on national and EU policies. That said, the documentation underpinning each of the policies supports the development of a modern and sustainable forestry sector, which contributes to the protection of the environment and enshrines the principles of sustainable forest management.

Following a review of the relevant National and EU policy documents (see Appendix V) the Steering Committee is satisfied that the Forest Road Scheme objectives are compatible with both national and EU forest policy.

2.7 Objectives and Stakeholders’ Views

The Steering Committee examined the primary research findings from the questionnaire⁹ disseminated by the Forest Service regarding the objectives.

Over 98% of the landowners and 88% of the industry stakeholders that responded to the postal survey stated that they considered the stated objectives of the Forest Road Scheme to be appropriate. Both groups identified *“the construction of roads to harvest timber”* as being the most important, followed by *“facilitating other access”* and *“environmental and biodiversity values”* in descending order.

When asked whether the Forest Road Scheme contributed to any other objectives, 23% of landowners suggested some alternatives. Suggestions included:

- the use of the forest road as an access route within the farm to contribute to the overall economic value and viability of that farm;
- to increase the amount of harvested timber for supply to the wood energy industry; and
- as a vehicle to increase tourism in the area.

In the stakeholder consultation process there were also some suggestions to expand the objectives further including adding its contribution to enhancing renewable energy sources from afforestation as an objective.

⁹ The questionnaire was administered to two separate stakeholder groups, namely producers/forest owners and industry stakeholders. Please see Appendix II for general questionnaire details together with response rates. A copy of the questionnaire is available on request from the Forest Service of DAFF.

The Steering Committee considered these additional objectives and decided against amending or adding to the objectives for the following reasons. Firstly, to facilitate measurement of the Scheme's performance it is important that the objectives remain both focussed and SMART. The inclusion of further objectives would act against this. Secondly, the committee believes that the additional reasons for the existence of the Scheme identified above are already implied in the existing objectives.

Recommendation 1 – The Steering Committee recommends that the Forest Service explicitly identifies the objectives of the Scheme in all future scheme documentation, specifically the construction of roads to facilitate harvesting, the construction of roads to facilitate other access, and the construction of roads to enhance environmental and biodiversity values.

This chapter highlighted the economic importance of the forestry industry in Ireland - a value that is significantly enhanced by its dispersed rural base, offering employment in areas where there are often few alternatives.

The Steering Committee restated and then examined the Scheme's objectives and is satisfied that they are both valid and compatible with national and EU forestry policies. The Steering Committee concurs with the primary Scheme objectives of supporting the construction of forest roads to facilitate both thinning and clearfell operations together with the policy of promoting public access and enhancing biodiversity.

The following chapters will set out the inputs, activities, outputs and outcomes, following which both the efficiency and effectiveness of the Forest Road Scheme will be assessed.

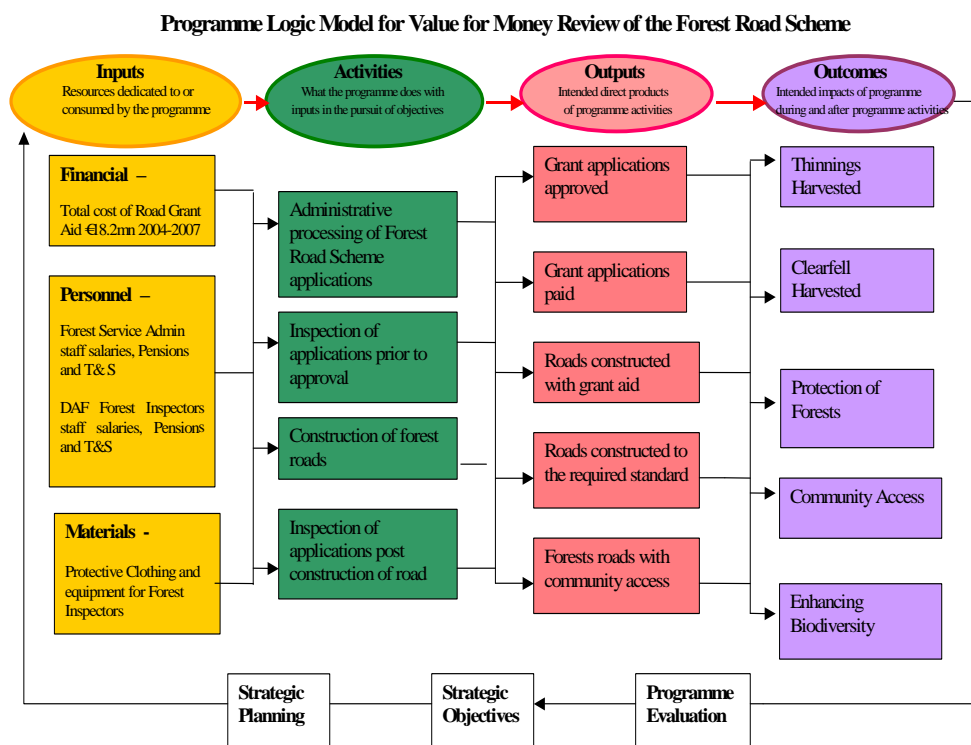
CHAPTER 3

Forest Road Scheme Programme Logic Model

A Programme Logic Model maps out the shape and logical linkages of a programme. It provides a systematic and visual way to present and share understanding of the cause-effect relationships between inputs, activities, outputs and outcomes (results and impacts). The Logic Model is often used in the planning, implementation, monitoring and evaluation of programmes. This chapter firstly presents the Forest Road Scheme Programme Logic Model and then, in order to provide the reader with a better understanding of the Forest Road Scheme, describes the model's component parts.

3.1 Forest Road Scheme Programme Logic Model

The Steering Committee approved the logical model set out below for the purposes of this Review.



The remainder of the chapter describes the individual aspects of model.

3.2 Inputs

Inputs are defined as resources dedicated to or consumed by a programme. The Steering Committee identified the following Forest Road Scheme inputs:

- financial,
- personnel, and
- materials.

Financial resources comprise the most significant portion of the Scheme's inputs, totalling approximately 95% of overall Scheme expenditure in 2007. Personnel costs, while not as significant total over €400,000 in 2007. Both these aspects of expenditure are examined in detail in subsequent chapters. The Steering Committee felt that it would be particularly interesting to calculate the percentage that staff costs comprise of the total Scheme cost and to compare this with other relevant cost indicators. While there was not a wholly comparable benchmark to contrast it with, there were some useful indicators carried out and detailed in other reviews. The Committee also felt that this indicator would also be valuable as a baseline against which productivity could be measured over time. These issues will be discussed in the next chapter.

3.2.1 Financial

The Forest Road Scheme's expenditure comes from the Forestry Support Schemes'¹⁰ budget and was wholly nationally funded in the review period. The following table details the budgeted and the actual expenditure for the Forestry Support Schemes including the Forest Road Scheme for the period 2004-08.¹¹

Table 3.1: Expenditure on Forestry Support Schemes 2004-2008

Year	Projected Expenditure for Support Schemes €000	Actual Expenditure for Support Schemes €000	Total Expenditure on Forest Road Scheme €000
2004	N/A	6,552	1,362
2005	10,180	7,626	3,255
2006	10,760	10,266	6,106
2007	15,320	13,534	7,508
2008	9,000	12,187	7,129

Actual expenditure on Forestry Support Schemes including the Forest Roads Scheme increased annually during the period 2004 to 2007, while expenditure in 2008 moderated slightly from the high in 2007. Expenditure on the Forest Road Scheme actually increased by 44% between 2005 and 2007 due both to the 2007 increase in the grant rate¹² and the increased interest in the Scheme given the age profile of private forestry in the country. The Forest Road Scheme's expenditure as a proportion of total expenditure provided under the Support Schemes also increased significantly between 2004 and 2007. The Scheme's expenditure accounted for 21% of total

¹⁰ The Support Schemes are those measures that are intended to improve and enhance forests and received State Aid approval in 2007 (No 162/07). Schemes include the Reconstitution, Woodland Improvement and Forest Road schemes.

¹¹ Data for the Projected Expenditure on the Forest Road Scheme was not available.

¹² In 2006 the Forest Service reviewed the costs of forest road construction and estimated that an increase of 82% was required in order to bring the grant back into line with construction costs. The Forest Service was concerned that important roading work had not been undertaken, as the grant was, in reality, covering only about 40% of associated costs. The Department of Finance sanctioned a 58% increase of the grant to €45 per linear metre, which it was estimated would cover approximately 80% of construction costs.

Support Scheme expenditure in 2004, whereas by 2007 it accounted for approximately 55% and even reached 58% by 2008.

3.2.2 Personnel

The personnel input is the cost associated with the staff that administers the approvals, payments, inspections etc of the Forest Road Scheme. With regard to this Scheme the total personnel cost is broken into administration and inspection costs.

Administrative Staff - New applications for approval are initially recorded and checked for accuracy. Files are then sent to the local forestry inspector for his/her decision on whether approval should issue with any necessary referrals to outside bodies on environmental grounds made concurrently¹³. On receipt of the appropriate approval authorisation to build will issue to the applicant. Administrative Staff in the payments section are responsible for processing applications for payment. Prior to approving payments they check applications, invoices, costs of works and obtain inspector approval/refusal.

Inspection Staff - Inspectors are responsible for issuing recommendations on applications both for approval to commence works and for grant payment. This work involves assessing each application, carrying out a field inspection as appropriate, suggesting amendments or improvements if required and recommending approval or payment if appropriate.

Table 3.2 below shows the breakdown of staff costs involved in administering the Forest Road Scheme. Both the administrative and inspectorate staff costs are analysed in detail in the next chapter.

Table 3.2: Breakdown of Staff Costs for Administering the Forest Road Scheme

Year	Administrative staff costs	Inspectorate staff costs	Total staff costs
2004	€02,575	€45,259	€47,834
2005	€27,024	€21,851	€48,874
2006	€14,533	€69,539	€84,072
2007	€44,625	€90,490	€135,115
Total	€88,757	€27,138	€1,215,895

3.2.3 Materials

Materials constitute a small percentage of overall Scheme costs and basically comprise a small cost for providing protective clothing and equipment to the Inspectorate to allow them carry out their role. The material cost for the years in question is approximately €1,000 per year¹⁴.

¹³ Such referrals are necessary to ensure that road construction is compatible with the Code of Best Forest Practice – Ireland, the Forest Service Environmental Guidelines and the Forest Road Manual published by COFORD.

¹⁴ Based on a cost per year of €500 per inspector, with 19 inspectors costs apportioned across 10 different operational schemes.

3.3 Activities

The Steering Committee defined “*activities*” as what a programme does with its inputs in the pursuit of its objectives and accordingly identified four activities of the Forest Road Scheme:

- Administrative processing
- Inspection of applications prior to approval
- Construction of forest roads
- Inspection of applications post forest road construction

3.3.1 Administrative Processing

This work requires the Administrative staff to fully process applications for approval, liaise with the Inspectorate and the relevant 3rd parties if required and fully process the subsequent applications for grant payment.

3.3.2 Inspection of applications prior to approval

This work requires the Inspectorate to assess each application, carry out a field inspection as appropriate and suggest amendments or improvements if required.

3.3.3 Construction of Forest Roads

Upon receipt of appropriate approval construction can commence. Forest Roads constructed under the Scheme must be constructed in accordance with:

1. the Forest Roads Manual produced by the National Council for Forest Research and Development (COFORD) in conjunction with the Forest Service,
2. the guidelines published in the Forestry Schemes Manual, the Code of Best Forest practice - Ireland, and
3. the current suite of environmental guidelines as published by the Forest Service Forest Roads Manual produced by the National Council for Forest Research and Development (COFORD) in conjunction with the Forest Service.

3.3.4 Inspection of applications post Construction of Forest Roads

This work requires the Inspectorate to assess each application for payment, carry out a field inspection as appropriate, consider the road’s compliance with the Manuals and guidelines and suggest amendments or improvements if required.

3.4 Outputs

The Steering Committee defined “*outputs*” as the products of a programme – both goods and services – and identified 5 such outputs of the Forest Road Scheme:

- Forest Road Scheme applications approved,
- Forest Road Scheme grant applications paid,
- roads constructed with grant-aid,
- roads constructed to the required standard, and
- forest roads with community access

Table 3.3 summarises the trend of selected output data for the Review period.

Table 3.3 Summary of the Outputs of the Forest Road Scheme

Year	Approval Applications Received	Approval Applications Issued	Grant Applications Received	Grant Applications Paid	Linear Metres Constructed	Felling Licences Issued
2004	148	127	29	85	79,030	984
2005	965	1,000	580	362	180,610	611
2006	1,100	442	208	306	315,167	933
2007	847	740	494	454	240,383	1,132
Total	3,060	2,309	1,311	1,207	815,190	3,660

It is worth noting that not all approval applications are approved by the Forest Service mainly due to environmental reasons and that all approvals received are not utilised by forest owners due to a variety of reasons including financial reasons.

The steering committee has divided the outputs into “*intermediate*” and “*final*” outputs, with the intermediate outputs being those required in order to produce the final outputs. Accordingly, the intermediate outputs comprise the number of approvals issued and grant applications paid.

The final outputs comprise the road constructed, those constructed to the minimum recognised standard and the forests with community access to the grant-aided forest road.

Roads constructed

The Steering Committee believes that the primary purpose of the Forest Road Scheme is the construction of suitable forest roads to facilitate the achievement of the remaining Scheme outcomes.

Standard of road built

For access purposes the road must be built to a specified minimum standard. The required standard of a forest road is outlined above in section 3.3.3. Prior to payment issuing the Forest Service ensures that the forest roads are constructed to the correct standard. In cases where the area of forest ready for harvesting is greater than 20 hectares the registered forester must ensure that a qualified engineer’s report accompanies the approval application.

Forests with community access

It is a basic principle of this Scheme that any infrastructure funded should be open to the public for recreational use without charge. However, such access may be restricted where it is necessary to protect sensitive areas, or where vandalism or dumping is an issue, or to ensure the proper and safe use of the infrastructure. Where measures have been taken to protect any infrastructure from animal trespass, pedestrian access must be facilitated by a gate or a stile or other means. Public access does not confer any permanent rights to members of the public. If it proves necessary to restrict access to any forest infrastructure works undertaken under this Scheme, the beneficiary must notify the Department in writing of the reason for the restriction and the expected duration of the restriction.

3.5 Outcomes

The Steering Committee defined “*outcomes*” as both the intended and unintended impacts that occur as a consequence of the programme’s intervention. Outcomes can be subdivided into monetary benefits that fall to the forest owner and public good benefits that benefit the wider community. The Steering Committee identified five outcomes of the Forest Road Scheme:

- thinnings harvested,
- timber harvested at clearfell,
- protection of forests,
- community access, and
- enhanced biodiversity.

What follows in the remainder of this chapter is a brief description of each of these outcomes, with the effectiveness with which they are achieved considered in chapter five.

3.5.1 Thinnings Harvested

Thinning is the removal of a proportion of the trees in a forest to allow more growing space for the final crop trees. Thinning increases the total volume yield of usable timber over the lifetime of the crop and provides an intermediate source of timber and revenue before clearfelling. By removing smaller weaker trees the remaining trees are left with more space and light to grow and this increases the percentage of larger diameter material suitable for the saw-log market. The Steering Committee identified several benefits, both direct and indirect, from forest thinnings including:

- the generation of heat in the form of woodchips, pellets and firewood,
- the generation of timber suitable for fencing, pallets, medium density fibre board (MDF), oriented strand board (OSB) and panelboard,
- the reduction of carbon dioxide emissions by replacing imported fossil fuels,
- the provision of much needed rural located employment in the harvesting, transport sector, downstream processing, service suppliers and road construction,
- an increase in the percentage of saw-log material in the remaining forestry crop, and
- an increase in the amount of light and opening up of the forest plantation resulting in a positive impact on flora and wildlife and thereby supporting more diversity in terms of plants and animals.

3.5.2 Clearfell Harvested

Clearfell is the removal or harvesting of all the trees in a forest coupe at the same time. As with thinning operations a forest road is needed to remove timber following clear fell. Figures published by COFORD show that a record 2.98 million cubic metres of round wood¹⁵ was harvested from Irish forests in 2007¹⁶. This wood supplied the sawmilling, wood-based panel and energy sectors. Coillte supplied an estimated 87% of this harvest, with the balance coming from the expanding private

¹⁵ Roundwood is all wood obtained from the forest such as saw-wood, pulpwood, pallet & stake prior to sawmill processing

¹⁶ www.COFORD.ie

forest estate. Harvest levels in private sector forests are increasing significantly and have the potential, according to COFORD, to grow ten-fold over the coming decade. This potential is evidenced by the rise in the number of private sector felling licences issued during the review period - 71 licences in 2004 to 450 licences in 2007.

Table3.3: Ireland's Roundwood Harvest (2006-2007)

Year	Public Sector Harvest (m³)	Private Sector Harvest (m³)	Total Roundwood Harvest (m³)
2006	2,700,411	237,883	2,938,294
2007	2,577,000	403,823	2,980,823

The potential production of roundwood, including thinnings, from the forests of Ireland will reach 5 million m³ per annum by the year 2015¹⁷. This can be further broken down as follows:

- Pulpwood supply to rise by 81% from 835,000m³ to 1,508,000 m³
- Small sawlog supply to rise by 10% from 1,261,000 to 1,393,000 m³
- Large sawlog supply to rise by 40% from 1,495,000 to 2,091,000 m³

The private sector will account for most of the increased pulpwood production, similarly the vast majority of the increase in small sawlog will come from the private sector as these forests are new, vibrant and growing. The mature forest resources of Coillte will account for the 40% increase in large sawlog production. The potential value of this increased supply in the future will be significantly higher than the value of supply in the review period.

3.5.3 Protection of Forests

The Steering Committee recognises the importance of protecting the forest resource. Forest Roads serve as firebreaks within forests, helping to prevent the spread of forest fires, as well as facilitating emergency access. They also facilitate access for the management and ongoing monitoring of the forest crop. Forest roads also improve access, which can aid in the control of species such as deer and squirrel.

3.5.4 Community Access

A well-designed forest can enhance the landscape and has the potential to provide a wide range of recreational activities. Activities such as walking, orienteering, pony trekking and cycling are commonplace, and the value of forests in providing a recreational and cultural environment, particularly for urban dwellers, is now an important forestry function. Many studies, including those by Clinch and Bacon, have highlighted the leisure and recreation value associated with forestry in Ireland. The Forest Road Scheme 2007-2013 now provides public access on forest roads that have received State aid. Although access of the forest road into the forest itself is not a condition of the Scheme, forest owners have the discretion to develop further access.

¹⁷ Forecast of Roundwood Production in Ireland 2001-2015, COFORD, 2001

3.5.5 Enhanced Biodiversity

The construction of Forest Roads provides both direct and indirect biodiversity benefits. Direct benefits are those associated with the forest road and the forest road edges as habitats in their own right. Indirect benefits include those derived from increased levels of thinning. Thinning opens up the canopy of a forest and allows greater light penetration and greater biodiversity within the forest itself.

3.6 Conclusion

This chapter helps provide clarity to the observation - *“If we invest these resources, to bring about these activities, then in the short term we should obtain these outputs and over a longer period we should acquire these outcomes”* – by depicting in diagrammatic format the assumed linkages between the inputs, activities, outputs and outcomes of the Forest Road Scheme.

Accordingly, the chapter provided a brief outline of the resources consumed by the Forest Roads Scheme. These mainly comprise financial and staff resources. The chapter also detailed the activities that occur, for example processing of applications and construction of roads, to produce the Scheme outputs. Finally, it identified both the Scheme outputs and outcomes delivered as a consequence of the activities carried out.

This was largely a descriptive chapter, with an analysis of detail contained in the logic model provided in the following two chapters. Accordingly, using the information and data gathered in the course of setting out the Forest Road Scheme Logic Model the Steering Committee now presents its findings and recommendations on the Scheme’s efficiency and effectiveness while chapter six will discuss alternative policy approaches.

CHAPTER 4

Efficiency and Programme Management

This chapter will examine the efficiency of the Forest Road Scheme and chapter five will examine its effectiveness. This chapter will assess the level and trend of both inputs and outputs as previously identified in the Programme Logic Model and analyse both the cost and quality of scheme delivery.

Efficiency is about the relationship between the Scheme's inputs and outputs as identified in the Programme Logic Model. An efficient programme is one that produces the maximum possible outputs given the inputs, or one that produces a certain level of output with the minimum amount of inputs. Of course the quality of the service delivered is also an important variable. Accordingly the Steering Committee believes it is appropriate to measure the Scheme's efficiency by examining both the cost and the quality of delivery.

4.1 Cost of delivering the Scheme

The key test of efficiency is the measure of the input/output ratio as it provides an indication of what has been achieved with the resources consumed. The definition of what is actually feasible is difficult to determine as this is a subjective matter and the question of what is achievable with the inputs available is open to debate. Accordingly the Steering Committee believed it would be appropriate to benchmark the Forest Road Scheme's performance against suitable comparators. However, despite the fact that there are similar efficiency ratios calculated for other departmental schemes, which are set out later, the Steering Committee does not believe that these are fully comparable. Nonetheless, they do provide a useful indicator of whether the cost of administering the Scheme is out of line with other grant schemes. Also the Committee believed that the establishment of a baseline would be useful as a benchmark against which to measure efficiency over time.

While there are many potential input-output ratios the Steering Committee believes that the following are the most relevant:

- the administration (excluding inspectors) cost per application approved and/or paid (Table 4.1),
- the cost per completed inspection (Table 4.2),
- the total staff cost per application approved and/or paid (Table 4.3), and
- the total staff cost as a percentage of the overall Scheme cost (Table 4.4)

Table 4.1: Administration (excluding inspectors) cost per application paid

Year	Administrative staff costs	Applications approved and/or paid	Administrative staff costs per grant application approved and/or paid
2007	€44,625	1,194	€21

Administrative staff costs per application are €21 in 2007. Given the fact that the application process involves two distinct parts and the fact that an application may take more than one calendar year to process it was not possible to calculate the exact

administrative staff cost for each of the years 2004-2007. Nonetheless, the background data that made up the 2007 figure, gathered by the Forest Service indicates a downward trend in the administration cost per application.

Table 4.2: Inspection cost per completed inspection

Year	Inspectorate staff costs	Inspections conducted	Inspectorate staff costs per inspection
2004	€45,259	212	€213
2005	€21,851	1,326	€167
2006	€69,539	996	€70
2007	€90,490	1,759	€65

The cost per inspection completed was €213 in 2004 and fell to €65 in 2007 representing a decline in percentage terms of 23%. Differences in costs can vary depending on the total number of applications received and the geographic spread of existing inspections for all schemes in each Inspector's district.

Table 4.3: Total cost per application approved and/or paid¹⁸

Year	Total staff costs	Applications approved and/or paid	Total staff costs per grant application approved and/or paid
2007	€435,115	1,194	€364

Forest Road Scheme staff costs totalled €435,000 in 2007. This expense was incurred in the course of processing applications, approving grants, completing inspections and issuing payments of some 1,200 Forest Road Scheme applications and represents a cost of €364 per application.

Table 4.4: Staff cost as a percentage of the overall Scheme cost

Year	Total Scheme Expenditure	Total staff costs	Total staff costs as a % of total Scheme expenditure
2007	€7,508,000	€435,115	5.8%

The staff costs as a percentage of overall Scheme costs is 5.8% in 2007. Again, background data gathered suggests that the trend is downwards. Table 4.5 below details similar percentages for other Department run schemes.

As can be seen in the table below the percentage for the Forest Road Scheme is higher than some schemes listed but significantly lower than the Dairy Hygiene Scheme (DHS) and Farm Waste Management (FWM) figures. It is worth noting that the more recent DHS VFM Report identified the issue of high inspection costs and made recommendations on reducing these costs. The Steering Committee is satisfied both that the Scheme is being delivered in a cost effective manner and that the trend in the costs is downwards. That said, the inspection regime is examined in more detail in chapter 6 (see section 6.3.2), as it is an area that the Committee believes could be made more efficient and effective by adopting a risk-based approach to selecting

¹⁸ As a successful Forest Road Scheme grant application involves two applications, one for approval and one following construction for payment, and they are often processed over more than one calendar year, the Committee decided to analyse staff costs on the basis of applications approved and/or paid.

inspections in tandem with the introduction of a robust penalty system. It is worth noting that other similar infrastructure projects funded by the Department such as the On Farm Investment schemes are generally 100% inspected at both pre-approval and pre-payment stage.

Table 4.5: Percentage that administration costs comprise of total Scheme costs

Scheme	Year	Percentage	Source
Single Farm Payment	2007	1.8%	Finance Division, DAFF
Food Institutional Research Measure	2006	4.3%	FIRM VFM Review, DAFF
Marketing and Processing	2007	5.3%	Marketing and Processing VFM Review, DAFF
Compensatory Allowance Scheme	2003	2.4%	Compensatory Allowance Scheme VFM Review, DAFF
Farm Waste Management Scheme	2003	20.0%	Farm Waste Management VFM, DAFF
Dairy Hygiene Scheme	2005	28.4%	Dairy Hygiene Scheme VFM, DAFF

While the Steering Committee believes that the Scheme is being delivered efficiently, they are also of the view that the new online system being developed in conjunction with IFORIS, will lead to increased administrative efficiencies. The new system will allow registered foresters to submit their applications online. The Steering Committee believes that this should lead to fewer data input staff being required resulting in further staff cost savings. The first phase of the online application was released early in 2009 and included the Forest Road Scheme. It is also worth noting that IFORIS now captures the spatial location of roads constructed with aid since 2006. However such data is not available for pre-2006 roads and this will have implications for the future validation of forest road aid applications.

Recommendation 2 – The Steering Committee recommends that the Forest Service reviews its online system after a reasonable period to assess its effect on the administration of the Scheme and to ensure that the benefits from its use are maximised.

4.2 Quality of scheme delivery

The Steering Committee examined the quality of Scheme delivery using the primary research findings from the questionnaire¹⁹ disseminated by the Forest Service. Good quality service would be widely accepted as a service delivered impartially, courteously, in a user-friendly fashion and with both queries and payments resolved or delivered in a timely fashion. The quality of the Scheme's delivery will be examined under a number of areas as follows:

¹⁹ The questionnaire was administered to two separate stakeholder groups, namely producers/forest owners and industry stakeholders.

Application Process and Guidance Provided by Department

89% of landowners surveyed stated that they were either “*satisfied*” (53%) or “*very satisfied*” (36%) with the application process in terms of ease of application - 6% stated that they were “*dissatisfied*” or “*very dissatisfied*”.

When asked to rate the guidance received from the Department of Agriculture, Fisheries & Food in relation to applications, over 82% of landowners stated that they were either “*satisfied*” (47%) or “*very satisfied*” (35%). Only 8% stated that they were “*dissatisfied*” or “*very dissatisfied*”.

As regards the stakeholders, there was a fifty-fifty split between those that were “*satisfied*” and “*dissatisfied*” with the ease of the application process. When the stakeholders were asked to rate the guidance received from the DAFF in relation to applications 63% stated that they were either “*satisfied*” (50%) or “*very satisfied*” (13%), while only 13% stated that were “*dissatisfied*”.

Guidance from Registered Foresters²⁰

When asked about guidance from approved foresters 86% of landowners stated that they were either “*satisfied*” (38%) or “*very satisfied*” (48%) - 5% stated that they were “*dissatisfied*” or “*very dissatisfied*”. Given the critical role that the forester plays, together with Registered Forestry Companies, in the delivery of the State’s Forestry programme the high level of satisfaction expressed by respondents provides substantive evidence that the role is being fulfilled to a very high standard.

Processing Speed

On the question of processing times, 71% of the landowner respondents were either “*satisfied*” or “*very satisfied*” - 14% were either “*dissatisfied*” or “*very dissatisfied*”. When the stakeholders were asked the same question 23% of those respondents were either “*satisfied*” or “*very satisfied*” - 67% were either “*dissatisfied*” or “*very dissatisfied*”.

According to the Department’s Charter of Rights for Farmers²¹ forest road approvals should issue within 10 weeks except where public consultation is required by statute - 14 weeks in these cases where practical. Payments should issue within 6 weeks for non-inspection cases or 10 weeks where inspection is required. Given the levels of dissatisfaction with processing times, particularly

²⁰ An applicant under the various forestry schemes must use a Registered Forester to plan, prepare and submit his or her application for support and, in many cases, to supervise or carry out the work being grant aided. The Department maintains a Register of Foresters and Forestry Companies eligible to prepare and submit applications under the Forestry Schemes on behalf of applicants. Application for the inclusion of individual Foresters and Forestry Companies on the Register must be made to the Department. At the time of application, a Forester must be a technical member of the Society of Irish Foresters (SIF) or hold a qualification in forestry acceptable to the Minister. At the time of application, a Forester must provide to the Department evidence of a valid Professional Indemnity Insurance policy with a minimum value of €500,000.

²¹ The Department of Agriculture, Fisheries & Food, with the aim of improving the standard of service provided to farmers availing of the various services administered by the Department, publishes a Charter of Rights for Farmers on a regular basis. It sets out specific delivery and service targets for a wide range of departmental run schemes including the Forest Road Scheme.

from industry stakeholders the forest service conducted further analysis into processing times.

In 2007 the average time taken to process an approval was 15 weeks and over the review period it was 20 weeks. In 2007 the average time taken to process a payment application was 14 weeks and over the review period it was 22 weeks. While the 2007 average times demonstrate an improvement in the processing speed when compared with the 2004-07 averages, in each case the processing times fail to meet the maximum time as set out in the Charter. The Forest Service explained that this under-performance was due to the receipt of incomplete applications forms, the requirement to carry out consultation with third parties, resource issues and the internal procedures for calculating processing times.

Table 4.6: 2007 Processing and Payment Times

Activity	Recommended Time (weeks)	Actual Time (weeks)	Underperformance (weeks)
Approval	10	15	5
Payment	10	14	4

Overall Service

When questioned about the service provided by the Department of Agriculture, Fisheries & Food during the entire process 71% of the landowners stated that they were either “*satisfied*” or “*very satisfied*” - 10% were “*dissatisfied*” or “*very dissatisfied*”. When the stakeholders were asked the same question, 33% of those respondents were “*satisfied*” or “*very satisfied*” and 33% were “*dissatisfied*” or “*very dissatisfied*”.

The results of the primary research suggest that the ease of the application process, the guidance offered by the Department during the process and the overall service provided by the Department is efficient, notwithstanding the fact that half of the stakeholders were “*dissatisfied*” with the ease of the application process. However, one area of concern is the time taken to process applications. The average times to complete both an approval and a payment application in comparison to the targets contained in the Farmers’ Charter suggest that improvement is required. This concern is highlighted by the fact that 67% of stakeholder respondents indicated that they were “*dissatisfied*” with the time taken by the Department to process applications.

Recommendation 3 – The Steering Committee recommends that the Forest Service put in place appropriate mechanisms to ensure that the minimum processing standard as set out in the Farmer’s Charter is met from existing resources. Progress against this target should be reported under the Department’s internal follow up process established for VFM reporting.

4.3 Conclusion

Although the approvals, payments and linear meterage outputs have increased over the review period, there was a significant reduction in both the administration and inspection costs per grant. This overall cost per grant paid also declined as a percentage of the Scheme's total expenditure between 2004 and 2007. While it proved impossible to find a suitable comparator, the Committee is satisfied that the trend in all the input-output ratios is downward.

From a quality perspective and as evidenced from the questionnaire results, the Committee is also satisfied that the Scheme is being delivered efficiently. However, the underperformance in respect of the times taken to both approve and pay applications is unsatisfactory and must be rectified. Recent initiatives including the online application facility should lead to an improvement in this aspect of the Scheme and the Forest Service will monitor the situation on a regular basis. It must be borne in mind that Forest Service staff are involved in the administration and inspection of nine other schemes and the number of applications received in each of these schemes has an impact on overall processing performance.

CHAPTER 5

Outcomes and Scheme Effectiveness

Effectiveness is a measure of the match between the Scheme's stated goals and their actual achievement. Whereas efficiency is concerned with doing things right effectiveness is about doing the right things. This chapter will analyse the extent to which the objectives of the Forest Road Scheme have been accomplished with the analysis focussed on the achievement or otherwise of the outcomes identified in the Programme Logic Model. Accordingly it examines the extent to which many of these outcomes have been achieved with a special focus on what the Steering Committee believe is the primary goal of the Scheme – that is to increase the quantity and value of both thinnings and clearfell.

So while the primary focus of the Scheme is economic, the Steering Committee also acknowledge its stated aim of providing adequate funding to build roads thereby both:

- improving the environmental and biodiversity value of the forests, and
- providing access for the general public's recreational use.

On this basis the analysis will also examine the Scheme's contribution to:

- The level of funding of the road construction,
- The environmental benefits, and
- The level and benefits derived from enhanced access.

Finally this chapter will examine the issue of deadweight given that the existence or otherwise of deadweight in any grant application will impact on a scheme's ability to deliver value for money.

5.1 Quantities and Value of Thinnings and Clearfell

This outcome is linked to the Scheme objective of facilitating access for harvesting purposes thereby adding economic value. This section will examine the Scheme's contribution to increasing:

- the quantity and value of thinnings, and
- the quantity and value of clearfell.

The methodology used to examine the Scheme's effectiveness comprises both the analysis of secondary data gathered from existing divisional databases and primary data from the questionnaire administered by the Forest Service. Detailed descriptions of the outcomes are set out in chapter 3.

5.1.1 Quantity and value of thinnings harvested

A 2006 Teagasc research report²² highlights the economic importance of thinnings to overall forestry revenues. These research findings together with a second Teagasc

²² N. Farrelly, Forestry Development Unit, Teagasc, Thinning Increases Returns in Farm Forest Plantations, 2006

report²³ show that, over time, thinned plantations generate returns that are €1,000 per hectare higher than unthinned plantations. This difference in net present value terms was shown to be between 8% and 11% depending on the crop location. Both reports attribute this increase to the fact that revenue is generated at an earlier stage in the thinned crop. In addition to providing additional revenue, the research also highlighted that carrying out thinning work increases both the quality and value of clearfell.

Other benefits of thinning²⁴ include:

- providing a regular income stream for farm forest owners,
- increasing the biodiversity of the forest
- generating a supply of raw materials for local timber processors and a supply of pulpwood for chipping for wood energy, and
- providing regular work for forest harvesting contractors and local employment for part time farmers.

In a paper for COFORD, forestry consultant Henry Phillips cited work by Gallagher and O'Carroll in 2001 that estimated that private plantations will be capable of producing 4.12 million m³ in thinnings²⁵ between now and 2015 provided that thinning occurs on time and that markets are available. Based on more recent research published in 2006 Niall Farrelly of Teagasc forecast that the cumulative volume from thinnings could even be 5.9 million m³ by 2015. The Steering Committee believes that this potential thinning volume is significant as it represents:

- an increasing source of raw material for the processing sector,
- a valuable source of revenue for the private owners, and
- a source of additional employment in the harvesting, transport and downstream processing sectors of the industry.

Furthermore, in 2006 Farrelly noted that the full potential of farm forestry was not being realised and that almost 900,000 m³ of timber was potentially available in forests that had reached or passed the first thinning stage. The Steering Committee strongly believes that the construction of forest roads is necessary to unlock this potential value.

It is evident therefore that thinning can deliver significant economic benefits with the extent of this benefit obviously dependent on the timing of the road's construction. Timing of construction is therefore an important issue and is considered by the Steering Committee in greater detail in chapter 6 section 6.3.2. Firstly, however the Steering Group examined the Scheme's current contribution to this objective by both examining the link between road construction and increased thinnings and by analysing questionnaire responses.

²³ N. Farrelly, Teagasc, Forestry Development Unit, The Farm Forest Resource and its Potential Contribution to Rural Development in Ireland, 2006

²⁴ Teagasc, Forestry Development Unit, A Road Map for the Farm Forestry Sector to 2015, November 2007

²⁵ Henry Phillips, Forestry Consultant, COFORD Connects, 'Realising the potential of private plantations', 2004.

Secondary Data

Table 5.1 highlights that in the period 2004-07 in excess of 800,000 linear meters of forest roads were constructed while approximately 64,000 hectares were licensed for thinning. The table also includes an estimate of the value of these thinnings based on Minister of State Wallace's speech²⁶ to Seanad Eireann in 2008.

Table 5.1: Roads Constructed and Thinning Volumes and Value

Year	Grant-aided Forest Roads Constructed (m)	Area licensed for Thinnings ²⁷ (ha)	Value of Thinnings ²⁸ (mn)
2004	79,030	11,282	€1.142
2005	180,610	15,759	€1.596
2006	315,167	16,761	€1.697
2007	240,383	20,408	€2.066
Total	815,190	64,210	€6.501

The table underlines the national upward trend in the area licensed for thinning which is a reflection of the changing age profile of the private forest estate. COFORD²⁹ has estimated that between now and 2015, private plantations have the potential to produce 4 million cubic metres of thinnings with a forest gate value of €100 million plus a significant added value potential. The COFORD estimate includes the potential returns from first, second and subsequent thinnings.

The Steering Committee is satisfied that the available evidence supports the view that Scheme expenditure has contributed significantly to the increase in the volume and value of annual thinnings harvested and the increase in the volume and value of potential thinnings made available. However, it would be necessary to have the breakdown of these figures between funded and non-funded plantations over a more prolonged period, to allow us to state more definitively that the strong positive correlation between forest road construction and thinning detailed above is primarily due to the Scheme itself.

Recommendation 4 – The Steering Committee recommends that the Forest Service gathers data on the annual area thinned from both grant-aided and non grant-aided plantations.

Primary Data

When questioned on the issue of the Scheme's contribution to harvesting timber (taken to mean both thinning and clearfell) over 90% of forest owners believed that the Scheme's contribution to this objective was either "good" or "very good". Only 2% said it was either "poor" or "very poor". Taking into account the fact that the

²⁶ www.SeanadEireann.ie - February 20, 2008

²⁷ Figures provided by Felling Section, Forest Service

²⁸ Based on Minister Wallace's Speech in Seanad Eireann on February 20, 2008

²⁹ Based on COFORD Connects Silviculture/Management No 9: Realising the potential of private plantations

questionnaire was administered to existing grant recipients, and therefore a captive audience, this represents a very high satisfaction rate. Similarly, 90% of industry stakeholders indicated that they were satisfied with the Scheme's contribution in this regard.

70% of landowners indicated that they have thinned since obtaining the forest road grant while 87% are planning up to 4 thinnings over the lifetime of the forest.

As mentioned earlier the timing of road construction is extremely important given the values associated with the first and second and intermediate thinnings. The timing of first and subsequent thinning depends on the species and the site's productivity. In general, the first thinning takes place between 14 and 20 years and subsequent thinning take place at 5-year intervals until clearfell – consequently early road construction is required. Evidence extrapolated from the questionnaire responses suggest that, in the absence of the Scheme, approximately 50% of applicants indicated that they would delay or even abandon the project altogether. Nearly a quarter of respondents stated that they would not have undertaken their road-building project in the absence of funding, while over three quarters felt that the absence of a road would lead to an unsuccessful harvest. It is clear therefore that either the total abandonment of the road-building project or the failure to build the forest road before the optimum time for thinning in the plantation's development will result in a significant economic loss.

Conclusion

Based on a combination of the data obtained from the Forest Service and the questionnaire data, the Steering Committee is satisfied that the Scheme does encourage landowners to carry out thinning work and accordingly makes a significant contribution to the quantity and value of thinnings harvested. It is likely that in the absence of a publicly funded Forest Road Scheme the value and volume of thinnings would decrease significantly. This would be an unwelcome development given both the potential uses and value associated with forestry thinnings. The timing of construction is also important as highlighted above and this is an issue that the Steering Committee will return to in the next chapter when considering alternative approaches to Scheme delivery.

However, despite the highlighted benefits from thinnings that the Scheme delivers and its importance to the Scheme's rationale, it is not a compulsory requirement of the Scheme that grant recipients carry out the appropriate amount of thinning on the plantation. The Steering Committee believes that it would enhance the Scheme's effectiveness if thinning was included as a compulsory requirement, this issue is addressed further in the next chapter. However, the Committee believes that the Forest Service should explore this issue further given the relationship between windblow and thinning.³⁰

³⁰ One of the main threats to forests in Ireland is damage caused by wind and it is understood that forests on poorly drained soils have a high windthrow risk. According to work by Ni Dhubhain et al, 2004, thinning greatly increases the risk of windblow. Teagasc research work suggests then that for soils with a high probability of windblow that it may be more apt to choose a no thinning policy where the risk of windthrow is decreased.

Recommendation 5 – *The Steering Committee recommends that the Forest Service introduces a requirement to undertake the appropriate amount of thinnings as a qualifying condition for receipt of the Forest Road grant.*

5.1.2 Quantity and value of timber harvested

Figures published by COFORD show that a record 3 million m³ of round wood was harvested from Irish forests in 2007. This wood provided the raw material for the sawmilling, wood-based panel and energy sectors. Coillte supplied 87% of the harvest, with the balance coming from the expanding private forest estate. Harvest levels in private sector forests are increasing significantly and have the potential, according to COFORD, to grow ten-fold over the coming decade. This is evidenced by the number of felling licences issued to the private sector for clearfelling during the review period - 71 licences in 2004 to 450 licences in 2007. Furthermore Coford³¹ predict that production of roundwood could potentially reach 5 million m₃ per annum by the year 2015, an increase of two thirds on 2007 volumes. Again the Steering Committee believe that the construction of forest roads is an important factor in maximising this return. The Committee does however acknowledge that regardless of whether funding is provided for forest roads a certain percentage would be built in any event raising the question of how much deadweight exists. This issue is examined later in this chapter.

Secondary Data

In the period 2004-07 some 32,000 hectares was clearfelled, of which approximately 94% was publicly³² owned. While the total hectares of clearfell has not increased over the review period despite the significant increases in the linear meterage of roads constructed, this is a reflection of the afforestation levels 40 to 50 years ago rather than the Scheme's failure to contribute to this objective.

Table 5.2: Number of hectares Clearfelled and estimated value from Clearfell

Year	Linear meterage constructed (m)	Private clearfell (ha)	Coillte clearfell (ha)	Total clearfell (ha)	Estimated value clearfell ³³ (mn)
2004	79,030	157	7,659	7,816	€87
2005	180,610	1,260	6,929	8,189	€92
2006	315,167	115	8,076	8,191	€92
2007	240,383	417	7,436	7,853	€88
Total	815,190	1,949	30,100	32,049	€359

Total expenditure on the Forest Road Scheme was approximately €8 million over the review period. As evident from table 5.2 above the estimated value of clearfell in the associated forests was €359 million in the same period. Furthermore the value of clearfell per hectare increased by over 20% since the review period. To maintain this trend and to ensure that the maximum economic benefit is achieved from these levels of clearfell, the Steering Committee believes that continued funding for forest roads is important. Of course, it is also important to point out that, if maintained properly, the

³¹ Forecast of Roundwood Production from the Forests of Ireland 2001-2015 by Coford

³² This high percentage reflects the levels of public versus private plantings in the 1960's and 70's.

³³ Based on Minister of State Wallace's Speech in Seanad Eireann, February 20, 2008

road will not only serve the existing plantations but also subsequent rotations, thereby adding further value in the future.

Primary Data

Again, over 90% of forest owners believed that the Scheme's contribution to harvesting timber was either "very good" or "good" representing a very high satisfaction rate. Similarly, 90% of industry stakeholders indicated that they were satisfied with the Scheme's contribution to this objective.

Conclusion

Data obtained from the Forest Service provides substantial evidence that the Scheme is contributing positively to the successful harvesting of thinning material. However this is not so with regard to clearfell and the Committee believes that this is mainly due to the level of development of Ireland's forests. Even taking into account the possibility of bias due to the population surveyed, the postal survey indicated that the Scheme is making a positive contribution towards the twin objectives of maximizing potential thinning and clearfell. However, the short period over which this data was analysed combined with the existence of some level of bias prevents a definitive conclusion in this regard.

Recommendation 6 – The Steering Committee recommends that the Forest Service amends the annual performance framework developed for the Scheme to measure both thinning and clearfell returns.

5.2 The funding of the road construction

The Steering Committee believes there are two potential issues relating to the grant namely the rate of aid provided and the cost of road construction. Each is now examined.

5.2.1 Rate of Aid

The maximum level of aid is currently €45 per linear metre. In 2002 the European Commission gave State Aid approval to the Forest Road Scheme including a Grant Rate of 80% of the costs subject to a limit of €28.56 per linear metre.³⁴ The Forest Service reviewed the rate of €28.56 in 2006, as they believed that it may not have correctly reflected the relevant construction costs at that time and that this may have led to the postponement of important forest roading work. In fact, at that time the Forest Service believed that the rate only covered approximately 40% of costs incurred rather than the intended 80%. There was strong evidence that the fall in the real value of the road grant since 1999 had become a significant obstacle to forest road construction.

This appraisal revealed that a significant increase was required in order to realign the rate with actual construction costs. For that reason the Department of Finance sanctioned a 58% increase³⁵ bringing the grant to the current rate of €45 per linear

³⁴ State Aid No NN 88/B/2002

³⁵ Sanction No 2/2007 refers

metre. They estimated this would cover approximately 80% of construction costs. Under the current Scheme grants of up to 80% of the eligible costs incurred in the construction of a forest road are available subject to a maximum 25 metres³⁶ of road per hectare of forest served.

When the new rate was introduced, an immediate increase in activity followed with approvals and payments both increasing between 2006 and 2007 by 50% and 33% respectively. Linear meterage constructed also increased from 2006 to 2007 by 17%. The Committee is satisfied that the increase had a positive effect on interest in the Scheme, and that this underlines the importance of establishing an appropriate rate.

When questioned on the adequacy of the existing 80% grant rate, 68% and 60% respectively of landowners and industry personnel indicated that the rate covered 80% of construction expenditure. In order to assess the potential impact of a reduction in rates industry stakeholders were questioned on their views on a reduction of the grant to 60% of estimated costs. As you would expect given the sample used practically all respondents believed that there would be a significant reduction in the roading programme and in the volumes of timber extracted from private forests if such a reduction was imposed.

Taking an example that the cost of constructing a road incurred the full rate of eligible costs, therefore the applicant was entitled to the maximum level of grant of €45 per linear meter to cover 80% of construction costs and constructed the maximum of 25 meters of road per hectare, the total cost of constructing the road would be €1,406.25 per hectare, with €1,125 per hectare of this grant aided. To compare this cost against possible returns from the plantation, the current roadside prices suggest €300 per hectare for first thinnings, €900-€1,400 per hectare for subsequent thinnings and €2,300 - €3,000 per hectare for clearfell. It is important to note that such prices vary widely depending on access, market proximity and species harvested. Based on these projections forest owners would have little or no returns from first thinnings, if the level of grant was reduced from current levels. Therefore to encourage thinnings, the Committee believes it appropriate to retain the present grant rate at 80% of eligible costs.

5.2.2 Cost of Construction

Given the recent decreases in general construction costs³⁷ it would be remiss of the Committee not to consider the issue of whether the current level of grant rate covers more than 80% of costs incurred. Presently when the Forest Inspectorate analyse the costs submitted with grant payment applications, there is no standard catalogue of costs for guidance purposes. The Committee believes that a detailed catalogue of road costs should be drawn up to assist the Forest Service Inspectorate.

³⁶ This limit may be exceeded in exceptional circumstances or on the recommendation of a Forest Service Inspector. Exceptional circumstances means severe topographical conditions such as slope greater than 1 in 7 or ravines/rivers. A maximum density of 30m/ha may be applied in these circumstances. More information on grant rates is contained in Appendix XI

³⁷ In March 2009 Ulster Bank economist Pat McArdle speaking on the results of the Ulster Bank's monthly construction sector survey, said the cost of raw materials and sub contractor rates are at record lows since the survey began in 2000. Building costs fell by 11% in 2008 to levels not seen since 2000 according to the Society of Chartered Surveyors. An index compiled by the Society of Chartered Surveyors showed there was a 20% drop in construction tender prices

This catalogue of costs, along with the invoices of costs submitted with the application for payment, shall be the basis for determining the grant ultimately paid to the applicant. However, this is subject to the maximum grant of €45 per linear metre remaining. A periodic review of the proposed catalogue of costs will determine if the grant rate is keeping pace with inflation and other external factors.

Although the Committee recommends that a qualified civil engineer with experience in forest road construction assist in compiling this catalogue of costs, it is aware that the Department may have suitable engineers qualified for this task and contact should be made with the relevant section to assess the availability of resources.

The existing Forest Road Scheme was further amended in 2009 to reflect the reduced availability of national funds in an effort to improve value for money. Some of the changes now included in the existing road Scheme are summarised below –

- Applications are approved solely on a “just in time, just enough” basis – i.e. approvals are restricted to applications for roads in plantations where thinning/harvesting is imminent and will take place within the next two years. Roding density is also limited, only the minimum amount of roadway required is grant aided, not necessarily the current maximum of 25m per hectare.
- The maximum forwarding distance should normally not be less than 400m.
- Road density shall not exceed 25m/ha. There will be no discretion above 25m/ha.
- No development / management roads will be approved.
- All roding expenditure must represent value for money and claims submitted for grant aid must represent the actual costs incurred.
- Breakdown of costs must be provided in advance.
- A road map must be submitted showing clearly which plots are within 2 years of harvesting. Plot inventory details must also accompany each road application i.e. diameter at breast height (DBH), top height, species and planting year for each plot.
- Where co-operative road applications are more cost effective and sustainable, road grants on a single application may be refused.

Conclusion

The results of the primary research demonstrate that a cessation of funding or even a reduction in the grant rate would be detrimental for the overall Forest Road Programme – including a reduction in the number of roads built, as any decrease in grant rates would increase the cost borne by the landowner. However, the Committee also acknowledges that there has been a decrease in general construction costs and this fact cannot be ignored.

While acknowledging the obvious bias in questionnaire responses related to a reduction in grant rates, the stakeholder responses do highlight a potential negative reaction in the event that grant rates were reduced, that is the failure to carry out important roding work. Accordingly, the Steering Committee does not believe that a

reduction in grant rates from the current level of 80% of estimated costs is the most appropriate method by which overall Scheme expenditure should be cut, if at all.

That said, the Steering Committee believe that given the recent decreases in general construction costs and as the grant is designed to cover 80% of construction costs, the Forest Service should once again carry out a review of grant rates to establish whether an appropriate reduction in the size of grants has occurred, while maintaining funding at 80% of estimated costs.

Recommendation 7 – The Steering Committee recommends that the Forest Service develops a Catalogue of Costs for the Scheme and reviews the grant rate while continuing to cover 80% of estimated costs.

5.3 Environmental Benefits

As highlighted in chapter two this objective was added to the current Scheme and aims to improve the environmental and biodiversity value of the forests. It is generally acknowledged that forest roads contribute to both direct and indirect biodiversity benefits as follows:

- Direct - associated with the forest road pavement and the forest road edges as habitats in their own right.
- Indirect - Forest roads allow for thinning, which opens up the canopy of a forest and allows greater light penetration and greater biodiversity within the forest itself. They also allow access, which can be used to control threats to the forest such as overgrazing by deer.

The Steering Committee now presents its analysis of both existing and new data in order to make a judgment on the effectiveness of the Scheme in this regard.

Secondary Data

There is a significant body of research that has highlighted the contribution of open spaces to forest biodiversity. Indeed a 2006 BIOFOREST project³⁸ that examined methods to enhance forest biodiversity supports these earlier positive research results. This report states that open spaces contain vegetation communities that cannot develop in closed canopy conditions and usually support higher numbers of vascular plant species than are found under closed canopies. It also asserts that strips of open spaces adjacent to forest roads can make a significant contribution to the biodiversity of forestry plantations. The extent of this contribution is partly dependent on the width of these unplanted strips. Forest roads create these open spaces in forest plantations and the area is counted towards the current open space requirement in the Forest Biodiversity Guidelines.

Primary Data

Over 70% of both groups of respondents believed that the Forest Road Scheme makes a “good” or “very good” contribution³⁹ to this objective Only 5% of the landowners

³⁸ BIOFOREST, Investigation of Experimental Methods to Enhance Biodiversity in Plantation Forests, June 2006

³⁹ Questionnaire Q - How do you rate the contribution the Forest Road Scheme makes to the environmental and biodiversity objective?

thought the contribution was “*poor*” or “*very poor*” with no response in the “*poor*” categories from the stakeholders. However, it must be stressed that forest owners ranked this objective as the least important Scheme objective, with only 3% rating it as the most important objective.

Conclusion

Research, in particular the BIOFOREST report, that focused on methods to enhance biodiversity has emphasised the contribution of open spaces to the biodiversity of forest plantations. Forest roads were found to play an important role in creating these open spaces and accordingly can make a significant contribution to the biodiversity of forestry plantations. This direct biodiversity benefit along with indirect benefits through thinning and access to allow the easier control of threats to the plantation provides a basis for the Steering Committee to be satisfied that the Scheme makes a significant contribution to the enhancement of biodiversity in forest plantations.

Furthermore, while acknowledging the importance placed by stakeholders on this objective, a high percentage believe the Scheme makes a positive contribution to the enhanced biodiversity objective.

5.4 The level and benefits derived from enhanced access.

The Irish Forestry Code of Best Forest Practice indicates that a well-designed forest enhances the landscape and has considerable tourist potential as well as providing for a wide range of recreational activities. Increased access to all forests has resulted in a high level of forest visits in Ireland. Activities such as walking, orienteering, pony trekking and cycling are commonplace, and the value of forests in providing a recreational and cultural environment, particularly for urban dwellers, is now an important function. The construction of forest roads under this Scheme plays an important role in facilitating these leisure related activities. Indeed one of the qualifying criteria for receipt of funding for the forestry schemes in 2007-2013 under the State Aid approval is a commitment to ensure public access⁴⁰.

The forest road also acts as a “*fire break*” thus helping to prevent the spread of forest fires while facilitating emergency access in the event of fires. The vast majority of fires occur in young plantations before they close canopy, mainly by the ground vegetation first catching fire. At the latter stage in a forest’s development the fire risk is very low, as crown fires are very rare in Ireland.

Secondary Data

Coillte and the Irish Sports Council jointly commissioned a study on the economic value of trails and forest recreation⁴¹. Included in the research findings was that surveyed individuals placed a value of €5.40 on a single visit to forest trails. The study also revealed further significant economic benefits from Irish forest recreation activities as follows:

⁴⁰ One of the performance indicators of the scheme is the “Number of plantations with improved road infrastructure and access” – this had exceeded the projected target by 200% by December 2006.

⁴¹ Fitzpatrick and Associates, Economic Value of Trails and Forest Recreation in the Republic of Ireland, September 2005

- Non-market value of forest recreation: the total non-market value of forest recreation is estimated at €7 million. This represents the monetary value of the benefit accruing to the forest users, as distinct from the benefits of their expenditure.
- Economic activity generated by domestic forest visitors: up to one third of forest visitors surveyed indicated that they spent some money in the local community as part of their visit. The average expenditure on a visit was calculated at €14.91 over the sample. Therefore the direct expenditure associated with these visits is estimated at €268 million. This is a measure of the economic activity generated by forest visitors in the rural community.
- Economic activity generated by overseas visitors from walking and cycling tourism in forests: Forests make an important contribution to tourism infrastructure in Ireland and many overseas visitors avail themselves of Coillte forests for walking and other recreational activities. Given that a substantial proportion of walking routes either commence or go through forests, it is clear that overseas walking visitors benefit greatly from the recreational facilities provided by Coillte.

Developed recreational trails and forest infrastructure are an integral part of the walking tourism product in Ireland and forest roads form a key piece of this forest infrastructure. Indeed the study specifically acknowledges the role of Coillte’s forests in providing recreational facilities. Since this work was published, as mentioned above, a condition of the Forest Road Scheme operating from 2007 to 2013 is that all grant-aided forest roads have to be accessible to the public. This therefore provides the opportunity that the public will have access to private forest roads. Therefore there is the prospect that these forest roads can add to the resource already available for walking recreation and tourism and bring similar benefits to the local area in its proximity.

Table 5.3: Summary of Economic Value of Forest Recreation in Ireland⁴²

Economic Value of Forest Recreation in Ireland	
Non-market value of forest recreation	€7mn
Economic activity generated by domestic forest visitors	€268mn
Economic activity generated by overseas walking and cycling tourism in forests	€138mn

Primary Data

Over 70% of both groups of respondents believed that the Forest Road Scheme makes a “very good” or “good” contribution to this objective. Only 5% thought the

⁴² Fitzpatrick and Associates, Economic Value of Trails and Forest Recreation in the Republic of Ireland, September 2005

contribution was “poor” or “*very poor*” with no responses in the “*poor*” categories from the Industry stakeholders. However in ranking the Scheme’s objectives in order of importance, only 8% of forest owners rated this objective the most important, with it closely following the objective to enhance environmental and biodiversity values as the least important. However this viewpoint is probably understandable as the other two objectives aim to benefit the forest owner financially.

Conclusion

There are significant possibilities associated with forestry leisure and recreation activities and that the Scheme has a role to play. Up to now Coillte’s open forest policy and development of forest trails has ensured that significant public benefits are derived from additional forest road construction. However, it is not yet evident whether the same applies to private afforestation. While stakeholders believe that there are significant access related benefits to be derived from the construction of forest roads, they do not rate it as a priority.

In conclusion, the Steering Committee believes that while enhanced access is a valuable Scheme objective and the inclusion of public access as a condition of eligibility a useful addition, it is too early to determine the impact of the Scheme on this objective yet particularly in respect of private plantations. In relation to the forest protection issue, the Committee believes it has a limited role in the case of fire, as many forest roads are built after canopy closure and the risk of fire is reduced as the crop matures. However, some forests contain many different age classes and can adjoin open moorland containing flammable vegetation. Deer and squirrel control is also improved by having an accessible forest road network.

5.5 Deadweight

In their 2004 paper Hart & Lenihan (as referenced in the recent VFM Review of MAPS) defined “*deadweight*” as “*the degree to which projects would have gone ahead anyway without financial assistance from a development agency*”. In the context of this Scheme, it is the degree to which new forest roads would have been built at the required standard and at the most favourable time without the financial support provided under the Forest Roads Scheme.

Hart & Lenihan believe that minimising “*deadweight*” should be a key objective of all Government interventions – in other words, using public money should be the last resort and only provided where a market failure exists.

Given the potential for “*deadweight*” in the Forest Roads Scheme the Steering Committee considered the counterfactual i.e. *what would have happened in the absence of financial support under the Forest Roads Scheme?* To help answer this question and thereby address the issue of deadweight, questionnaire recipients were asked a series of questions related to their options in the absence of funding.

5.5.1 Estimating Deadweight Levels

12 of the 156 respondents stated that they would have built the forest road in the absence of funding – a “*full*” or “*pure*” deadweight figure of approximately 8%.

37 respondents stated that they would have abandoned the road building project in the absence of funding – a “zero” deadweight figure of approximately 24%.

The above indicates that the amount of deadweight in the Forest Road Scheme is somewhere between 8% and 76%. The forest owners were also asked whether they would have built the road to a lesser standard and/or at a later date. 106 respondents selected either of these choices providing a “*partial*” deadweight figure of 68%. More specifically, 33 forest owners replied that they would build the roads at a later date and 43 forest owners replied that they would build the roads at a lesser standard. Such decisions have both economic and biodiversity implications as previously discussed. The size of this “*partial*” deadweight is significant - however establishing exactly how much of this “*partial*” deadweight represents “*full*” deadweight and establishing the total amount of grant deadweight is quite difficult and the exercise would not be methodologically sound with the data available.

However this examination of the deadweight issue has proved worthwhile and it is clear that some level of deadweight does exist. The Steering Committee includes in this review some suggestions that it believes should be incorporated into the Scheme and that would specifically reduce the level of deadweight in future grant allocations.

5.6 Conclusion

How effective is the Forest Road Scheme? Clearly the Scheme has and, more importantly, will deliver a significant positive economic contribution to forest owners in the form of increased thinnings and clearfell values. While a longer period is required to fully highlight this benefit, a positive correlation between road construction and increased values is already evident. This is further evidenced by the views of the stakeholders - 94% of landowners and 100% of the stakeholders did not believe that there was a better approach to achieving the Scheme’s economic objectives. When questioned on what would happen if the Forest Service reduced the grant to 60% of costs nearly every respondent replied that there would be a significant reduction in the roading programme and in the volumes of timber extracted from private forests.

With regard to the objectives of enhanced biodiversity and enhanced access, stakeholders expressed positive views on the contribution the Scheme can make to these objectives. However the stakeholders rate these objectives as the least important objectives of the Scheme, somewhat predictably, as the other objectives are more focused on benefiting the forest owner financially.

Secondary data relating to enhanced biodiversity confirmed that forest roads can play an important role in creating open spaces and enhancing biodiversity in forestry plantations. Regarding enhanced access, the Steering Committee believes that it is too early in the process to determine the contribution that forest roads play in enhancing access given both that it is only a Scheme condition since 2007, and as Coillte Teoranta have traditionally operated an open policy with regard to their plantations.

With regard to the level of funding, the Steering Committee believes that it is appropriate to review the cost of forest road construction to ascertain whether €45 per linear metre continues to be an appropriate maximum grant. The Committee are of the

opinion that to grant aid less than 80% of the construction costs may result in important roading work not being completed with a consequent reduction in the economic value of timber harvested.

CHAPTER 6

Alternative Policy or Organisational Approaches to Achieving the Objectives of the Forest Road Scheme

Previous chapters have considered both the efficiency and the effectiveness of the Department's Forest Road Scheme. This chapter will now consider the following issues:

1. should the Scheme continue,
2. what if any scheme alterations are required to enhance the Value for Money aspect, and
3. possible alternatives for scheme delivery.

It is always important to ensure that public monies are spent appropriately and that they deliver outcomes that justify continued expenditure. The Department of Agriculture, Fisheries and Food is facing a growing and diverse number of expenditure demands from a diminishing budgetary allocation. Accordingly, the Steering Committee believes that where savings can be made or where existing expenditure can be allocated more efficiently this must happen. It is with this in mind that the discussion, analysis and conclusions contained in this chapter are set out so that the Department can ensure that expenditure undertaken with regard to forest roads is expended efficiently and affectively.

6.1 Should the Forest Road Scheme Continue?

The Committee believes it is important at this point to reiterate the fact that the Scheme is delivering many of its intended outcomes. For example it boosts both the volume and value of thinnings and clearfell, while it also enhances biodiversity by creating open spaces.

But what would happen if the Scheme ended? Obviously many of the previously discussed benefits would disappear. To help answer this question landowners were asked their opinion on the effect that the absence of the Scheme would have on their forestry operations;

- 77% stated that timely harvesting of timber would not have occurred,
- 73% stated that access for the ongoing management of their forest would not have been feasible,
- 63% stated that they thought that their forest would not have adequate fire protection,
- 49% stated that they would have received no significant benefit from their forest, and
- 65% stated that they would not have been able to secure alternative funding for the works undertaken in the absence grant-aid.

Furthermore, while 75% of landowners stated that they would have proceeded with the construction of the road, only 8% would have proceeded without any changes to the planned road. While acknowledging the existence of possible bias in the

questionnaire responses, the Steering Committee are satisfied that these responses provide significant evidence of the benefits associated with the Scheme from the recipient's perspective. Of course, overall Scheme benefits are highlighted in greater detail in chapter 5. The Steering Committee believes that, given the benefits derived from the Scheme and the consequences of not funding it, the Scheme should continue in some format.

The key question then is “*whether the Scheme is being delivered in a manner that provides the greatest value for money.*” The Steering Committee believes that to enhance the Scheme's delivery of Value for Money some alterations to the Scheme, its qualifying conditions and its level of funding should be considered. In deciding what amendments are appropriate, the Steering Committee:

- considered how similar schemes are operated in other selected countries to see what lessons can be learnt,
- weighed up a series of possible scheme alterations, and
- reflected on a number of alternative approaches to scheme delivery.

6.2 International Comparison and Lessons Learned

In examining the scope for an alternative policy or organisational approach to achieving the objectives of the Forest Roads Scheme more *efficiently* and *effectively* the Committee looked at similar schemes in Northern Ireland, Scotland and Hungary. These three countries were selected as they are comparable to Ireland in terms of how their state supported forestry is operated and also as their forest road network is similar to Ireland's. Please see Appendix VI for specific scheme details.

6.2.1 Common Themes and Differences

While there are significant differences in the basic designs of the schemes in these countries when compared to Ireland, it is nonetheless evident that there are a number of similarities between the schemes.

Text Box 6.1: International Comparison of Forest Road Schemes

General

Like Ireland, each of the countries examined have an agency or body with responsibility for the entire forestry sector.

While Ireland has 10% of its land area afforested, Northern Ireland, Scotland and Hungary have 6, 17 and 22% respectively afforested.

Road Construction

As in Ireland, construction of forest roads must meet specified minimum standards in each country.

Upgrading existing roads is funded under the schemes in all countries including Ireland, with what appears a greater focus on this area in the other countries, when compared to Ireland.

Eligibility Criteria

Hungary is the only country that has a minimum plantation size. In Hungary the applicant must be a registered forest manager with at least 50 hectares.

Hungary is the only country that requires applicants to submit a business plan with applications. Scotland does however require applicants to demonstrate how the proposed road will have community, social and environmental benefits.

Funding Levels

While Ireland's grant aid is pitched at 80% of estimated costs, Hungary is more specific and funds 80% of the eligible costs on an invoice basis.

6.2.2 Lessons Learned

Having looked at the alternative methods discussed above, the Committee are of the opinion that some consideration could be given to introducing a scheme similar to the Strategic Timber Transport Fund⁴³ in Scotland, specifically the tendering and co-operatives methods. This fund appears to work quite well in Scotland and the co-operative nature of the Scheme should work well in this country.

⁴³ The Strategic Timber Transport Fund aims to facilitate the sustainable transport of timber in Scotland while minimising the impact of such transport on the infrastructure e.g. in-forest roads; roads linking forests to sea and rail-loading facilities (www.forestry.gov.uk)

Although Hungary is implementing a new scheme similar to our own road scheme, the use of a minimum eligibility threshold represents a significant difference. Their scheme is based on the economic viability of individual plantations, i.e. the applicant must be a registered forest manager of at least 50 hectares, and if the forest is not above this size, grant aid is not approved. The Committee believes that a threshold element should be considered in this country. A further interesting condition of eligibility in Hungary is the requirement to present a business plan. Again this is a noteworthy requirement that the Committee believes should be considered in Ireland.

As the Northern Ireland forest management schemes are not yet as developed due to the low levels of private planting to date, the Committee does not believe that there are any relevant features of their scheme that warrant further consideration.

Recommendation 8 – The Steering Committee recommends that the Forest Service explores the possibility of including relevant eligibility criteria from other countries in the Forest Road Scheme so that best practice elsewhere can be adapted to meet Irish needs e.g. thresholds and business cases.

6.3 Possible Alterations to the Forest Road Scheme

In considering possible alterations or improvements to the Scheme the Committee decided to present the conclusions in two categories – those put forward by the stakeholders and those proposed by the Steering Committee based on their analysis and consultations.

6.3.1 Alterations Suggested by Stakeholders

Both groups of respondents suggested improvements to the Forest Road Scheme. While the Steering Committee considered all suggestions (some of which are examined in more detail in 6.3.2) this section presents a brief flavour of the suggestions.

It was recommended that the grant specification for management roads should be relaxed, as the full specification is not required until harvesting stage. It was also proposed that there should be consistency of specification but an avoidance of over specifying the standard required. The objective should be to extract timber and have a permanent track way while at the same time recognising that it is used for a couple of months every five years.

There was also a suggestion that, in certain circumstances and on particular sites, forest road specifications should be modified to suit specific site conditions or unusual situations.

Some landowners commented on the timescale involved in processing applications. It was suggested that the Forest Service facilitate extraction particularly in cases of smaller blocks of timber. Several respondents recommended that the basis for calculating the grant should be reviewed and the grant should be commensurate with

the difficulties experienced on the site. However, not all sites are the same and some respondents expressed the view that the grant rate is often inappropriate.

Also, in some cases, more road is needed per hectare, with this depending on the nature or “difficulty” of the site. Given this, it has been suggested that a full reimbursement of costs should be considered. A few landowners suggested the grant-aiding of harvest roads at the establishment stage to facilitate better access for management and fire fighting.

Other suggestions received included the employment by the Department of Agriculture, Fisheries & Food of a consultant engineer, the use of on-line technology to improve processing times and the introduction of co-operative road schemes.

6.3.2 Steering Committee Suggestions

Ensuring that the Benefit of Thinnings is Maximised

Section 5.1.1 highlighted the importance of thinning both economically and environmentally. It also highlighted the potential of the current forestry estate to produce 4.12 million m³ in thinnings in the period up to and including 2015.

However, despite these benefits, not all forest owners are thinning their plantations. The questionnaire responses highlighted the high percentage that had thinned (59%) or were not planning to thin (17%). Indeed the 2007 National Forest Inventory indicates that only 19% of the current post 1990 afforested area, which is suitable for thinning, is thinned. This may be due to lack of knowledge, expertise etc, highlighting the importance of the awareness of thinning amongst the private forest owners. Alternatively, it could also be due to the fact that their forests are too advanced for thinning - to avoid replicating this mistake in the future, this lack of education regarding the importance of thinning needs to be tackled.

If thinning operations were to increase throughout the country then the forest road network will assume a greater importance and will become a vital component of the entire forestry sector. Encouraging earlier construction ensures that thinning can take place when the forest is ready for it, and it also ensures that the quality of the logs at clearfell stage is maximised. While the Steering Committee acknowledges that not all forests are suitable for thinning and that the market is not yet fully developed they strongly believe in the potential that exists in this area.

However there is currently no thinning requirement imposed on grant recipients. The Steering Committee feels that this is a weakness and believes some mechanism should be introduced to ensure that thinning is carried out. This can be done by introducing two eligibility criteria into the next iteration of the Forest Road Scheme.

Eligibility Condition 1 – Applications should be approved solely on a “just in time, just enough” basis i.e. approvals should be restricted to applications for roads in plantations where thinning is imminent and will take place within the next two years.

Eligibility Condition 2 - The grant should be paid in two instalments i.e. the 1st instalment should be paid before thinning and the 2nd instalment should be paid after thinning.

Recommendation 9 – *That the Forest Service explores the issue of including the two eligibility criteria set out in 6.3.2 in the next Forest Road Scheme given the importance of thinning to good forest management. These criteria include issuing approvals where thinning is due to take place within two years and paying the grant in two instalments either side of thinning.*

Retention of the Existing Forest Road Specifications

The standard required in respect of an Irish forest road is outlined in the 2005 COFORD publication “*Forest Road Manual - Guidelines for the design, construction and management of forest roads*”. All road construction works must be undertaken in compliance with this manual unless the Forest Service has approved otherwise. This manual was developed in line with the Code of Best Forest Practice and consultation⁴⁴ was carried out both nationally and internationally to ensure compliance with all available standards. The questionnaire included a number of specific questions relating to the existing standards in order to assess the appropriateness of this standard.

60% of the Industry stakeholders stated that the road specifications were not set at the correct standard. When asked to expand they stated that some areas demanded higher specifications than was necessary for forest machinery and transport. Furthermore, they indicated that such high specifications were not needed in all circumstances such as single clearfelling of crops and the extraction of timber. In their opinion a lower specification for management roads would allow more access to forest plantations. Interestingly, even though 60% stated that the road specifications were too high, 60% of these respondents also stated that, following harvesting, extensive damage was caused to the road but it was still usable.

However, when the landowners were asked the same question 89% felt that ‘very little damage’ (53%) or ‘no damage at all’ (36%) was done to the forest road. Given this, the Committee concluded that the standards are appropriate - the forest road, if designed to Forest Service guidelines and standards, will be suitable for use over a long period when used appropriately and should be adequate for more than one rotation.

The Steering Committee believes that the current specification is adequate for the extraction of timber. The objective of the existing Forest Roads Scheme is to develop a harvesting road infrastructure - funding management roads at a lower standard would not facilitate timber extraction by truck. If management roads alone are required then the specification can be reviewed at the approval stage.

⁴⁴ A list of consultees is contained in the appendices of the manual itself.

Recommendation 10 – *The Steering Committee recommends that the Forest Service retain the current specifications of the Forest Road Scheme.*

Alterations to Current Inspection Regime

In 2007 1,759 inspections were conducted. This equates to 91% of the total applications received that year. The cost of completing these inspections was €290,490, comprising two thirds of total administration costs. While the analysis of the Scheme's overall delivery cost (see 4.1.1) revealed that the cost per inspection is falling, this cost still comprises a very high percentage of total delivery cost and, accordingly, the Committee reviewed the entire process to see if this cost could be reduced.

All applications are referred to the Inspectorate for both a desk and a field assessment. Each application is checked to ensure that the proposed road meets the conditions of the Scheme and complies with environmental guidelines. The Inspectorate may attach a number of conditions to the approval issued based on both the desk and field assessment based on for example either:

- a reduction in the length of road approved, or
- the imposition of specific environmental conditions.

Applicants cannot start road construction until written approval is received.

All applications for grant aid payment are also referred to the Inspectorate for a desk and a field assessment. Each application is checked to ensure that the road has been built as approved. This check will include a check of the road's standard to ensure it has been completed as specified in the approved plan. The field inspection will also determine if the road has been built in accordance with environmental guidelines.

The Committee believes that both pre-approval and payment checks are warranted. However the Forest Road Scheme is currently 100% field and desk assessed at all stages from the initial pre-approval to the final payment of grants. The Committee believes that the adoption of a risk-based approach to both sets of inspection would be more appropriate and would better fit with the Department's overall approach towards inspections.

The Committee firmly believes that the requirement for 100% inspections at either stage is not warranted. While it may appear at first hand that the payment of grant aid for large infrastructure projects requires a physical inspection to verify that the road or similar structures have been constructed, the use of an appropriate risk-based approach reduces this requirement to a more appropriate level somewhere below 100% - establishing this level requires further consideration by the Forest Service. Such a risk-based approach should take into account issues such as:

- grant size (i.e. is there a need to carry out both approval and payment inspections of all small sized grants?), and

- frequency of application (i.e. is there a need to inspect each and every application from a specific individual or organisation?)

A proportion of the inspections should be selected on a random basis and the results of these inspections compared against those from the inspections that were selected on a risk basis. This comparison should be used to determine if the risk criteria selected are appropriate. If this analysis reveals that the risk based sample is not showing a higher level of non compliance/error than the random sample it may be that the selection methodology is inaccurate and may need to be reviewed. The risk criteria that is used to select cases for inspection should be kept under review at all times and updated as appropriate.

The Committee noted that the Department currently uses risk analysis to determine selection in a number of forestry schemes such as the Afforestation and FEPS Schemes and also in the Single Payment Scheme. The Committee also believes that a new inspection regime should also be accompanied by the introduction of a robust penalty system. This penalty system should provide a sufficient deterrent to prevent payment overclaims and breaches of the scheme conditions with all penalties followed up and recouped.

Recommendation 11 – The Steering Committee recommends that the Forest Service introduce an appropriate risk-based selection regime for all inspections at both approval and payment stage thereby reducing the percentage level of inspections, while simultaneously introducing a robust penalty system.

Engineering Expertise within the Inspectorate

As previously discussed significant differences have been recorded in the specifications and costs submitted by applicants when an engineer contracted by the Department has subjected these to an independent evaluation. This highlights the requirement to strengthen expertise in this area.

There are currently no engineering grades working within the Forestry Inspectorate. Forestry Inspectors assess road applications based on specifications outlined in the Forestry Schemes and the Forest Road Manual published by COFORD. A certain percentage of road applications received are on difficult sites, which require specialised expertise to determine approval and payment e.g. steep slopes, deep peats, bridges etc. Costs submitted in these situations vary significantly and the Committee believes that qualified engineers should assess these constructions to ensure that roads have been built to standard and comply with health and safety regulations.

In 2008 the Forestry Inspectorate used the services of an external certified civil engineer on a small number of road applications. In a number of cases examined the proposed costs submitted and the specifications were deemed excessive and not

appropriate for timber extraction. This limited exercise demonstrates the importance of using independent engineers where roads are constructed in difficult sites and where costs and design can be extremely variable. As previously discussed, Inspectors should also have access to a standard catalogue of costs to benchmark submitted costs with recommended costs. An engineer should prepare this catalogue of costs with input from the Inspectorate. In other schemes operated by the Department a catalogue of costs is used. Agricultural Officers can request input from the Department's Agricultural Engineers if they are not qualified to make an assessment on certain structures and specifications e.g. the Farm Improvement and Farm Waste Management Schemes.

In 2007 262 applications greater than 20 hectares were received including declarations from qualified engineers/surveyors that the roads constructed were to the required standard (registered Foresters are required to submit such a statement for all sites greater than 20 ha or where difficult or special construction works are required). The Forestry Inspectorate in contrast does not generally have access to such engineering expertise to assist them in assessing the quality of roads constructed or proposed.

Recommendation 12: The Steering Committee recommends that the Forest Service examines the existing engineering resource within the department and, if resources allow, consider formalising an arrangement of using this engineering expertise to assist the Inspectorate as required.

Eligibility Threshold

One element of the Hungarian scheme that the Committee believes deserves further examination is the eligibility threshold. Their scheme is based on the economic viability of individual plantations. This requires that an applicant should be a registered forester managing at least 50 hectares. If the forest is not above this size grant aid will not be given.

There are currently over 16,000 forest owners in Ireland with an average forest size of 8 hectares. Any proposed threshold figure must take into account the possibility of farmers being discouraged from planting land below that threshold if no future road funding is likely. In Ireland, for example, grant aid could be restricted to where forest blocks or cluster of forests were above a certain minimum size.

While it may not be possible or indeed desirable to introduce such a minimum eligibility threshold this condition could also be considered as part of the ranking criteria in any competitive process. New measures introduced in the Scheme in 2009 by the Forest Service limits grant-aided road construction to sites where the timber cannot be harvested within 400 metres of the existing road – in effect introducing an element of a minimum plantation size as a significant number of relatively smaller plantations are within 400 metres of existing roads.

Recommendation 13: *The Steering Committee recommends that the Forest Service consider the issue of introducing a minimum plantation size for eligibility purposes, particularly where the overall level of funding is being reduced. The limit should be set at an appropriate level that does not prevent suitable smaller plantations from receiving funding.*

Cap on Funding Per Beneficiary

The Committee believes that, in order to distribute the funding available under the Forest Road Scheme more equitably, an annual cap on funding per beneficiary should be considered by the Forest Service. This would prevent one or two beneficiaries availing of a large amount of funding thus leaving funding shortages for other forest owners. When a beneficiary exceeds the threshold decided by the Forest Service they would no longer be eligible under the Scheme for further funding that year. Such a provision may assume more significance given the current overall budgetary situation.

Recommendation 14: *The Steering Committee recommends that the Forest Service consider the issue of introducing a maximum grant payment to any individual or organisation including the possible effect on co-operative road construction.*

Due to the current budgetary situation the Forest Service has introduced an element of “prioritisation” to the Scheme – in effect each application is evaluated on the basis of plantation size, thinning potential, age and condition of plantation etc. The Steering Committee believes that this competitive element to the Scheme should be maintained and enhanced where possible.

6.4 Alternative Approaches to Scheme Delivery

When questioned, the majority of the respondents did not believe that there was a better approach to achieving the Scheme’s objectives - 94% of landowners and 100% of the stakeholders respectively. Nonetheless, in the following section the Steering Committee consider some alternatives to the current delivery model by which the objectives of the Forest Road Scheme could still be achieved.

6.4.1 Tendering

Tendering for all road projects is a possibility that the Steering Committee believes warrants further investigation. Under this process a competitive tender process is undertaken to allow contractors tender for the construction of all or some forest roads.

It would require the Department to advertise at regular intervals, possibly annually, for tenders to carry out the Department’s entire roads programme for that specific period. This contract could be awarded to one or a number of contractors. Economic evidence suggests that where scale can be achieved in any activity unit costs will decline due to the achievement of economies of scale, thereby reducing overall

exchequer funding costs. This approach is similar to the Strategic Timber Transport Fund operated in Scotland and highlighted earlier.

Aside from achieving unit cost reductions, another advantage of tendering is that, from an administrative point of view, the Department would deal with fewer contracts with a consequent reduction in the level of inspections.

6.4.2 Provision of Soft Loans

Soft loans could be used by offering private landowners who want to construct a forest road credit at a low rate of interest. This loan would subsequently be repaid based on a pre-determined payment schedule from the revenue generated from the sale of timber from subsequent thinnings.

This would reduce the net cost of the Scheme considerably to the Department – as the initial financial outlay would be recouped at a later stage. In effect the cost to the Department would comprise administration and funding costs. A variation of this approach may also include funding to cover a certain percentage of construction costs together with the loan arrangement.

In the event of a strong uptake the sector would have a good road network in place to facilitate future harvesting. However, the degree of uptake by applicants to construct roads under such conditions will be affected by the reduction in their future expected return on investment. There is also the possibility that markets at the time of harvesting may not generate sufficient income to repay the loan. This might dissuade landowners from making the necessary investment in roading with the consequent negative outcomes discussed earlier i.e. not realising the value and quality of the thinning potential etc. The lack of state aid for reforestation may also dilute the interest in this option.

6.4.3 Co-Operative Methods

Co-operation between adjoining forest owners to build a forest road network is generally more cost effective and allows the optimum road density to be achieved. Collaboration could be encouraged by providing cooperative funding in areas where plantations owned by different people are clustered together. In the event that owners do not want to co-operate then grants would not be available for their road construction. The Forest Service should also explore the possibility of allowing access to private forests where they adjoin the existing Coillte forest road network. In some areas, a small extension of the Coillte road network may open large areas of private adjoining forests.

The Forest Service could amend the Forest Road Scheme to state that the Department reserves the right to fund roads subject to a full cost benefit analysis. In cases where the Forest Service feels that such a cooperative venture is the most cost effective way of road construction then funding would be subject to the landowners agreeing to cooperative funding.

It should be noted that cooperative road applications are encouraged under the existing road Scheme. However forest owners are generally reluctant to enter into cooperative ventures due to the difficulties associated with shared liabilities with multiple owners e.g. maintenance and damage to roads after thinning.

Recommendation 14: *The Steering Committee recommends that the Forest Service explores and fully costs the alternative approaches to the current Scheme.*

6.5 Conclusion

Given the benefits derived from the Forest Road Scheme and, more importantly, the consequences of not adequately funding the Scheme, the Steering Committee is satisfied that the Scheme should continue. However, the Committee is also mindful that the Scheme itself can be improved with a view to maximising Value For Money through a range of measures including the amendment of the Scheme's terms and conditions, the revision of funding allocation etc. Any such revision of the Scheme should incorporate best practice in other countries as well as considering innovative suggestions. The administration of the Scheme itself by the Forest Service can also be made more efficient by implementing the recommendations contained in this report especially with regard to the inspection regime.

CHAPTER 7

Performance Indicators for the Forest Road Scheme

This chapter presents potential performance indicators that might be employed to better monitor the future performance of the Forest Road Scheme. The development of meaningful performance indicators is considered a fundamental part of the Management Information Framework and a central component of the Value For Money Review process. The indicators presented in this chapter comprise previously used indicators and additional indicators identified in the course of the earlier analysis of performance issues.

7.1 Current Performance Indicators for the Forest Road Scheme

As previously discussed in earlier chapters the review period of 2004-2007 inclusive spans 2 programmes and accordingly the current suite of indicators is derived from the reporting requirements of both plans or programmes. The current indicators are as follows:

Primary Forest Road Scheme Indicators identified under the National Development Plan 2000-2006;

- kilometres of forest road constructed or upgraded,
- the number of plantations with improved road infrastructure and access for each region, and
- additional hectares opened up by road access.

Primary Forest Road Scheme Indicators identified under the Forest Management Scheme 2007-2013;

- the number of operations supported,
- the total volume of investment, and
- increase in gross value added in supported holdings and change in gross value added per full time equivalent.

7.2 Proposed Performance Indicators

Given the range of VFM issues considered under the economy, efficiency and effectiveness criteria that are not covered in the indicators used heretofore, the Steering Committee considered other performance indicators that could be used to monitor the Scheme's performance. The Steering Committee believes that for each activity undertaken and objective set there should be a related measure and target. Without these measurements, identifying relevant activities or setting objectives serves little purpose in evaluating efficiency and effectiveness.

The existing indicators, while useful, do not facilitate an exhaustive measurement of all aspects of the Scheme. A complete suite of indicators should, in their totality, present a measurement framework for all aspects of the economy, efficiency and effectiveness of a scheme. The Performance Logic Model, presented in chapter 3, identifies the inputs, activities and results of the Scheme and the Steering Committee based the Scheme's performance measurement framework set out in the next section on this model.

The Committee believe that the new suite of indicators should also include the old indicators used in the Regional Operational Programmes of the National Development Plan 2000-2006 where relevant.

7.3 Performance Measurement Framework

Efficiency - optimizing the ratio of inputs to outputs.

- Average processing times for an approval.
- Average processing times for a payment.
- Staff cost as a percentage of total grants expenditure
- Cost per kilometre of road constructed or upgraded
- Number of felling licences issued, although not all such licences are associated with a forest road application
- Kilometres/hectares open for recreational access

Effectiveness – assessing the extent to which the objectives have been achieved and the planned benefits delivered.

- Increase in the value of thinnings harvested per hectare
- Increase in the value per hectare of clearfell harvested
- Increase in kilometres/hectares open for recreational access
- Measurement of increased protection
- Measurement for enhanced biodiversity

7.4 Conclusion

The Steering Committee does not believe that the existing performance indicators are sufficient, as they do not facilitate the measurement of all aspects of the Scheme's performance. While the Committee acknowledges the purpose for which these indicators were developed it does not believe that they cover important measurement issues such as those concerning efficiency. The Committee believes that the indicators listed above will ensure better monitoring and measurement of the performance of the Forest Road Scheme.

Recommendation 15 – The Steering Committee recommends that the Forest Service introduces the performance indicators discussed and that these indicators be used as an annual performance measurement framework for the Scheme. These performance indicators should be continually reviewed and updated as the operation of the Scheme changes.

CHAPTER 8

Conclusions and Recommendations

8.1 Chapter Introduction

The aim of this review was to provide an answer to the question “does the Forest Road Scheme provide value for money?”. In order to examine this issue in detail detailed terms of reference were established by the Steering Committee. They were based on the template provided by the Department of Finance’s and addressed the five key evaluation criteria of rationale, efficiency, effectiveness, impact and continued relevance.

As an aid to the Committee and to better understand the logical linkages between the various activities a Programme Logic Model was devised. It subdivided the Scheme into its component parts and critically identified the scheme inputs, activities, outputs and outcomes. Based on these activities identified in the model the Steering Committee considered both the scheme’s efficiency and the effectiveness.

This chapter will outline the main conclusions of the review in the context of each of the terms of reference, followed by the Committee’s recommendations for strengthening performance and enhancing Value for Money. In summary, the Committee has concluded that while there are certain measures that, if undertaken, would enhance the efficiency and effectiveness of the Scheme, the Forest Road Scheme is providing value for money and should be continued.

8.2 Review Findings

8.2.1 Scheme Objectives

As the review period straddles two rural development programmes (2000-2006 and 2007-2013), the objectives of two distinct but similar Schemes were identified. The Steering Committee agreed the following objectives - the scheme supports the construction of forest roads for the purpose of:

1. facilitating harvesting,
2. facilitating other access, and
3. enhancing environmental and biodiversity values.

The Committee is satisfied that these objectives both remain valid and are compatible with EU and National policy. The Regional Operational Programmes of the National Development Plan 2000-2006 included a Forest Road Scheme Sub Measure that specifically included reference to “harvesting and transport costs” and the State Aid approval for the Forest Management Scheme 2007-2013 specifically refers to improving the “forest infrastructure”. Although the Forest Road Scheme objectives are not identified individually in the remaining documentation on national and EU policies, the documentation underpinning each of the policies supports the development of a modern and sustainable forestry sector, which contributes to the protection of the environment and enshrines the principles of sustainable forest management.

8.2.2 Inputs

The Scheme has two significant inputs namely financial and personnel.

The expenditure on grants increased from €1.362 million in 2004 to €7.508 million in 2007 reflecting both the increased scheme interest and the 58% rise in the grant introduced in 2007. In 2008 costs were slightly in excess of €7 million.

Personnel costs rose from €147,834 in 2004 to €435,115 in 2007 reflecting the increased workload due to the higher scheme demand. However, it is worth noting that personnel costs declined as a percentage of overall scheme financial costs in the review period, thereby reflecting increased efficiencies.

8.2.3 Outputs

A number of activities are carried out that create the platform for the primary scheme output – that is completed forest roads. Over the period of the Review the trend for each activity increased significantly reflecting the increased demand in this demand-led scheme. The linear meterage of new forest roads constructed with grant-aid increased from 79,030 metres in 2004 to 240,383 metres in 2007, peaking at 315,167 metres in 2006.

8.2.4 Outcomes

The Scheme produces the following outcomes:

1. the quantity and value of thinnings and clearfell,
2. the hectareage thinned and clearfelled,
3. the number of forests protected,
4. the number of forest roads “opened” for public access, and
5. the enhancement of biodiversity.

The estimated value of thinnings from forest estates that have a forest road grant-aided during the Review period is €6.5 million. Potential exists however for private plantations to produce 4 million cubic metres of thinnings with a forest gate value of €100 million by 2015. The estimated value of clearfell is €359 million. In the Review period approximately 64,000 and 32,000 hectares were licensed for thinning and clearfell respectively. The Committee established that the trends for both are positive going forward.

Based on a combination of the data obtained from the Forest Service and the questionnaire data, the Steering Committee is satisfied that the Scheme does encourage landowners to carry out thinning work and accordingly makes a significant contribution to the quantity and value of thinnings harvested. It is likely that in the absence of a publicly funded Forest Road Scheme the value and volume of thinnings would decrease significantly. This would be an unwelcome development given both the potential uses and value associated with forestry thinnings.

While evidence suggests that the Scheme is contributing positively to the successful harvesting of thinning material, the quantitative data available is not as conclusive in the case of clearfell. The steering committee believes that this is largely a consequence of the age profile of Ireland’s private forest estate, much of which has not reached clearfell age. The committee also highlights the fact that the postal survey indicated that the scheme would in time make a positive contribution towards

clearfell. To conclude, the short period over which this data was analysed combined with the existence of some level of bias prevents a definitive conclusion in this regard.

The Committee also concluded that forest roads serve as firebreaks within the forests thereby providing enhanced forest protection. Finally, the Committee established that greater public access was possible and biodiversity benefits were increased, both as a consequence of forest roads.

8.2.5 Deadweight

Given the potential for *deadweight* in the Scheme the committee examined this issue and established that some level of deadweight does exist. Although it was not possible to state exactly what the level of deadweight was, the committee estimated it to be between 8% and 76%. The committee accepts that this is quite a substantial range but nonetheless believes the analysis conducted was worthwhile and also considers that the implementation of its recommendations will significantly reduce the element of deadweight in the Scheme.

8.2.6 Steering Committee Conclusions

The Steering Committee concluded that:

- The objectives of the scheme are compatible with EU and National policy,
- The scheme's outcomes reflect the growing awareness of the importance of forest roads in the overall Afforestation Programme,
- The objectives of the scheme are being effectively met, and
- The scheme was administered efficiently and effectively during the review period, although some improvements will arise with the introduction of the recommendations listed below.

The Committee believes that the Scheme justifies the allocation of public funding going forward, with some adjustment to the administration and operation of the Scheme, particularly given the current economic climate.

The Committee recommends that the performance indicators set out in the previous chapter should comprise the Forest Road Scheme annual performance measurement framework going forward and that these should be constantly monitored and reviewed.

8.3 Recommendations

Although the Steering Committee is satisfied that the Scheme is providing Value For Money and should be continued, it has agreed a series of recommendations that it is satisfied will enhance the efficiency and effectiveness of the Scheme. The agreed recommendations are summarised as follows:

List of Recommendations

- 1) That the Forest Service explicitly identifies the objectives of the Scheme in all future Scheme documentation, specifically the construction of roads to facilitate harvesting, the construction of roads to facilitate other access and the construction of roads to enhance environmental and biodiversity values. (*The Steering Committee made this recommendation with a view to publicising the*

- objectives of the Scheme and believes that this recommendation can be implemented relatively quickly although there will be a cost implication)*
- 2) That the Forest Service reviews its online system after a reasonable period to assess its effect on the administration of the Scheme and to ensure that the benefits from its use are maximised. *(The Steering Committee made this recommendation with a view to maximising the efficient administration of the Scheme. Such a review will have a significant time and cost implication)*
 - 3) That the Forest Service puts in place appropriate mechanisms to ensure that the minimum processing standard as set out in the Farmer's Charter is met from existing resources. Progress against this target should be reported under the Department's internal follow-up process established for VFM reporting. *(The Steering Committee made this recommendation with a view to maximising the efficient administration of the Scheme. The monitoring of the targets can be implemented immediately but the achievement of the targets will be influenced by current resource issues)*
 - 4) That the Forest Service gathers data on the annual area thinned in both grant-aided and non grant-aided plantations. *(The Steering Committee made this recommendation, as it believes that data such as this is essential for the administration of the Scheme. Implementation of this recommendation will have significant time and cost implications)*
 - 5) That the Forest Service introduces a requirement to undertake the appropriate amount of thinnings as a qualifying condition for receipt of the Forest Road grant. *(The Steering Committee made this recommendation with a view to promoting thinning given its role in overall forestry management and believes that this requirement should be introduced as soon as is possible)*
 - 6) That the Forest Service amends the annual performance framework developed for the Scheme to measure both thinning and clearfell returns. *(The Steering Committee made this recommendation with a view to maximising the efficient administration of the Scheme, as it believes that such data is essential. This recommendation is possible in the medium term)*
 - 7) That the Forest Service develops a Catalogue of Costs and reviews the grant rate while continuing to cover 80% of estimated costs. *(The Steering Committee made this recommendation with a view to maximising the number of new forest roads constructed within the current budgetary allocation. The Steering Committee believes that this recommendation should be implemented in 2010 as the last such review took place in 2005/2006)*
 - 8) That the Forest Service puts in place a process whereby the more relevant eligibility criteria from other countries be considered as part of the Forest Road Scheme so that best practice elsewhere can be adapted to meet Irish needs. *(The Steering Committee made this recommendation with a view to maximising the efficient administration of the Scheme. This process will require further consultation with other administrations and may require significant time to complete.)*
 - 9) That the Forest Service explores the issue of including the two eligibility criteria set out in 6.3.2 in the next Forest Road Scheme given the importance of thinning to good forest management. These criteria include issuing approvals where thinning is due to take place within two years and paying the grant in two instalments either side of the thinning. *(The Steering Committee made this recommendation with a view to maximising the number of new*

- forest roads constructed within the current budgetary allocation and believes that this recommendation should be introduced as soon as is possible)*
- 10) That the Forest Service retains the current specifications of the Scheme. *(The Steering Committee believes that the Scheme as constituted is providing Value For Money and, consequently, the current specifications should be enhanced rather than diminished)*
 - 11) That the Forest Service introduces an appropriate risk-based selection regime for all inspections at both approval and payment stage thereby reducing the percentage level of inspections, while simultaneously introducing a robust penalty system. *(The Steering Committee made this recommendation with a view to maximising the efficiency and effectiveness of the inspection element of the Scheme. The Committee believes that this is a priority recommendations and, as such, should be implemented immediately)*
 - 12) That the Forest Service examines the existing engineering resource within the Department and, if resources allow, consider formalising an arrangement of using this engineering expertise to assist the Inspectorate as required. *(The Steering Committee made this recommendation to enhance the VFM element of the Scheme given the observed positive benefits of seeking the advice of engineers on certain road projects)*
 - 13) That the Forest Service considers the issue of introducing a minimum plantation size for eligibility purposes, particularly where the overall level of funding is being reduced. The limit should be set at an appropriate level that does not prevent suitable smaller plantations from receiving funding. *(The Steering Committee made this recommendation to enhance the VFM element of the Scheme and such a change should be introduced immediately)*
 - 14) That the Forest Service considers the issue of introducing a maximum grant payment to any individual or organisation including the possible effect on co-operative road construction. *(The Steering Committee made this recommendation to enhance the VFM element of the Scheme by ensuring the available budget is used efficiently and effectively)*
 - 15) That the Forest Service examines, and fully costs, alternative approaches to the current Scheme. *(The Steering Committee believes that this Review is essential but recognises that the timescale and resourcing involved in such a review will be significant)*
 - 16) That the Forest Service introduces the performance indicators discussed and that these indicators be used as an annual performance measurement framework for the Scheme. These performance indicators should be continually reviewed and updated as the operation of the Scheme changes. *(The Steering Committee made this recommendation with a view to maximising the efficient administration of the Scheme, and should be introduced as soon as is possible)*

8.4 Next Steps

The Committee believes that the Forest Service should actively consider each recommendation following the publication of this Report with a view to full implementation by June 30, 2011.

Issues including resourcing, cost-benefit analysis, system changes and training should be considered in the course of this process and an appropriate Forest Service staff member should be assigned responsibility for this aspect of the Review.

APPENDIX I

Steering Committee Membership

- Bridgeena Nolan (Chair), Principal Officer, Forest Service, DAFF.
- Miriam Cadwell, Assistant Principal Officer, Agricultural Structures Division, DAFF.
- Brendan Lawton, Assistant Principal Officer, Forest Service, DAFF.
- Fergus Moore, Divisional Forestry Inspector, Forest Service, DAFF.
- Joanne O'Neill, Administrative Officer, Forest Service, DAFF.
- James Conway, Assistant Agricultural Inspector, Economics and Planning Division, DAFF.
- Trevor Jordan, Administrative Officer, Public Expenditure Division, Department of Finance.
- Ronan O Flaherty, Principal Officer, On Farm Investment/Storage & Subsidies Division, DAFF and John Connelly, Senior Forestry Inspector, Forest Service, DAFF were members of the Committee prior to their transfer and retirement respectively.

APPENDIX II

Questionnaire Details

As part of its primary research the Forest Service conducted a postal survey of two distinct stakeholder groups – forest owners that received a grant and industry stakeholders.

The questionnaire was issued to 330 forest-owners that received a Forest Road grant in the 2004-2007 period and there was a 60% response rate.

The questionnaire was also issued to 12 bodies involved in the forest industry and there was an 84% response rate.

The questionnaire provided the review team with primary data on a number of issues including:

- Scheme objectives,
- Scheme administration,
- Efficiency and Effectiveness,
- Funding alternatives, and
- Alternative methods of delivery.

APPENDIX III

Forestry in Ireland

History

At the beginning of the 20th century only 1.5% of Ireland's total land cover was under woodland. Historical reasons had rendered a once naturally wooded landscape almost barren of forests. To commence redressing this situation a Forestry Branch was established in the Department of Agriculture and Technical Instruction in 1904. This Forestry Branch established a forest centre and training school at Avondale, Co. Wicklow. Following a Departmental decision in 1907 the state purchased land for afforestation and, as a result, the tradition of State forestry was established.

Since the foundation of the state successive governments have followed an expansionist policy on forestry. Increased annual planting targets were adopted and by 1989 over 350,000 hectares of land had been afforested. This area was managed by the State Forest Service and was roaded and harvested as necessary.

Funding

While state grants were available to encourage private afforestation after 1932, the grants were relatively small and, as a consequence, the private sector did not keep pace with the steady growth in state afforestation. An inventory of private woodland in 1973 found that the total area of productive and potential woodland was 49 000 hectares and a further area of 33 000 hectares was under scrub. The subsequent growth in private forestry was principally a result of State-provided financial incentives such as the provision of annual premiums to compensate for the loss of agricultural income and the provision of 100% establishment grants, and to a lesser extent by favourable taxation provisions.

The "Case for Forestry", a report on the State forest planting programme, was presented to the Government by the Minister for Fisheries and Forestry in July 1982. The Government then decided:

- That the annual national planting target of 10,000 hectares should be maintained as an overall policy objective,
- That, for the purpose of achieving this objective, reforestation and the planting of privately owned land should be taken into account.
- That an annual State planting programme, including reforestation, of the order of 7 500 hectares per annum, - to be augmented as much as possible by private planting - should be accepted as the most practical short-term policy for the following five years.

This Government encouragement of the sector was in response to the introduction of the E.U funded Western Package in 1981, which resulted in increased private activity. In 1986 it also included, for the first time, grant aid for the construction and improvement of forest roads.

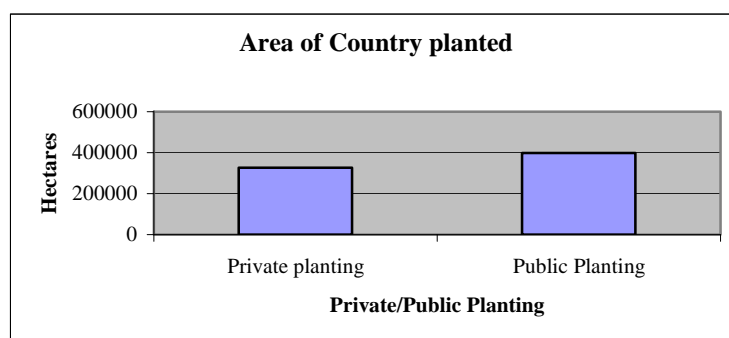
Establishment of Coillte Teoranta

In 1985/86 the Government set up a review body to advise on structures for the future management of State owned forests. Subsequently the Government decided to set up Coillte Teoranta as a private limited company to commercially manage the State owned forests. Coillte Teoranta, the State Forestry Board, was established in 1989, and undertook the management of the 350 000 hectares of state woodland in return for shares valued at IR£575 million (€730 million). Since then, Coillte Teoranta has developed from a company managing forests into a more broadly based company operating in forestry, land based businesses, renewable energy and panel products. Between 1989 and 2007 Coillte Teoranta's forest estate has increased in area from 350 000 hectares to over 400 000 hectares.

Current Position

Today the Forest Service of the Department of Agriculture, Fisheries and Food, Ireland's national forest authority, is responsible for the implementation of the national forest policy, the promotion of private forestry, the administration of planting and other forestry grant schemes, forest protection, the control of felling and the promotion of research in forestry and forest produce.

Approximately 724 000 hectares of the State is afforested (breakdown below). Over the past 20 years nearly 250 000 hectares of forest have been planted, accounting for 35% of the national forest estate.



There are over 14 000 farmers in receipt of forest premiums and over 16 000 forest owners involved in forestry. Almost all new planting is undertaken by the farming sector with forestry providing a viable alternative land use for farmers. The Forest Service has allocated funding of approximately €508 million over the review period (2004-2007) to assist the forestry sector. It is estimated that the sector supports approximately 16 000 jobs⁴⁵ in the Irish economy and much of this employment is provided in rural areas. A UCD⁴⁶ study carried out in 2006 found that the total value of the forestry economy was an estimated €1.65 billion per annum.

⁴⁵ Annual Review and Outlook 2007-2008.

⁴⁶ The socio-economic contribution of forestry in Ireland Authors: Áine Ní Dhubháin, Marie-Christine Fléchar, Richard Moloney, Deirdre O'Connor and Tim Crowley

Forest Uses

The forest estate is a renewable source of material for construction, downstream processing and fuel. Irish timber is widely used in the market place for structural applications alongside Scandinavian and European timber. The sawmills are processing in excess of 2.5 million cubic metres of sawlog each year while the boardmills process another 1 million cubic metres of pulpwood. The wood products sector alone provides direct employment of over 6,800 jobs⁴⁷.

Forests also deliver significant non-timber benefits including leisure and recreation opportunities and carbon sequestration. An estimated 18 million forest visits take place each year⁴⁸. The forests planted from 1990 onwards are currently taking an estimated 2.1 million tonnes of CO2 equivalent out of the atmosphere each year and it is estimated that this figure will grow to over 4 million tonnes by 2020⁴⁹.

⁴⁷ Annual Review and Outlook 2007-2008

⁴⁸ Fitzpatrick Associates and Coillte, Economic Value of Trails and Forest Recreation in Ireland
September 2005

⁴⁹ COFORD

APPENDIX IV

Forest Road Terms and Conditions

Conditions of the Forest Road Scheme under the Regional Operational Programmes of the National Development Plan 2000-2006.

- The forest road grant scheme is intended for forest purposes only.
- Access roads and internal roads are treated in the same manner from a grant aid point of view.
- Cooperative ventures involving joint or shared access between adjoining forests is advised.
- All proposed new entrances/lay bys should be discussed with the county council local engineer and written approval supplied.
- For all applications adjoining a public road, a bellmouth entrance will be provided for as a minimum i.e equivalent to grant aid for 30m.
- For difficult sites or areas greater than 20ha, an approved forester must include specifications drawn up by an engineer and works should be appropriately supervised.
- Consideration will be given to increased funding where special construction works are involved as specified by the engineer.
- Consultation with prescribed bodies may be required in certain circumstances.
- Co-operative road building involving more than one forest owner is encouraged.

Conditions and eligibility of the Forest Road Scheme under State Aid approval for the forestry schemes in 2007-2013.

- The road in question has to be constructed in compliance with a Pre-construction approval issued by the Minister. This approval is valid for 12 months.
- The road needs to be constructed in accordance with the terms and conditions of the scheme. Compliance with the Forest Road Manual published by COFORD and the Code of Best Forest Practice and Forest Service Environmental Guidelines is required.
- All relevant EU requirements and national legislation in force needs to be adhered to.
- A condition of the new programme 2007-2013 is that any infrastructure funded should be open to the public for recreational use without charge. If however it proves necessary to restrict access for any forest infrastructure works the beneficiary must notify the Department and must specify the duration of restriction.

In order to be eligible for grant aid under the forest road scheme certain eligibility criteria must be met.

- Applications for grant aid for construction of management roads, harvesting roads and other infrastructural works may be submitted under this scheme.
- All forest owners are eligible to apply.

- The proposed infrastructure must be completed within the area within 5 years of the harvesting of the timber.
- Management roads should be built at the formation stage and they should be constructed to the same design criteria as harvest roads.
- Construction should not commence until approval of the grant aid has been received from the Forest Service.
- Where feasible, co-operative ventures involving joint or shared access between adjoining forests is encouraged.

General Roads Provisions

- The Forest Service will refer an application to the local authority on the issue of road safety in respect of all proposed new entrances/lay-bys on to a public road.
- A bell mouth entrance must be provided for all harvesting road applications adjoining a public road.
- Applications may be submitted for a bell mouth entrance of equivalent length 60m regardless of the size of the plantation. This 60m equivalent length is made up of a 30m length of forest road from the public road into the plantation and 30m equivalent length for the two “wings” of the bell mouth.
- Inspection paths must be put in along the route of the proposed road in all circumstances.
- Forest Road specifications are required on all sites at Form 1 stage. An Engineer, Engineering Surveyor or a Registered Forester for areas less than 20ha must draw up this specification. For areas 20ha or more or for difficult sites specifications drawn up by an Engineer or Engineering surveyor must be supplied and appropriate works supervision undertaken.
- Applications for Special Construction Works may be considered for grant aid where deemed appropriate. Specifications for such works must be drawn up by an Engineer and appropriate works supervision undertaken.
- Where environmental or other conditions so require, the Department may consult as set out at Table 18 of the Forestry Schemes Manual.
- All road construction works shall be undertaken in compliance with the Forest Road Manual published by COFORD unless the Forest Service has approved otherwise.

APPENDIX V

National & EU Policy – Key Documents Examined

1. Regional Operational Programmes of the National Development Plan 2000-2006;
2. National Development Plan 2000-2006;
3. National Development Plan 2007-2013;
4. DAFF's Statement of Strategy 2005-2007 and 2008-2010;
5. Programme for Government;
6. Agri-Vision 2015 Action Plan;

Regional Operational Programmes of the National Development Plan 2000-2006

The following extract refers to Forestry and Forest Roads under the Regional Operational Programmes of the National Development Plan 2000-2006

Forestry Measure

The Forestry Measure is designed to improve existing woodlands, develop urban and amenity woodland (including facilities and infrastructure), re-establish forest plantations damaged by fire, windblow, frost, disease and other natural causes, provide for the development of harvesting capacity, install and upgrade forest roads and support promotion of forestry including the provision of downstream supports and technical assistance.

Sub Measure 4 Forest Roads

This sub measure is designed to allow access for plantation development, maintenance and fire protection and to facilitate efficient timber extraction. The policy in this area as stated in the Strategic Plan is to encourage the building and upgrading of forest roads and to develop an efficient, safe and environmentally compatible road network which optimises harvesting and transport costs.

National Development Plan 2000-2006

The high level objectives of the National Development Plan (NDP) 2000-2006 to which Forestry contribute are as follows:

- continuing sustainable national economic and employment growth;
- consolidating and improving Ireland's international competitiveness;
- fostering balanced Regional Development;
- promoting Social Inclusion.

Forestry is a component of The NDP's Productive Sector Operational Programme and this aims to increase productivity in an environmentally sustainable way through:
'Developing forestry to a scale and in a manner which maximises its contribution to national, economic and social well-being on a sustainable basis and which is compatible with the protection of the environment'

National Development Plan 2007-2013

The high level objectives of the National Development Plan (NDP) 2007-2013 which Forestry contribute to are as follows:

- Balanced regional development with regions achieving their full potential,
- Supporting agriculture and the rural economy,
- Promotion of Social inclusion, and
- Environmental sustainability.

DAFF's Statement of Strategy 2005-2007 & 2008-2010

The Departments Statement of Strategy 2005-2007 lists five high level goals.

A number of these Goals, Strategies and Performance Indicators contained in the Statement of Strategy directly relate to Forestry.

Statement of Strategy 2005-2007 Goals and Performance indicators

Goal No.	Strategic Actions	Performance Indicators
1.5	Support market orientation, productivity and innovation in agriculture, forestry and food	<ul style="list-style-type: none"> • Number of research projects funded under Irish and EU research programmes • Level and quality of participation in international collaborations
2.10	Maintain health of National Forestry Estate	<ul style="list-style-type: none"> • Incidence of disease in National Forestry Estate
3.4	Support the delivery of commitments in the agricultural and forestry sectors to the Climate Change Strategy (Kyoto), the Gothenburg Protocol and other relevant policies	<ul style="list-style-type: none"> • Progress on delivery of commitments agreed by Government of relevance to this Department
3.5	Effective liaison with Teagasc, COFORD and other agencies to encourage and develop training & research programmes which will help to underpin sustainable agriculture and forestry production, develop and protect the rural economy and environment	<ul style="list-style-type: none"> • Level of participation by rural families in: <ul style="list-style-type: none"> - Training programmes - Educational programmes - Diversification programmes
3.7	Enhance the development of a sustainable forestry sector through forest grants/premium schemes and other measures	<ul style="list-style-type: none"> • Extent planting targets achieved <ul style="list-style-type: none"> - Contribution of the forestry sector to rural economy - Progress achieved in marketing forest products

		- Increase in species diversity
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Statement of Strategy 2008-2010 Goals and Performance indicators

Goal No.	Strategic Actions	Performance Indicators
1.6	Support and disseminate research to underpin <u>sustainability</u> , market development, innovation and productivity in agriculture, bio-energy, fisheries, forestry and food	<ul style="list-style-type: none"> • Number of research projects funded under Irish and EU research programmes • Level of application of research findings.
2.6	Operate an efficient and effective plant health service and monitoring and control programmes for harmful plant and forestry pests and diseases	<ul style="list-style-type: none"> • Level of detection and control of harmful plant and forestry • pests and diseases
3.5	Enhance the development of a sustainable and diverse forestry sector through improved forest grants/premium schemes and other measures	<ul style="list-style-type: none"> • Increased afforestation rate • Increased participation rates in: FEPS, FEPS Enhancement, Native Woodland and NeighbourWood Schemes • Progress on attainment of 30% of annual planting target for broadleaf • Progress in marketing forest products • Contributions made by the forestry sector to enhancing public goods such as biodiversity, carbon sequestration and recreation facilities

Programme for Government

The current programme contains 97 items, with 7 of these relating to Forestry.

- Promote a diverse forestry culture with an emphasis on native trees.
- Ensure that forestry continues to give an important income stream to farmers through the Forest Premium Scheme that has been substantially increased under the partnership process.
- Develop new market opportunities for thinning linked to the increased need for renewable energy sources.
- Promote forestry plantation to increase biomass production demand in the building and fuel markets and to provide 'carbon sinks' to combat climate change.

- Review the Forest Environmental Payments Scheme (FEPS) pilot underway with a view to a full roll out in the years ahead.
- Review the Forestry Premium levels and, ensure by 2012 that a minimum of 30% broadleaf will be planted annually.
- Initiate a review of Forestry Acts and programmes to reflect sustainable social and environmental objectives.

Agri Vision 2015 Action Plan

The Minister for Agriculture and Food established the Agri-Vision 2015 Committee in early 2004. In March 2006, in response to the Report of the Agri-Vision 2015 Committee, the Minister for Agriculture and Food launched the Agri-vision 2015 Action Plan for the future of the Agri-Food Sector. The Plan contains 167 specific actions, 18 of which are relevant to promoting and sustaining forestry for the future, including the following.

- DAF, in conjunction with the Forestry Liaison Group, will complete its review of the long-term objectives for forestry and ensure that the range of Government supports in place for forestry development in Ireland are suitable and appropriate.
- The forestry funding programme for 2007 – 2013 will ensure that farmers who might wish to afforest all or part of their land can make their decisions on the basis of continued commitment of the Government to forestry. This commitment will be consistent with and complementary to other land based supports.
- A new annualised planting target will be established which maintains the necessary critical mass of production to secure the development of the timber industry well into the next decade.
- The IFORIS programme will be in place in early 2006 to ensure that forestry grants and premium payments are managed by an effective IT system.
- DAF will complete its national inventory of forest production in 2006 and will develop further inventory information, particularly in regard to wood biomass production.
- Teagasc will put in place an integrated advisory and research programme to encourage greater development of forestry.
- Support schemes for equipment in thinning, harvesting and the production of wood biomass will be actively pursued in 2006.
- Protection of the health of forest estate from biological or other threats will be strengthened.
- DAF will seek EU approval for a new scheme of supports to encourage the harvesting and processing of biomass from forests and otherwise promote the use of wood biomass as a source of renewable energy.
- The high-level review of forestry policy will be finalised in 2006. This review will include consideration of the public goods aspect of the forest programme.

APPENDIX VI

Schemes operated by other forestry authorities

Northern Ireland

Although the percentage of land planted in Northern Ireland is not quite as high as in the Republic – 6% - their afforestation programme is similar. However, large areas of Northern Ireland's forests are not thinned due to its gleyed soils and the risk of wind-throw. This may explain the relatively low level of state funding for private forest roads in Northern Ireland - forests are still relatively young and not yet ready for clearfelling.

The Forest Service in Northern Ireland is responsible for the management of 61 000 ha of woodland. Road construction is carried out in accordance with the British Forestry Commission's *The Forestry Civil Engineering Handbook 2004* and COFORDS *Forest Roads Manual 2005*. Forest road construction contracts are generally advertised on a case-by-case basis. In general new road construction is kept to a minimum with the emphasis placed on road maintenance.

The Forest Service approach to maintenance, repair, upgrading and new building of forest roads involves tendered procurement of services as well as in-house resource allocation. Three main categories of work are undertaken:

- Emergency repair of forest road e.g. during harvesting operations,
- Upgrade of forest roads e.g. prior to a major harvesting operation where the road is not expected to be able to withstand the envisaged loading intensity,
- Building of new forest roads for harvesting and future forest management.

The emergency repair work is undertaken by local forest managers utilising centrally tendered service contracts that are administered by the Supplies and Services section of the Central Procurement Directorate. The upgrading work is undertaken utilising centrally procured contracts administered by the Works Section of the Central Procurement Directorate and these contracts are usually for a three to four year period. The new roads area also built utilising the centrally procured contracts but these contracts tend to be measured term contracts.

Scotland

17.2% of the Scottish land area is afforested. The Forestry Commission in Scotland does not administer a forest roads scheme *per se* but does administer the Strategic Timber Transport Fund with an annual budget of €5.58million. This Fund aims to facilitate the sustainable transport of timber in rural areas for the benefit of local communities and the environment e.g. minimising the impact of timber transportation on rural and public roads through the development of in-forest roads etc. Each application for funding must demonstrate how the proposed road will have community, social and environmental benefits. The new Scottish Rural Development Programme provides funding for the upgrading of agricultural and forestry infrastructure and this may also facilitate the building of forest roads. Forest roads built under either option must comply with the UK Forestry Standard.

Hungary

Hungary has a long reputation of forest management and its 21.5% of its landmass is afforested. The National Forestry Service of the Ministry of Agriculture and Rural Development in Hungary is the forestry authority in that country.

The basis of the Hungarian scheme is the new Hungarian Rural Development Programme, specifically “Infrastructure related to the development and adaptation of agriculture and forestry”.

Under this scheme the following activities are supported:

- Improving or reconstructing forest exploration roads, and facilities
- Construction of melioration facilities
- Construction and restoration of water management facilities

The maximum amount of support is 80% of the eligible costs and the cost of the planning must not exceed 12% of the total cost.

The scheme has the following eligibility criteria:

- Applicant must be a registered forest manager with at least 50 hectares
- The applicant must have an approved plan and permission for the investment
- If the land in question is protected or Natura 2000 area, the applicant must have the necessary permission from the nature conservation authority
- The planned facility has to match the “Guideline for planning forest roads”
- The applicant must supply a business plan

If the applicant is successful with the applicant the grant is paid in two instalments within one year and these payments are cost-based.