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JOINT FAO/ECE/ILO COMMITTEE ON FOREST TECHNOLOGY, MANAGEMENT AND TRAINING

Seminar on
AFFORESTATION IN THE CONTEXT OF SUSTAINABLE FOREST MANAGEMENT

in conjunction with the 24th session of the Joint FAO/ECE/ILO Committee on
Forest Technology, Management and Training

Ennis, Co. Clare, Ireland, 15-19 September 2002

REPORT OF THE SEMINAR

Introduction

1. The seminar on Afforestation in the Context of Sustainable Forest Management was held in Ennis, Co. Clare, Ireland, from 15-19 September 2002, under the auspices of the Joint Committee and at the invitation of the Government of Ireland. Participants from the following countries attended: Austria, Canada, Croatia, Czech Republic, France, Germany, Greece, Iceland, Ireland, Latvia, Poland, Portugal, Romania, Spain and United Kingdom.

Opening of the seminar

2. Mr. J. Browne TD, Minister of State, with responsibilities for forestry at the Department of Communications, Marine and Natural Resources, Ireland, opened the seminar. The Minister stressed the importance of sustainable forest management (SFM) practice and stated that his vision was that all timber produced for the market should be derived from sustainable managed forests. Messrs. H. Hoefle (Germany), Chairman of the Joint Committee, and J. Najera (UNECE) member of the Joint Committee secretariat welcomed the participants.

Session C

8. At this session the following papers were presented: Mr. Ray Gallagher (Ireland) on The Role of Co-operatives in Sustainable Afforestation; Messrs. Filip Georgescu and Mihai Liviu Daia (Romania) on Forest Regeneration in Romania; and Ms. Shirley Clerkin (Ireland) on The Forestry Regulatory Framework - an Environmental NGO Perspective.

Session D (open discussion)

9. The management of forests takes into consideration all aspects of the social, economic and ecological principles of sustainability. The discussion emphasised the need for countries to adopt codes of best forest practice and to adapt their legislative framework and guidelines to accommodate SFM.

10. The vast majority of the population lives in urban areas and the number of people directly depending on forest revenue is decreasing. The public, therefore, has limited knowledge and awareness about forests and forestry. Afforestation programmes need to be accompanied by a broad and in-depth communication process in order to increase the awareness of the population about the principles and practice of SFM. This process should be addressed to all stakeholders and include public relations, education and consultation. Without this structured communication process, forests will not be able to provide for the community the full range of potential benefits which flow from SFM.

11. Farm forestry can play an important role in rural development, by increasing farm incomes from marginal lands, creating employment in remote areas and enriching the environment through appropriate landscape structuring and ecological protection.

12. A new Native Woodland Scheme has been implemented in Ireland. The objective of this scheme is to conserve and enhance the indigenous woodland resource. This could serve as an example of an initiative to promote forest biodiversity.

13. Forest certification is a measure of SFM compliance. There is a need for mutual understanding and recognition between the main certification schemes, to gain wider acceptance and avoid the present public confusion.

14. Forest research has an important role to play in implementing SFM in afforestation programmes. Transferring research results into policy and practice is the great challenge for all research and development organisations.

15. Since the ratification of the Framework Convention on Climate Change in 1992 and the advent of the Kyoto Protocol in 1998, afforestation has taken on new economic and environmental dimension and its role in carbon sequestration has gained a higher and more important profile.

Local and site planning (item 4)

Session A – Chairperson: Ms. S. Clerkin (An Taisce - The National Trust for Ireland)

16. At this session the following papers were presented: Mrs. Katerina Trejbalova (Czech Republic) on The Czech Republic: Current Situation and Experiences in the Field of Afforestation; Mr. Damian Allen and Mr. Séamus Dunne (Ireland) on Indicative Forest Strategies: The Irish Experience; and Mr. Tim O'Brien (Ireland) on Private Afforestation in Ireland.

Session B – Chairperson: Mr. J. Lorbach (FAO)

17. At this session the following papers were presented: Mr. Richard H. Ramsauer (Austria) on A Comparison of Central European and Irish Forestry; Mr. Donald Whelan (Ireland) on the role of the Irish Timber Growers Association.

Session C – Chairperson: Mr. J. J. Gardiner (University College Dublin)

18. At this session the following papers were presented: Mr. K. Gunnarson (Iceland) on Planning for afforestation in Iceland; Mr. Stanislaw Dabrowski (Poland) on The National Programme for the Augmentation of Forest Cover; Mr. Tony Mannion (Ireland) on The Society of Irish Foresters; and Mr. Donald Fitzpatrick (Ireland) on Afforestation and Certification – The Contractor's View.

Session D (open discussion) - Chairperson: Mr. J. Farrell (Natural Resources Canada)

19. The themes of delivering economic returns together with rural and social development while restoring forest cover in an environmentally responsible manner were common to most presentations.

20. Restoring forest cover across the rural landscape is an integral component of a broader ecological objective. Decision making concerning species selection and their landscape implications, however, are guided by the current economic and social realities of countries, regions and communities.

21. Consultation and effective mechanisms for participatory decision making at the regional and local level are essential if afforestation is to be embraced by all stakeholders.

22. Efforts must continue to generate sustainable forestry jobs in terms of year round work, competitive wages and progressive working conditions.

23. Expansion of afforestation activities must be associated with clear and quantifiable national target objectives. This must be guided by forest strategic plans which conform to the practice of SFM and a code of best forest practice.

24. Indicative Forest Strategies offer a useful mechanism for engaging with stakeholder groups to identify opportunities and constraints regarding the location and composition of new forests. It should be led jointly by the Forest Authority and Local Authority and should be implementable.

Operational aspects of afforestation (item 5)

Session A – Chairperson: Mr. T. Farrell (University College Dublin)

25. At this session the following papers were presented: Mr. Niall Farrelly (Ireland) on *Using GIS and site classification methods*; Messrs. I. Abrudan, V. Blujdea, V. Kostyushin, C. Pahtontu, H. Philips, Ms. S. Brown, Ms. M. Voicu (Romania) on *Prototype Carbon Fund: Afforestation of degraded agricultural land in Romania*, Mr. Philips presented the paper; Mr. Jim Dillon (Ireland) on *Coillte Farm Partnership Scheme – A joint venture in commercial afforestation in Ireland*; and M. Bulfin, T. Radford and J. Brosnan on *The effect of formative shaping on the stem quality and early growth of plantation ash*.

Session B – Chairperson: Mr. P. Lehane (Irish Farmers Association)

26. At this session the following papers were presented: Mr. Stephen A. Smith (United Kingdom) on *Creating New Native Woodlands in Scotland*; Mr. Oscar Barreiro (Spain) on *Operational aspects of fast growing species*; and Mr. Arne Pommerening (United Kingdom) on *Afforestation and continuous cover forestry*.

Session C – Chairperson: Ms. A. Coffey (Castlewallen Woodland Partners)

27. At this session the following papers were presented: Mr. Michael Keane (Ireland) on *The mechanisation of planting on restock sites in Ireland*; Ms. Sanja Peric (Croatia) on *Growth of six coniferous species in different bioclimates in Croatia*; and Mr. Wojciech Gil and Mr. Jan Lukaszewicz (Poland) on *Afforestation in Poland: silvicultural experiences*.

Session D (open discussion) - Chairperson: Mr. N. Foley (Forest Service, Ireland)

28. The discussion emphasised that forest management should always take account of the environmental and social impacts of the right tree, in the right place with the right silviculture.

29. The increasing contribution of forest plantations to the production of a renewable and versatile resource was acknowledged. Afforestation strategies should always emphasise the need for a marketing and industrial development plan.

30. Continuous forest cover may provide a useful silvicultural tool to achieve the objectives of SFM. However, further research needs to be done particularly to quantify the costs and benefits of the practice.

31. Economically viable afforestation can be realised using the capacity of forests to sequester carbon. This is demonstrated by a pioneer project based on the sale of carbon to the Prototype Carbon Fund, implemented by the National Forest Administration of Romania.

32. Developing partnerships with the farming community can promote afforestation through facilitating landowners with the necessary forestry expertise, financial securing and marketing expertise.

33. Further research is needed on the establishment of stands of native species on wet, exposed and nutrient poor sites. The establishment of appropriate new native woodlands should be achieved with minimal levels of intervention.

34. Professional foresters, by their training, education and experience, are in the best position to manage forests in accordance with the requirements of SFM and to deliver its many benefits to the forest owner, the community and the environment.

Conclusions and recommendations (item 6)

35. The seminar adopted the following conclusions and recommendations under the Ennis Declaration:

Ennis Declaration

Conclusions

1. Farm afforestation can play an important role in rural development by increasing farm incomes from marginal lands and generating sustainable employment in remote areas. If carried out appropriately, this will enhance the environment, the landscape and biodiversity.
2. In order to achieve SFM, a partnership of land ownership, forestry expertise, financial security and marketing is required.
3. Wood production from afforestation creates a renewable resource that is CO₂ neutral.
4. The National Forest Administration of Romania is to be congratulated for demonstrating that the contribution of forests to carbon sequestration can be realised and used to facilitate economic afforestation.
5. Forests contribute significantly to the urban environment, with benefits including increased air quality, landscape improvement, enhanced opportunities for recreation and environmental education, and the promotion of public health. In an increasingly urbanised world, it is appropriate that SFM includes forests in urban areas.

6. Professional foresters, by their vocation, the history of their profession, their training, education and expertise, are in a pivotal position to manage forests in accordance with the requirements of SFM and to deliver its many benefits.

Recommendations

A. To member countries

1. All afforestation activities should embrace the six criteria of **SFM** as stated within the context of the Ministerial Conference on the Protection of Forests in Europe.
2. The difference between the concept of SFM and the certification process should be clearly understood.
3. Expansion of afforestation activities must be guided by forest **strategic** plans and conform to a code of best forest practice or similar guidelines.
4. Afforestation strategies should be integrated with a marketing and industrial development plan.
5. The increasing contribution of forest plantations to the production of a renewable and versatile resource should be recognised.
6. There is an urgent need to examine more effective ways to foster **communication** between the general public, NGOs and the forestry sector, working towards the common goal of SFM.
7. Consultation and effective mechanisms for **participatory decision-making** at the regional and local level are essential if afforestation is to be accepted by all stakeholders.
8. Indicative Forest Strategies (IFS), which analyse opportunities and constraints to identify suitable areas for forestry, are a useful method for engaging with stakeholder groups to identify the most appropriate location and composition of new forests. It should be jointly led by the Forest Authority and the Local Authority. IFSs should be implementable, and not aspirational.
9. Work already underway on the mutual recognition of forest **certification** schemes by the FAO and other organisations should continue and be accelerated. Certification schemes need to incorporate the needs of small forest owners who may be unable to meet the costs of certification.
10. **Species selection** and forest management should follow the three 'R' principles – the **Right tree**, in the **Right place** with the **Right silviculture**. Decision making concerning species selection and its landscape implications should be guided by the economic and social realities of countries, regions and communities. The right silviculture recognises environmental, economic and social impacts and is practiced from the time of afforestation throughout the life of the forest.

11. The creation of new native woodlands should be encouraged to achieve the objectives of the Convention of Biological Diversity.
12. There should be an appropriate scheme to ensure that all forest reproductive material use in afforestation programmes is traceable back to source.
13. A greater awareness of the many benefits of afforestation in the context of SFM should be promoted among landowners, interested parties and the general public.
14. Afforestation is a major capital investment that requires to be safeguarded. Adequate integrated forest protection programmes must address major threats from disease, insects, mammals and other damaging agents. Biological methods of control should be favoured.
15. Professional **foresters** should participate in Continuous Professional Development (CPD) to ensure up-to-date awareness of the SFM process. They should also be innovative and learn from forestry practices and experiences in other countries.
16. Afforestation programmes should adapt to the changing expectations and requirements of society.
17. The conservation and enhancement of **biodiversity** must be an integral part of the SFM process.
18. The creation of full time sustainable **jobs** is a priority in terms of SFM. Shortage of forest workers is a major limiting factor to the achievement of afforestation targets. Improved working conditions and competitive wages must be provided to attract and retain more entrants into forestry work. This applies to employed workers as well as to contract labour.
19. All **grant schemes**, programmes and policies relating to landuse should be complementary in nature to avoid conflict.
20. State forest agencies are focused on **regulation**. Separate development agencies should be considered to promote increased afforestation. Over-regulation should be avoided.

B. To the research community

1. The role of afforestation in urban and peri-urban environments should be further promoted. In this context, better ways to communicate the benefits of forests to the urban dweller should be investigated.
2. The contribution of afforestation as a carbon sink needs further study in the context of national forest programmes and sustainable forest management. The potential use of incentives to encourage farmers and landowners to plant and manage forests for carbon sequestration and other forest functions and products needs further elaboration.
3. The sociological implications of increased afforestation programmes should be researched.

4. Continuous forest cover has many silvicultural and environmental advantages. However, more research needs to be done in relation to the socio-economic and ecological consequences of this silvicultural approach.
5. The implications of climate change and its impact on species selection and future afforestation programmes should be further investigated.

C. To the Joint Committee

1. The JC should commission a study into the efficiency and effectiveness of the various afforestation incentive mechanisms (e.g. policies, programmes, payments, tax concessions, regulatory mechanisms etc.).
2. The JC should continue to exchange information on afforestation practices, regulations and supportive financial mechanisms.
3. Another seminar on afforestation should be organised in due course.

Adoption of the report (item 7)

36. The seminar adopted the draft report prepared by the secretariat, and the conclusions and recommendations contained in the Ennis Declaration.

37. For the host country, Mr. D. McAree thanked the participants for attending the seminar, preparing papers, for the lively discussions during the different sessions and for the conclusions and recommendations. Mr. H. Hoefle, on behalf of the Joint Committee, Mr. J. Lorbach (FAO) and Mr. J. Najera (UNECE) thanked the host country for the warm hospitality and the excellent organization of the seminar, and the participants and support staff for their active contribution to the successful outcome of the seminar.

ANNEX

SEMINAR ON 'AFFORESTATION IN THE CONTEXT OF SFM' FIELD EXCURSION Sunday, 15 September 2002

The technical visit organised in the context of the seminar took place at three different sites each with its own theme:

Theme 1: An Introduction to Afforestation in the Context of SFM in Ireland, Broadford, Co. Clare;

Theme 2: Practicalities of Broadleaf Afforestation in Ireland, Nenagh, Co. Tipperary;

Theme 3: Practicalities of Conifer Afforestation in Ireland, Coillte Farm Partnership Site, Upperchurch, Co. Tipperary.

Theme 1: An Introduction to Afforestation in the Context of SFM in Ireland, Broadford, Co. Clare

Speakers: Noel Kelly, Forest Owner, and Jim Quinlivan and Eamonn Cunningham, Forest Service

Overview of site work

When Noel Kelly, landowner, had considered the options on planting his 60 ha holding in Broadford, Co. Clare, in early 2000, he engaged Donal Fitzpatrick, an approved Consultant Forester. Donal's role was to design a forestry development that would comply with the Forest Service grant procedures while incorporating Noel's long-term plans for future recreation and amenity usage. Following consultation with the local Forest Service Inspector, an application for pre-planting approval (Form 1) was submitted along with a Site Species Map and a Site Cultivation Plan. An application for a Forest Roding Grant was also submitted following a site survey. Approval for Planting was issued in October 2000, subject to strict compliance with the recommendations of the Fisheries Board Inspector as the adjacent Killuran River was classed as a salmonid water and was therefore "sensitive". Approval for the construction of the forest roads was also given by the Forest Service.

Work then commenced on site preparation for planting. This was an exceptionally expensive operation due to the amount of furze (*Ulex*) and other vegetation that had to be uprooted and removed. This involved excavating and dozing into piles that were then burned or buried.

Normally this material would have been windrowed into lines and planting carried out in between. A drainage system with silt-traps was excavated and a pond created on a small stream to provide a source of water in the event of fire. This was subsequently landscaped by Noel to make an attractive amenity feature. Mounding was the prescribed method of ground preparation and in some areas the stones and boulders were re-buried to make walking conditions safer. Existing trees were retained wherever possible.

The majority of plants were purchased from Coillte and Noel also purchased a wide range of trees, mainly broadleaf for amenity and biodiversity. The principal commercial species planted were Sitka spruce (52,100), hybrid larch (44,000), Scots pine (17,900), Norway spruce (8,050), Douglas fir (4,500), western red cedar (2,700), common alder (14,600), ash (10,800), pedunculate oak (9,000), sycamore (4,900), beech (3,000) and birch (1,000). These amounted to over 172,000 trees. An additional 12,400 trees were planted for biodiversity and amenity in scattered blocks throughout the site. Species used were sycamore, beech, copper beech, rowan, bird cherry, poplar, *Eucalyptus gunnii*, noble fir, horse chestnut, sweet chestnut, turkey oak, tulip tree, walnut, plane, Sequoia Wellingtonia and hornbeam.

Work was completed by 27 April 2001. An afforestation grant and forest premium were subsequently approved for 16.00 ha of 20% diverse species (GPC3), 30.28 ha of diverse species (GPC4) and 13.56 ha of broadleaves (GPC5). Stone and gravel was excavated to provide road-making material. The Roading Grant has not been paid to date. The owner Noel Kelly had direct involvement in the ground preparation, fencing and planting. He also opted to carry out the subsequent maintenance work himself.

Introduction to the Forest Service and the promotion of private planting

Role of the Forest Service: The Forest Service, Department of Communications, Marine and Natural Resources, is responsible for national forest policy, promotion of private forestry, administration of planting and other forestry grant schemes, control of felling and promotion of research in forestry and forest products. All development is to be compatible with the protection of the environment.

Measures of funding for private forestry:

1931 -1981 State funding

1981 - 1989 EU funding - Western Package Scheme

1990 - 1994 EU funding - Forestry Operational Programme 1995 - 1999 EU funding - CAP Reform

2000 - 2005 EU funding - Rural Development Programme

Grants and premiums: Applications are made by an approved forester. These may be referred to one or more of the Statutory Bodies before being referred to the local Forest Service Inspector for his recommendations prior to approval.

Other grants: In addition to the Afforestation Grant and Premium Scheme, the Forest Service offers a number of other forestry schemes: Reforestation Scheme; Woodland Improvement Scheme; Reconstitution of Woodland Scheme; High Pruning of Conifers; Formative Shaping of Broadleaves; Forest Roads Scheme; NeighbourWood Scheme; and Native Woodland Scheme.

Forest Strategy: The Irish government forest strategy is set out in the publication *Growing for the Future - A Strategic Plan for the Development of the Forestry Sector in Ireland*. Its mission statement 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 sets out the expansion of forestry from 7% of land area to 17% by 2030, and critical mass from 2.2 million m³ to 10 million m³.

Afforestation - Standards and Procedures for Grant Aid

These comprise grant and premium conditions, a prior approval process and an inspection procedure. Grant and premium conditions set out land ownership requirements as well as requirements relating to minimum fertility and the capacity of the site for forestry, the size and width of the site and the requirement that the project, its placement and development are all compatible with the protection of the environment. All grant-aided projects require Forest Service approval before any work commences. An inspection procedure is in place, ensuring that projects are inspected before approval and at various stages after completion of work. The following procedures apply.

Submission of an Afforestation Plan: This is compiled by an approved forester and contains details of cultivation, fencing, fertilisation, fire protection, species composition, vegetation control and ownership details. The plan also draws attention to environmental considerations pertaining to the site as well as to other issues such as access, the tree growth potential of the site, its ability to produce a commercial tree crop and its suitability for growing broad leaf species. A map is attached to the plan.

Environmental issues: These are addressed through consultation and by adherence to published operational standards.

Consultation enables a strategic decision to be made whether or not part or all of a project should proceed. The Forest Service consults with the relevant statutory agencies, requires an Environmental Impact Assessment where appropriate, and engages in public consultation in designated site categories. A protocol must be followed in the case of proposals draining into acid sensitive waters.

Mandatory operational environmental standards are detailed in a suite of guidelines that deal with water, archaeology, landscape, biodiversity and harvesting. The *Code of Best Forest Practice - Ireland* sets out environmental procedures for each forest operation. The consultation procedure may also detail procedures to be followed for specific afforestation projects.

Inspection procedure: All afforestation plans are examined by a Forest Service Forestry Inspector. Site inspections take place prior to approval and in the following phases after the work is completed: (i) on completion of afforestation operations; (ii) four years after completion; and (iii) randomly thereafter.

Penalty system: A penalty system is in place. There are financial penalties for silvicultural and environmental infringements as well as for false declarations relating to land type and land title.

Theme 2: Practicalities of Broadleaf Afforestation in Ireland, Nenagh, Co. Tipperary

Speakers: Michael Sweeney, Peter Alley and Paddy Bruton, Forestry Services Ltd., Ireland

Grant aid was applied for on 8 January 2001, and sanctioned on 27 March 2001. Preparatory work started almost immediately, and all works were completed by 15 May 2001. All Forest Service guidelines were adhered to; unplanted areas under ESB lines observed; a 15 m buffer zone left unplanted and fenced-off around the one recorded monument; minimum distances from adjoining buildings with the owner's written permission; and set back distances from roads were strictly adhered to.

The owner, Michael Flannery, owns approximately 46 ha and concentrated mainly on tillage and sheep farming pre-planting. Both his sons are working in Dublin, and are not interested in pursuing a career in farming. Mr. Flaherty has planted 21 ha, giving him a current tax-free income of ~10,316. He has let the remainder of his land and is availing of the Farm Retirement Scheme. He is also very conscious of the appreciating value of his tree crop. The soil is nutrient-rich and free-draining. The site has an elevation of 80 m and a southerly to neutral aspect, and is not exposed. Stocking levels for the ash, sycamore and alder are 3,300 stems/ha at a spacing of 2 m x 1.5 m. The site is not subject to frost, except for one section where alder has been planted.

Ground preparation for the oak has been undertaken with an agricultural plough, the remainder was planted with the coolmore plough.

Theme 3: Practicalities of Conifer Afforestation in Ireland, Coillte Farm Partnership Site, Upperchurch, Co. Tipperary

Speakers: Jim Dillon, Daithi de Forge and Jim Fogarty, Coillte The Irish Forestry Board, Ireland

Planted area:	42.2 ha
Year of planting:	January 2002
Species planted:	<ul style="list-style-type: none">• 25.2 ha Sitka spruce• 6.3 ha Japanese larch (mostly planted in intimate mixture with Sitka spruce)• 6.7ha Ash• 2.0 ha ESB powerlines (area retained as 'open space') Pedunculate oak and birch used for enhancement of internal hedgerows• All stock were bare-rooted
Plant details /seed origins:	<ul style="list-style-type: none">• Sitka spruce, Washington, 30-50 cm, 2+1s• Japanese larch, Hokkaido Island, 40-60 cm, 1 +1s• Ash, Ireland, 50-80 cm, 1u1• Pedunculate oak, Netherlands, 50-80 cm, 1u1• Birch Ireland 50-60 cm 1 u1
Soil type:	80% grey brown podzolic; 20% gley (sandstone derived)
Elevation:	200-310 m
Aspect:	North east
Exposure:	Sheltered to moderate Stability rating: S21
Yield class:	20-24+ m3/ha/yr
Cultivation method:	70% mounding; 30% agricultural ploughing (adapted)
Features:	Archaeological feature (not shown on SMR maps) found during site development stage and preserved within plantation area. Old house and out buildings preserved as part of 'Area for Biodiversity Enhancement'. Important hedgerows strengthened by supplemental broad leaf planting to create habitat corridors through the plantation. Areas of heavy broad leaf scrub also retained.

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