Bioversity International

EUFORGEN Steering Committee

Summary of the Fifth meeting

Novo mesto, Slovenia, 22–24 May 2007

EUFORGEN

European Forest Genetic Resources Programme (EUFORGEN)

EUFORGEN is coordinated by Bioversity International

Opening of the meeting

J. Koskela welcomed the participants to the fifth Steering Committee meeting on behalf of the EUFORGEN Secretariat and introduced the local host, H. Kraigher of the Slovenian Forestry Institute. She opened the meeting and welcomed EUFORGEN National Coordinators and observers from 29 countries to Slovenia. She then introduced A. Drašler (Director General, Directorate for Forestry, Hunting and Fisheries, Ministry for Agriculture, Forestry and Food of the Republic of Slovenia) who gave an overview of forests and forestry in the country. J. Kastelic (Head of the Sector for Nature Conservation Policy, Ministry for Environment and Spatial Planning), A. Pečavar (Head of the Regional Unit Novo mesto of the Slovenian State Forest Service) and N. Torelli (Director of the Slovenian Forestry Institute) then provided their welcome addresses highlighting the importance of forest genetic resources for the country and its international collaboration, and wished a fruitful meeting.

J. Koskela introduced the meeting agenda, which was amended and adopted. T. Eysteinsson, J. Fennessy and J. Hubert were nominated as rapporteurs for the sessions of the first day. All participants then introduced themselves.

J. Turok welcomed the participants and thanked the local organizers for the meeting arrangements on behalf of Bioversity International[1]. He then gave a presentation on the new strategy and focus areas of Bioversity International. He also highlighted policies and international agreements on plant genetic resources and provided an overview of Bioversity's activities in Europe.

Session 1: Review of the first half of EUFORGEN Phase III

J. Koskela presented the technical and financial report for 2005-2006 (see Annex 1). He first highlighted the objectives of Phase III and other decisions adopted by the Steering Committee at its fourth meeting in Židlochovice, Czech Republic on 26–29 May 2004. He then presented recent activities of EUFORGEN and its Networks as well as inputs provided to the MCPFE process (Ministerial Conferences on the Protection of Forests in Europe) and collaboration with other regional programmes. He also provided an update to the financial situation of the Programme.

Presently EUFORGEN has a total of 34 member countries providing both technical and financial contributions to the Programme. A country is considered a member of EUFORGEN when it has signed the official Letter of Agreement with Bioversity International to join the Programme and paid its annual financial contribution regularly. EUFORGEN has also continued its collaboration with several associate countries which have not yet joined the Programme.

The discussion on the technical and financial report started with comments on the new thematic Forest Management Network. Comments raised concern over the fact that very few forest managers have been nominated to the Forest Management Network although the fourth Steering Committee meeting recommended that persons to be nominated to this Network should hold national responsibility in areas related to forest management in particular. Most of the Network members are scientists, policy makers and those who have been forest managers earlier in their careers.

It was pointed out that there are several practical explanations for the small number of forest managers involved. Firstly, many National Coordinators have found it difficult to identify forest managers willing to participate in international meetings due to language and other constraints. Commonly policy makers and scientists are more used to international cooperation and more comfortable with international meetings. However, it was stressed that the representatives of all Networks have been nominated for the whole of Phase III to

[1] With effect from 1 December 2006, IPGRI and INIBAP operate under the name "Bioversity International", Bioversity for short.

ensure continuity and better follow up on Network activities. The discussion emphasized that National Coordinators should not change the already nominated representatives of the Forest Management Network. Instead, it was urged that those countries which have not yet made the nomination should make a special effort to nominate forest managers to this Network, if possible. Furthermore, as there is always some unavoidable turnover of Network members, all National Coordinators should keep the low number of forest managers in mind while nominating a replacement representative.

Regarding the involvement of EUFORGEN in the capacity-building efforts, it was suggested that the training workshop for young scientists, held in the Russian Federation in 2005, was very useful and that similar workshops should be organized again, possibly in south-eastern Europe or even North Africa dealing with climate change issues. However, as EUFORGEN was not the main organiser of the workshop, it was suggested that Bioversity International could take this into consideration when developing further activities on capacity-building.

The discussion then moved to EUFORGEN publications and in particular to the development of the report on the state of forest genetic resources in Europe which was recommended at the previous Steering Committee meeting. There are several outputs under preparation, including the common action plans by the species-oriented Networks and the results of the surveys by the Forest Management Network. It was mentioned that there are several options to publish these outputs; separate publications by each Network, joint publications across the Networks and a large report on the "State of Forest Genetic Resources in Europe", for example.

The Steering Committee agreed that EUFORGEN should publish the report on the "State of Forest Genetic Resources in Europe" in 2009. The information gathered would be also useful for the planned FAO report on the state of forest genetic resources at global level that is due to be published within 4-5 years. The development of this report will be discussed at the forthcoming session of the FAO Commission on Genetic Resources for Food and Agriculture in June 2007. It was highlighted that it is important for EUFORGEN to demonstrate its role in such a reporting exercise in Europe for FAO.

The possible content of the EUFORGEN report was not discussed in detail but it was agreed that its preparation should be closely coordinated with the efforts by FAO. The Secretariat will send out a draft outline of the report for comments in **autumn 2007** after which the report will be prepared with inputs from the National Coordinators. The advanced draft will be presented to the next Steering Committee meeting and then finalised.

The Steering Committee also reviewed the activities against the objectives of Phase III and concluded that the activities are in line with them. The discussion noted that the work initiated by the Forest Management Network contributes well towards Objective 1 (linking gene conservation and forest management). Under Objective 2 (conservation of forest genetic diversity), it was stressed that more efforts are needed to strengthen the linkages between gene conservation and the overall nature conservation. Regarding Objective 3, it was pointed out that the progress made in the area of information management also contributes to the activities under Objective 2.

The role of the Information Working Group was also briefly discussed. J. Koskela clarified that participants for this group will be nominated by the EUFORGEN Networks to contribute to relevant activities in information management, such as the EUFGIS project (see below).

The budget review showed that the total expenditure during 2005-2006 was US$ 98,761 higher than planned mainly due to the fact that most of the species-oriented Network meetings were held during the first half of Phase III, and the weak exchange rate of US dollar. Nevertheless, the closing balance of the trust fund at the end of 2006 was still strongly positive and no concerns were raised regarding the expenditures.

The Steering Committee then discussed the membership status of countries with outstanding payments. It was generally agreed that all reasonable efforts should be made to keep countries within EUFORGEN but no agreement was reached on what to do about the outstanding financial contributions. The Steering Committee had earlier agreed that a country

is no longer considered a member of EUFORGEN if it fails to provide its financial contributions for two consecutive years. Some National Coordinators suggested that more time should be given to these countries to provide their outstanding financial contributions (until 31 May 2008) and until then to suspend their participation in EUFORGEN. However, it was pointed out that allowing some countries to break the rule was in fact penalising those countries which have provided their financial contributions promptly. Others wanted to avoid excluding countries from EUFORGEN and proposed that alternative ways of funding could be explored to support countries with difficulties in providing their contributions.

It was concluded that the Secretariat should compile the rules for the membership status on the basis of the previous Steering Committee decisions. It was suggested that the rules should be one item in the agenda of the next Steering Committee meeting. In the meanwhile, it was agreed that representatives from the countries with more than two years of outstanding payments will be allowed to participate in EUFORGEN meetings at their own cost until the outstanding payments have been made (**deadline 31 May 2008**). It was further agreed that the EUFORGEN Secretariat should continue its efforts to receive the outstanding contributions and that countries with outstanding contributions should inform the Secretariat about the reasons for not being able to provide their contributions on time. The membership status of these countries should be then evaluated case-by-case. In addition, it was recommended to investigate possibilities for obtaining funding support from other sources to allow participation of countries with economies in transition.

It was also recommended that the Secretariat should strengthen its efforts in continuing the discussions with potential new member countries and to encourage them to join EUFORGEN. Considering gaps in the geographical coverage of the member countries, it was stressed that it would be important if the Russian Federation was to become a member of EUFORGEN.

Session 2: Ministerial Conference on the Protection of Forests in Europe (MCPFE): updates on relevant activities and their implications to the EUFORGEN work

J. Koskela reported relevant outputs of the MCPFE process and also the inputs EUFORGEN has provided to the process (see Annex 1). He highlighted the recommendations of the workshop on climate change and forest genetic diversity, organized by Bioversity International and the International Union of Forest Research Organizations (IUFRO) in Paris on 15-16 March 2006. EUFORGEN also provided inputs to another workshop on pan-European recommendations for afforestation and reforestation in the context of UNFCCC, held in Vilnius, Lithuania on 24-26 October 2006. After the Vilnius workshop, the MCPFE and PEBLDS processes (Pan-European Biological and Landscape Diversity Strategy) further developed the draft guidelines discussed in Vilnius and a further consultation meeting took place in Vienna, Austria on 9 May 2007.

J. Koskela continued highlighting issues relevant to EUFORGEN which are mentioned in the draft Warsaw Declaration and the two Resolutions. He then updated the Steering Committee on the efforts made in collecting data on forest genetic resources for the report on *"State of Forests and Sustainable Forest Management in Europe 2007"*. This report is being prepared by the MCPFE Liaison Unit Warsaw in collaboration with the United Nations Economic Commission for Europe (UNECE/FAO) for the next Ministerial Conference in Warsaw in November 2007. Finally, he informed the Steering Committee that the MCPFE process will develop a new Work Programme soon after the Warsaw Conference and welcomed suggestions what actions EUFORGEN should propose to be included for the implementation of relevant Resolutions.

The Steering Committee first discussed how EUFORGEN should address climate change in its future activities. It was suggested that the outputs of the Paris workshop provide a useful reference point for future work in this area and can also be used for communication with policy-makers at the national level. Concerning the specific recommendation for EUFORGEN and IUFRO to develop guidelines for transfer of potentially suitable reproductive material under climate change, it was stressed that there are also several ongoing projects which will provide relevant new information on this issue (e.g. EVOLTREE, TREEBREEDEX and COST E52 Action). It was suggested that EUFORGEN should collaborate with these projects and try

to synthesize the forthcoming results and also collate the knowledge already existing from numerous provenance trials in Europe for the policy-makers. The Steering Committee recommended that the Inter-Network meeting on 25 May 2007 should discuss how climate change issues could be addressed in Network activities. Subsequently, the Networks should further discuss development of relevant activities.

The Steering Committee then reviewed relevant parts of the draft Warsaw Declaration and the draft pan-European recommendations for afforestation and reforestation in the context of the Kyoto Protocol. It was noted that the draft Declaration does not include any specific reference to forest genetic resources. Several comments stressed that it would be important to include a reference to forest genetic resources under the commitments listed as part of the draft Declaration. Regarding the draft recommendations for afforestation and reforestation, it was pointed out that a few paragraphs related to forest genetic resources under the ecological guidelines of the document needs to be revised. It was agreed that a small working group (A. Drouzas, S. Bailey, T. Eysteinsson, F. Lefèvre and R. Alía) will develop proposals for amending the draft Warsaw Declaration and revising the draft recommendations for afforestation and reforestation. These proposals were then further discussed during the wrap-up session of the meeting.

It was agreed that following on from the brainstorming session new actions will be proposed for the next MCPFE Work Programme and the Steering Committee identified several possible actions. Firstly, EUFORGEN should propose an action to follow up the recommendations of the Paris workshop. Secondly, it was proposed that EUFORGEN should organize a workshop on the use of forest reproductive material in afforestation and reforestation programmes. Thirdly, it was suggested that EUFORGEN should develop indicators for monitoring genetic diversity. Regarding the third point, it was noted that the species-oriented Networks are already discussing how to improve monitoring of gene conservation units and that the possible action in this area should build on the ongoing efforts of the Networks. Reports by FAO on the development of indicators for forest genetic diversity as part of different criteria and indicator processes should also be taken into account. Furthermore, assessment of genetic aspects of forest management and collaboration on forest genetic resources with regions outside Europe were mentioned as additional areas of future work. It was also proposed that Network meetings could have more invited speakers to address relevant topics.

Session 3: Establishment of a European Information System on Forest Genetic Resources

J. Koskela introduced the new EUFGIS project which was launched on 1 April 2007 for a period of three and a half years (see Annex 2 for details). Following the request of the Steering Committee in May 2004, the EUFORGEN Secretariat developed a proposal for this project in collaboration with partners in six countries (Austria, Denmark, France, Slovakia, Slovenia and the UK) and Bioversity submitted it to the first call for proposals under Council Regulation (EC) No 870/2004 on genetic resources in agriculture in September 2005. He then provided further details on the draft terms of reference for national focal points and their nomination process as well as the development of the memorandum of understanding for sharing national data through the information system. Countries are invited to participate in the project and share data on a voluntary basis.

The Steering Committee welcomed this new project and provided several comments to further improve the draft terms of reference for the national focal points and the draft memorandum of understanding. It was recommended that the national focal points should be responsible only for providing relevant data and that they should not necessarily contribute to the development of the minimum requirements for the gene conservation units. Several National Coordinators felt that this would make it easier for them to nominate a suitable person to act as a focal point. It was also clarified how much information a "national dataset" will include as this will determine how much work a national focal point needs to carry out to compile it. It was noted that the terms of reference or the memorandum of understanding should mention how the focal points can be re-nominated in case there are staff changes in a given institute. Furthermore, it was suggested that the Secretariat could first ask the

nominations for the national focal points and then later send the memorandum of understanding for signatory.

The Steering Committee underlined that the project should be implemented in close collaboration with the EUFORGEN Networks. It also concluded that the project will greatly benefit the EUFORGEN work and that the information system should remain as part of the Programme after the project period.

It was agreed that the Secretariat will first discuss the comments received with the project partners and then circulate the final version of the terms of reference together with a request to nominate a national focal point by the end of June 2007. Subsequently, the Secretariat will also circulate a second draft of the memorandum of understanding for further comments.

Session 4: The implementation of Council Regulation (EC) No 870/2004

O. Diana gave an update on the implementation of Council Regulation (EC) No 870/2004 on genetic resources in agriculture. A total of 65 eligible project proposals were submitted to the European Commission in 2005 and 2006 (27 for the first call and 38 for the second one). The six selected actions of the first call included three actions on crop genetic resources, one on forest genetic resources and two on animal genetic resources. In 2006, 11 actions were approved, including eight actions on crop genetic resources (one of which also focuses on *Prunus* spp.) and three actions on animal genetic resources. The total co-funding by the Commission is € 8.9 million for the 17 selected projects, which are mainly targeted actions. These will be carried out in 25 member states and they also involve 12 non-EU countries.

He then highlighted the key issues for the management of the actions and stressed that the rules of the grant agreement should be followed in detail. He called for open dialogue between the Commission and the project coordinators to ensure effective implementation of the actions. The Commission is also encouraging the coordinators to disseminate the results of the projects widely. The Commission has recently published a brochure on the outcomes of 20 co-funded projects under the previous Council Regulation (EC) No 1467/1994 and it is planning to do the same for the actions co-funded under the current Regulation. O. Diana mentioned that the Commission is keen to develop synergies between the actions and other efforts on genetic resources. He noted that EUFGIS and EUFORGEN provide a good example of such synergies. Further information on the co-funded actions and the Community programme on the conservation, characterisation, collection and utilisation of genetic resources in agriculture is available at the DG AGRI Web site (http://ec.europa.eu/agriculture/funding/index2_en.htm).

Session 5: Updates on EUFORGEN Network activities

Each Network presented an update to its ongoing and planned activities and how these were linked to the objectives of Phase III. J. Hubert (Chair) presented the ongoing work of the Forest Management Network and then S. de Vries did the same for the Conifers Network on behalf of B. Fady (Chair). B. de Cuyper (Chair) and G. von Wühlisch (Chair) delivered the updates for the Scattered Broadleaves Network and the Stand-forming Broadleaves Network, respectively. Annex 1 also provides highlights of the Network activities during 2005-2006.

The Steering Committee noted that the Network activities are in line with the objectives of Phase III. It was also stressed that the Network should not be too ambitious while developing their activities. In this regard, several National Coordinators recommended that the Networks should keep in mind agreed deadlines so that they are able to show tangible results at the end of Phase III. This would help the Steering Committee to evaluate the progress made during Phase III and to discuss future plans for the Programme at its next meeting in 2009. It was also recommended that Inter-Network coordination should be increased to ensure that the Networks are better aware of each other's activities and that they can provide efficient inputs to the EUFGIS project. In particular, the development of minimum requirements for gene conservation units and the information standards were mentioned as an example of this need.

The Steering Committee welcomed the activities initiated by the new Forest Management Network and strongly supported its future plans. The comments stressed the need to continue, in particular, the efforts in promoting appropriate use of forest reproductive material and in analyzing the genetic consequences of forest management practices. It was also suggested that the Forest Management Network could take a leading role in developing new activities on climate change and forest genetic resources. The need to have more managers in the Forest Management Network was discussed again but the importance of continuity was also recognized as an important factor ensuring inputs to the Network activities. It was further suggested that more managers could be invited to participate in the meetings of the Forest Management Network, especially from the host country.

Regarding the tree species with which the Networks are working with, it was suggested that more emphasis should be given to the Mediterranean tree species which are likely to suffer more on climate change. It was also pointed out that the Forest Management Network cannot address rare and threatened tree species as well as the species-oriented Networks which should increase their focus on these species in the future. It was also noted that EUFORGEN could increase collaboration with Canada and the US so as to carry out work of common interest, such as the genetic resources of North American conifers used for forestry in several European countries.

Many National Coordinators commented that Technical Guidelines, developed by the species-oriented Network, have been well received even though only a few of them have so far been translated into other languages. Many countries are now considering translating selected Technical Guidelines and the Secretariat asked these countries to contact it before translating the guidelines to receive the template and guidance for the translation process.

Session 6: FGR conservation and forest management in Europe

T. Eysteinsson presented the preliminary results of the survey on relevant policies and practices related to gene conservation and forest management. The Forest Management Network decided to conduct this survey in Europe at its first meeting in November 2005. The goal was to ascertain to what extent forest genetic resources were considered in national policy regarding forest management and the prevalence of policies and practices potentially affecting forest genetic resources. Subsequently, a task force was set up to formulate the survey (T. Eysteinsson, Iceland; M. Dopazo Gonzales, Spain; M. Peltonen, Finland; N. Foley, Ireland; and M. Moise, Romania).

The survey dealt with background information, silvicultural systems, forest policy and legal instruments affecting silviculture and selection of forest reproductive material. There were also questions regarding recent trends in forest policy and practice, prevalence and effects of forest certification and where forest owners receive information to support their decision-making. Answers were received from 21 countries throughout Europe, representing a wide variability in forest area, forest types and forest management traditions. According to the survey results, the need to conserve forest genetic resources is addressed in forest policy instruments in most of the countries. However, it is seldom addressed in much detail, with France and Germany being notable exceptions to this. Thus, most countries officially recognise the need to conserve forest genetic resources as a matter of principle but provide little in the way of science-based, practical advice to forest managers regarding how to actually go about it. On the other hand, forest management practice is diverse within most countries and at the pan-European level, which should ensure maintenance of viable tree populations and thus genetic diversity of many tree species. The gene conservation needs of rare tree species may not be met through general forest policy or management practices and thus these tree species should be addressed in other ways.

B. Ditlevsen presented main findings of another survey on how countries promote the use of high quality forest reproductive material. This survey was also carried out by the Forest Management Network. A total of 20 countries provided their responses to the survey.

At the beginning of his presentation, B. Ditlevsen clarified what is considered as high quality forest reproductive material and defined it as genetic material adapted to planting site and

meeting users' demands. He then highlighted important factors that influence the use of seeds and plants, such knowledge and information (or lack of them), economic considerations, decision-making structure and state regulations and incentives.

The results show that 14 countries provide public support to genetic research and/or tree improvement, and that 13 countries support seed production. The approval of the basic material follows the EU Directive or the OECD Scheme in all countries, except Iceland. All countries are supporting education and training as well as dissemination of relevant information. A majority of the countries have developed recommendations and guidelines for choosing provenances, some of which are general while others are more specific. There are also a few countries which have developed user-oriented advisory systems to assist in selecting and use of FRM.

Regarding forest legislation and state forest management, nine countries have specific requirements on the use of seeds and plants in the national forest legislation (three Scandinavian countries, Switzerland and five eastern European countries). The remaining 11 countries all have specific provenance regulations as part of their state forest management. The survey further revealed that 11 of the 20 countries have implemented grant schemes in which the use of specific provenances is a condition for obtaining the grant ("the stick method"). Only very few countries have grant schemes in which additional grants are provided for using of high quality material ("the carrot method").

B. Ditlevsen concluded that the "input part" (i.e. tree improvement, seed sources and seed supply) seems in general well covered in different countries. The information part is also well covered in relation to researchers and professionals but the information is not always easily accessible for those who plant trees. He then stressed that the use part is the most critical part. Lack of knowledge, market forces and trade mechanisms will often work against the quality of forest reproductive material. Subsequently, states are increasingly involved in promoting use of high quality planting material.

As the last speaker of Session 6, M. Bozzano presented a summary of the data on FGR collected by the EUFORGEN Secretariat for the MCPFE-UNECE report on the state of forests and sustainable forest management in Europe. The data is being collected through National Coordinators on the area managed for conservation and utilisation of FGR (*in situ* and *ex situ* gene conservation) and for seed production in 1990, 2000 and 2005.

Several National Coordinators pointed out that they had some difficulties in providing the data as the pan-European C&I do not provide clear and explicit definitions for the three categories of areas. Thus, the data has been received from 20 countries only. Despite the problems, it was stressed that it is important for EUFORGEN to provide this contribution to the MCPFE process.

It was agreed that the Secretariat will provide revised definitions after the meeting to make the data more comparable across countries. National Coordinators and Focal Points should then submit or revise the national datasets and send them to the Secretariat by **8 June 2007**.

Session 7: Plenary discussion on the practical implementation of FGR conservation

During the plenary discussion, the Steering Committee revisited many of the issues which were already discussed in the previous sessions. It was noted that the linkage between forest policy and practice seem to be disconnected in many countries. This creates additional challenges for EUFORGEN and the Forest Management Network in particular while promoting FGR conservation as part of sustainable forest management. It was also stressed that EUFORGEN should explore ways to increase its linkages with nature conservation efforts, i.e. how nature reserves could better contribute to FGR conservation.

The role of forest genetic resources in climate change mitigation received several comments. It was suggested that EUFORGEN should contribute to development of recommendations on the use and transfer of forest reproductive material. This could be done by reviewing the results of provenance trials together with other scientific knowledge and "translating" them

to the policy-makers and managers. However, it was pointed out that it is very difficult to predict climate change exactly and thus make any firm recommendations. Alternatively, it was proposed that it might be easier to identify things not to do or what should be avoided. It was concluded that we cannot identify just one single strategy to ensure adaptation of forest trees to climate change and therefore we need to develop mixed strategies and use a mixture of tree species.

Session 8: Other initiatives on forest genetic resources relevant to EUFORGEN

FAO work on forest genetic resources

L. Ackzell provided an update on the FAO efforts on FGR on behalf of O. Souvannavong who was unable to join the meeting. In the area of international species and provenance trials, he informed that the FAO *Silva Mediterranea* Network will be having a workshop on conifers in Arezzo, Italy on 21-23 June 2007. The purpose of the workshop is to assess the status of the provenance trials of Mediterranean conifers established in several countries in the 1960's and 1970's. EUFORGEN has also been invited to give a presentation on the activities of the Conifers Network and its efforts on Mediterranean conifers. The workshop will also discuss the role of provenance trials in studying the adaptation of forest trees to climate change. FAO has also published a preliminary review of biotechnology in forestry, including genetic modification, as a first attempt to provide summarized information in this area at the global level.

L. Ackzell then presented the outcomes of the fourteenth session of the FAO Panel of Experts on Forest Gene Resources, held in Rome from 31 January to 2 February 2007. The Panel had in-depth discussion about FAO's future work on forest genetic resources and recommended that FAO should prepare the State of the World's Forest Genetic Resources report. This recommendation will be forwarded to the eleventh Regular Session of the FAO Commission on Genetic Resources for Food and Agriculture, to be held in Rome on 11-15 June 2007. The FAO Commission will then make a decision on the development of this report on FGR.

EVOLTREE project

F. Lefèvre gave an update to the EVOLTREE project (EVOLution of TREEs as drivers of terrestrial biodiversity) which is funded by the European Commission under the 6th framework programme for research. EVOLTREE is a consortium of 25 partner institutes from 15 European countries and it is coordinated by A. Kremer (INRA, France). The project started on 1 April 2006 for a period of four years.

The main aim of the project is to support integration of work on forest genomics in Europe by developing common research infrastructures and exchanging human resources. More specifically, EVOLTREE will 1) assemble and integrate the complementary disciplines in the field of ecological genetics and genomics (ecosystem genomics), 2) establish and implement a European research platform in this field in the form of "laboratory without walls", 3) install the common infrastructures (e.g. a repository centre), field experimental sites, data management systems, and 4) spread high level excellence to the scientific community, end-users and to the general public.

The project also includes jointly executed research activities, which will identify genes of adaptive significance to climate change in three model tree genera (*Pinus, Populus* and *Quercus*), phytophagous insects (*Limantria*) and mycorrhizal fungi (*Laccaria* and *Glomus*). Furthermore, EVOLTREE will assess the level and distribution of nucleotide diversity in genes of adaptive significance in trees, insects and mycorrhizal fungi and the impact of trees on the composition of other species' communities. The project will also investigate the evolutionary processes in trees by reconstructing their past history and predicting their response to climate change.

EVOLTREE has selected seven intensive study sites where common research efforts will be carried out. These include Valais (Switzerland, alpine altitudinal gradient), Ventoux (France, Mediterranean altitudinal gradient), Solling (Germany, temperate forest), Puszcza

Świçtokrzyska (Poland, untouched forest) and Punkaharju (Finland, boreal forest), Loire (France, riparian forest) and Landes (France, intensively managed forest).

The first annual meeting of EVOLTREE was held in Florence, Italy on 26-28 February 2007. The project has also established a stakeholder group to facilitate science-policy dialogue. Further information on the project can be found at www.evoltree.eu.

OECD Scheme for the Certification of Forest Reproductive Material

R. Longauer provided an update to the OECD Forest Seed and Plant Scheme. The OECD (Organisation for Economic Co-operation and Development) Scheme was established in 1967 as a certification tool to facilitate international trade of forest reproductive material. It is mostly used in Europe and North America but there is also increasing interest in African countries to adopt the scheme. OECD recently revised the earlier four categories of forest reproductive material included in the scheme (i.e. source-identified, selected, untested seed orchards and tested) and reduced them into two categories (source-identified and selected). Further information on the scheme is available at www.oecd.org/agr/forest.

L. Ackzell then reported discussions at the meeting of the EU standing committee on forest reproductive material, held in Brussels on 21 May 2007. The meeting decided that seeds can be imported from a country outside the EU if it follows the OECD Scheme. As an example, he mentioned that Spain is keen to import Monterey pine (*Pinus radiata*) seeds from New Zealand.

TREEBREEDEX project

B. De Cuyper presented an update to the TREEBREEDEX project, which is funded by the European Commission as a coordination action under the 6th framework programme for research. The project is coordinated by L. Pâques at INRA Orleans (France) and it brings together a total of 28 participating institutes in 19 countries. It builds on the earlier achievements by European forest tree breeders and their collections of trees and vast networks of experiments. The project started on 1 June 2006 and will last until 31 May 2010.

The project activities focuses on 1) creating a virtual tree breeding centre, 2) assessing the geographical structure of the genetic variation of European tree species (delineation of adaptive environment and breeding zones at European level), 3) securing the long-term management of forest tree genetic resources (breeding populations), 4) improving breeding strategies, methodologies and tools, and 5) optimizing mass production and deployment of improved varieties in forests. The project has launched its Web site at http://treebreedex.mediasfrance.org.

COST E52: Evaluation of Beech Genetic Resources for Sustainable Forestry

G. von Wühlisch informed the meeting on the COST Action E52 on beech (*Fagus sylvatica*) which started in March 2006 for a period of four years. The project serves as a platform to co-ordinate international data analysis and compilation of results based on 47 common garden experiments in 21 European countries. The experiments were established in 1995 and 1998. The network of these experiments makes it possible to analyse the growth of a specific beech provenance at a number of contrasting sites and environmental conditions. The common garden experiments have reached the age of nine to twelve years and this means that the plants are well established at the different sites. A total of 24 countries are participating in the COST Action E52. The project is also planning to organize summer schools and short-term scientific missions for young scientists.

Wrap-up session

The Steering Committee summarized the meeting decisions during the wrap-up session. The issue of the membership status of the countries with outstanding financial contributions was debated again. The discussions on the issue are included above under Session 1 of this report. It was agreed that the membership rules included into the agenda of the next meeting and then the issue could be discussed when all National Coordinators are present. Regarding the outstanding financial contributions from Phase II (this was not discussed on the first meeting day due to lack of time), it was decided that the Secretariat should follow the same principle as agreed for the outstanding contributions for Phase III and ask those countries to provide further information on the reasons behind the pending contributions.

J. Koskela urged those National Coordinators who have not yet nominated a representative to the Forest Management Network to do so as soon as possible. Following the discussions during the meeting, they should consider nominating managers to represent their country, if possible.

A. Drouzas presented the outputs of the working group which discussed the draft Warsaw Declaration and the draft recommendations for afforestation and reforestation. It was agreed that a reference to forest biological diversity, including their genetic diversity, should be added to the paragraph 2 under the commitments of the Warsaw Declaration (chapter on "Benefiting Quality of Life"). A. Drouzas agreed to contact the Greek representative in the MCPFE process and ask her to propose the agreed wording at the MCPFE Expert Level Meeting in Warsaw on 5-6 June 2007. Other National Coordinators also agreed to inform their MCPFE representatives on this. A. Drouzas then presented the comments to the ecological guidelines of the draft recommendations for afforestation and reforestation. The Secretariat agreed to follow up with the suggestions made by the working group at the forthcoming MCPFE meeting.

Date and place of next meeting

It was concluded that the next meeting of the Steering Committee will be organized in May or June 2009. D. Ballian offered to host the meeting in Bosnia and Herzegovina and A. Drouzas offered the same on behalf of Greece. J. Koskela thanked them for their offers. It was agreed that the Secretariat can decide the place of the next meeting after receiving further information on the proposed venues in the two countries and keeping in mind the geographical coverage of other EUFORGEN meetings.

J. Hubert, chair of the session, thanked H. Kraigher and her team for the excellent meeting arrangements and closed the meeting.

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European Forest Genetic Resources Programme (EUFORGEN) Phase III (2005-2009)

Technical and financial report for 2005-2006[1]

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1. Introduction

The European Forest Genetic Resources Programme (EUFORGEN) is a collaborative programme among European countries to promote conservation and sustainable use of forest genetic resources. It was established in October 1994 as an implementation mechanism for Resolution S2 (Conservation of forest genetic resources) of the First Ministerial Conference on the Protection of Forests in Europe (MCPFE), held in Strasbourg in December 1990. EUFORGEN is fully financed by its member countries, demonstrating their strong commitment to implement the Ministerial Resolution in practice. The EUFORGEN Steering Committee is composed of National Coordinators from all member countries and it has the overall responsibility of the Programme.

On 1 January 2005, EUFORGEN started its third phase with new objectives and a new network structure. The new phase was launched following the decision taken by the Steering Committee during its fourth meeting held in Židlochovice, Czech Republic on 26–29 May 2004. During Phase III, EUFORGEN continues to operate under the MCPFE framework and it also contributes to the implementation of Resolution V4 (Conserving and enhancing forest biological diversity in Europe) adopted by the Fourth Ministerial Conference, held in Vienna, Austria in 2003. The new objectives for Phase III were agreed as follows:

1. Promote practical implementation of gene conservation and appropriate use of genetic resources as an integral part of sustainable forest management;
2. Facilitate further development of methods to conserve genetic diversity of European forests; and
3. Collate and disseminate reliable information on forest genetic resources in Europe.

For the new phase, the Steering Committee established a new thematic network to promote better linkages between gene conservation efforts and forest management in Europe. It also decided to restructure the previous four Networks on broadleaves tree species into two new broadleaves Networks. Furthermore, the Steering Committee agreed on specific measures to strengthen information management on forest genetic resources.

This report provides highlights of the progress made during the first two years of Phase III. It also includes a table of financial contributions provided by the member countries and a summary of expenditures during 2005-2006. The other background documents of the fifth Steering Committee meeting will provide additional information on the activities related to the MCPFE process and the EUFGIS project.

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[1] Presented at the fifth EUFORGEN Steering Committee meeting, Novo mesto, Slovenia, 22–24 May 2007

[2] With effect from 1 December 2006, IPGRI and INIBAP operate under the name "Bioversity International", Bioversity for short.

2. Progress made during 2005-2006

2.1. Implementation of relevant MCPFE Resolutions

The MCPFE Work Programme for the implementation of the Ministerial Resolutions includes three specific actions on forest genetic resources. Firstly, the MCPFE process agreed to "*promote the conservation of forest genetic resources as an integral part of sustainable forest management and continue pan-European collaboration in this area through the EUFORGEN Networks*". Secondly, the Work Programme listed an international capacity-building programme on forest genetic resources to promote conservation and use of biological diversity for development. Thirdly, under Resolution V5 (Climate change and sustainable forest management in Europe), the Work Programme also includes a workshop on the role of forest genetic diversity in improving adaptability of forests to climate change and in maintaining the productivity of forests under changing environmental conditions.

The chapters below provide updates on the implementation of the EUFORGEN work and the workshop while the capacity-building programme is reported under the chapter on 'Wider influences of EUFORGEN' because its scope evolved to provide training at global level from the earlier planned focus on Europe and its neighbouring regions.

2.1.1. Participation in EUFORGEN

The launch of EUFORGEN Phase III initiated the implementation of Resolution V4 in concrete terms. The Steering Committee adopted the objective 1 specifically to reflect the commitment made under Resolution V4 while the purpose of objectives 2 and 3 is to ensure continued implementation of Resolution S2. Under each objective, the Steering Committee also listed several activities that the Programme should carry out to meet the objectives. Subsequently, the Steering Committee urged the EUFORGEN Networks to identify specific outputs and milestones based on the new objectives while they are developing their new work plans for Phase III.

As of 30 April 2007, a total of 34 member countries have been providing both technical and financial inputs to the Programme and thus the implementation of the relevant MCPFE Resolutions. A country is considered a member of EUFORGEN when it has signed the official Letter of Agreement to join the Programme and/or paid its annual financial contribution regularly.

Countries that have signed the Letter of Agreement include Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Macedonia FYR, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom. Furthermore, Estonia and Serbia are also considered as member countries since they have provided technical and financial contributions although their have not yet signed the Letter of Agreement for Phase III.

Georgia, Greece, Moldova and Romania are new member countries as compared to the membership situation at the end of Phase II. Of the old member countries, only Albania and Malta have not joined in Phase III nor provided information on their intentions to the Secretariat. During 2005-2006, the Secretariat has also approached focal or other contact persons in other potential new member countries (i.e. Bosnia and Herzegovina, Latvia, Russian Federation and Ukraine) regarding their interest to join EUFORGEN.

2.1.2. Workshop on climate change and forest genetic diversity

Bioversity International and the International Union of Forest Research Organizations (IUFRO) organised a workshop on climate change and forest genetic diversity in Paris, France on 15-16 March 2006. It was hosted by the French Ministry of Agriculture and Fishery, and the meeting venue was offered by Ecole Nationale du Génie Rural et des Eaux et des Forêts (ENGREF). The workshop was attended by nearly 80 participants from 25 countries, including representatives of the EUFORGEN Networks and the Secretariat. The workshop objectives were to:

1) Present up-to-date reviews based on the current understanding on how forest trees will cope with and adapt to climate change;
2) Discuss the implications for practicing sustainable forest management in Europe; and
3) Provide inputs and recommendations to the MCPFE process for further action.

The workshop recommended that management of forest genetic diversity should be better linked with national forest programmes and other strategies, such as national adaptation strategies to climate change, for example. Secondly, the workshop recommended that forest management practices that maintain evolutionary processes of forest trees and support natural regeneration of forests should be promoted, especially in areas where long-term natural regeneration is self-sustainable despite climate change. Thirdly, the workshop also stressed that the adaptation of forest trees to climate change can be accelerated through tree breeding and transfer of potentially suitable reproductive material. Finally, it urged the European forest research community to carry out more interdisciplinary studies (e.g. tree physiology, forest genetics, pests and diseases, forest management and economics, and modelling) on the impacts of climate change on forests with the support of the policy makers.

Bioversity International and IUFRO have prepared a joint publication based on the invited papers presented during the workshop. The recommendations of the workshop were also reported to the MCPFE Round Table Meeting, which was held in Wroclaw, Poland on 24-25 April 2006. This meeting initiated preparations for the next Ministerial Conference to be held in Warsaw on 5-7 November 2007.

2.2. Other inputs to the MCPFE process

At the fourth meeting in May 2004, the Steering Committee recommended that EUFORGEN should actively disseminate relevant information on forest genetic resources to policy makers and other stakeholders. Subsequently, the Secretariat has provided several addition inputs and information to the MCPFE Process in addition to reporting the progress made in implementing the relevant Resolutions. The following chapters provide summaries of these inputs.

2.2.1. MCPFE Expert Level Meetings

Following the Round Table Meeting in April 2006, the MCPFE process organized several meetings to continuing the preparations for the next Ministerial Conference. On 9-10 October 2006, the Expert Level Meeting, held in Warsaw, continued discussions based on the outputs of the Round Table Meeting and subsequently two Drafting Meetings were organized in Krakow and Poznan (1-2 February and 28-29 March 2007, respectively).

As an outcome of these meetings, the MCPFE process has prepared a draft Ministerial Declaration and two Resolutions to be adopted by the ministers responsible for forests during the Warsaw Conference. The Warsaw Declaration will stress countries' commitment to regional collaboration on forest-related issues in Europe and further implementation of all previous resolutions. The first Warsaw Resolution will focus on forests and water and the second one on wood and energy.

The EUFORGEN Secretariat has frequently informed the MCPFE process on the progress made in EUFORGEN activities and stressed the importance of forest genetic resources in the context of climate change. During the MCPFE meetings, several countries also highlighted adaptation of forests and forest management practices to climate change as important issues. However, the Process concluded that as there is no need to have an additional Resolution on climate change as the issue was recently stressed by the previous Ministerial Conference in Vienna. The present wording of the Warsaw Declaration includes some climate change considerations but the recommendations of the Paris workshop are reflected in detail.

The EUFORGEN Steering Committee should discuss the present wording of the Warsaw Declaration and decide whether further inputs are needed regarding climate change and forest genetic resources. The Secretariat will then forward the feedback to the next Expert Level Meeting, which be held in Warsaw on 4-6 June 2007. Before the next Ministerial Conference, there will be another Expert Level Meeting on 3-4 September 2007. Since the MCPFE Process remains committed to all previous Resolutions, it is also important to discuss what actions EUFORGEN could propose to be included in the new MCPFE Work Programme to continue the implementation of Resolutions S2, V4 and V5.

2.2.2. Pan-European workshop on afforestation and reforestation

The MCPFE Liaison Unit Warsaw and the PEBLDS Secretariat (Pan-European Biological and Landscape Diversity Strategy) organised this workshop in Vilnius, Lithuania on 24-26 October 2006. EUFORGEN Coordinator was invited to give a presentation on the use of forest genetic resources in afforestation and reforestation.

The workshop discussed draft recommendations for afforestation and reforestation at pan-European level in the context of the Kyoto Protocol. In addition to general guidelines, the recommendations also include ecological and socio-economic guidelines. Among other issues, the ecological guidelines encourage the use of provenances that are well adapted to given site conditions and avoiding negative impacts to genetic diversity of native tree species. After the workshop, the MCPFE Liaison Unit Warsaw and the PEBLDS Secretariat received further comments and feedback to the draft recommendations. Several comments made by the PEBLDS community in particular considered that the draft recommendations put too much emphasis on production aspects.

On 8-9 May 2007, an additional consultation meeting was organized in Vienna, Austria to further discuss a second draft of the recommendations (so called 'non-paper'), modified based on the feedback received. The outcomes of the consultation meeting will be then further discussed at the Expert Level Meeting in June as it is planned that the MCPFE Process could endorse the recommendations as part of the Warsaw Declaration. The ministers responsible for the environment are expected to do the same at the next meeting of the PEBLDS process.

2.2.3. MCPFE report on sustainable forest management in Europe

The MCPFE Liaison Unit is preparing a report on "*State of Forests and Sustainable Forest Management in Europe 2007*" in collaboration with the United Nations Economic Commission for Europe (UNECE/FAO). The report will be launched at the Warsaw Conference in November 2007.

The MCPFE Liaison Unit has asked the EUFORGEN Secretariat to collect relevant data on forest genetic resources for the report. The requested contribution is related to the Criterion 4 (Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems) and more specifically to Indicator 4.6 (Area managed for conservation and utilization of forest tree genetic resources (*in situ* and *ex situ* gene conservation) and area managed for seed production). The Secretariat has been collecting the data through the EUFORGEN National Coordinators and Focal Points. A detailed update on this effort will be provided to the Steering Committee during the meeting in Novo mesto.

2.3. Network activities

In May 2004, the Steering Committee made several decisions on the Networks and their operations. Firstly, it decided to re-organize the Network structure in response to the requirements of Resolution V4 and the new objectives adopted for Phase III. The Steering Committee agreed that the previous Mediterranean Oaks, Noble Hardwoods, *Populus nigra*, Temperate Oaks and Beech Networks should be restructured into two Networks addressing broadleaved tree species with scattered and continuous distribution. Furthermore, it was agreed that a task force should be established to define the names of the two new Broadleaves Networks. The Secretariat established the task force which then carried out its work during autumn 2004 and made a proposal for the new names. These were subsequently adopted by the Steering Committee through exchange of e-mail messages.

In addition to merging the Networks on broadleaves, the Steering Committee also decided to establish a new thematic Forest Management Network and an Information Working Group. It recommended that country representatives to the Forest management Network should hold national responsibilities in areas related to forest policy, national forest programmes or forest management. This recommendation was made to ensure that the Forest Management Network has a mixture of participants with expertise on both forest management and gene conservation. Regarding the Information Working Group, it was agreed that representatives for specific tasks in this area (e.g. development of information standards) should be nominated by the Networks (1-3 representatives each) and that outside expertise can be invited to participate in carrying out the tasks, as needed.

Concerning Network operations, the Steering Committee decided that each species-oriented Network can organize up to three meetings during Phase III while the Forest Management Network can meet annually. As a change compared to Phase II, it was also agreed that countries can nominate representatives to all those Networks in which they are interested in during Phase III. Subsequently, most member countries have nominated their representatives to all four Networks. A total of 108 experts, scientists, managers or policy-makers have been nominated to represent their country in the EUFORGEN Networks. In 2004, the Steering Committee further decided that for the first meeting of the Scattered Broadleaves Network, the member countries could nominate two representatives, if needed.

During 2005-2006, EUFORGEN has operated through the following Networks: 1) Forest Management Network, 2) Conifers Network, 3) Scattered Broadleaves Network, and 4) Stand-forming Broadleaves. Each Network organized its first meeting (fifth one in the case of the Conifers Network) in 2005 to discuss the new objectives for Phase III and to develop new work plans. The Networks also selected new Chairs and Vice-Chairs (Jason Hubert (United Kingdom) and Bjerne Ditlevsen (Denmark) were selected as Chair and Vice-Chair of the Forest Management Network, respectively; Bruno Fady (France) and Alistair Pfeifer (Ireland) for the Conifers Network, Bart De Cuyper (Belgium) and Berthold Heinze (Austria) for the Scattered Broadleaves Network, and Georg von Wühlisch (Germany) and Alexis Ducousso (France) for the Stand-forming Broadleaves Network).

A total of seven Network meetings were held in 2005-2006 (Table 1) and two meetings are scheduled for 2007. The Information Working Group is not yet operational but will commence its activities as part of the Networks' inputs to the EUFGIS project (see details later on in this report). The Inter-Network Group, i.e. Chairs and Vice-Chairs of the Networks, will meet on 25 May 2007 following the fifth Steering Committee meeting to discuss development of minimum requirements for gene conservation units of forest trees and other cross-cutting Network activities.

Table 1. EUFORGEN Network meetings in 2005-2007.

Network/Group	Meeting venue and date	No. of countries
Forest Management	1st meeting, Lambrecht, Germany, 3–5 Nov 2005 2nd meeting, Bucharest, Romania, 23–25 Nov 2006 3rd meeting, venue to be confirmed, Nov 2007	22 20 to be held
Conifers 5	th meeting, Larnaca, Cyprus, 7–9 April 2005 6th meeting, Reykjavik, Iceland 7–9 Sep 2006	25 25
Scattered Broadleaves	1st meeting, Copenhagen, Denmark, 11-14 May 2005 2nd meeting, Valkenburg, Netherlands, 21–23 Sep 2006	33 30
Stand-forming Broadleaves	1st meeting, Viterbo, Italy, 20–22 Oct 2005 2nd meeting, Novi Sad, Serbia 27–29 June 2007	28 to be held
Inter-Network Group (Chairs and Vice-Chairs)	3rd meeting, Novo mesto, Slovenia, 25 May 2007	to be held

The following chapters highlight some of the Network activities during 2005-2006. The Chairs of the Networks will also present updates to the Steering Committee in Slovenia.

2.3.1. Forest Management Network

At the first meeting in Germany in November 2005, the Forest Management Network discussed its role during Phase III and how to promote gene conservation as part of sustainable forest management. The meeting included a seminar on forest management and genetic resources during which genetic aspects of forest management and issues related to the use of forest reproductive material were discussed in detail.

Following the first meeting, the Network carried out a survey in 2006 on relevant policies and practices that influence how the use of genetic resources is incorporated into forest management practices in different countries. As part of the survey, the Network also identified most relevant silvicultural practices in Europe and collected information on associated problems from the genetic point of view. The preliminary results of the survey were then discussed at the second meeting in Romania in 2006. The results will be also presented to the Steering Committee in Slovenia. A working group is now finalizing a report based on the survey results.

During the first meeting in Germany, the Network members discussed the results of a study carried out by Denmark on policy tools to promote the use of high quality forest reproductive material in 10 northern European countries. The study showed that most of these countries just rely on providing information on the appropriate use of the material while only a few countries have taken active measures and encouraged this through legislation or as part of grant schemes. The Network decided to collect more information on these policy tools and carried out the same survey in other member countries during 2006. The results of this second survey were discussed at the second meeting in Romania in November 2006. The results will be also reported to the Steering Committee in Slovenia. Similarly to the other survey, a report of this survey is currently being prepared.

The Network has also made some efforts to collect information on 'systematic failures' in silvicultural practices from the genetic resources point of view. These were defined as things that happen repeatedly or over long periods of time without being corrected. The systematic failures could include failure to register or monitor the use of forest reproductive material in a proper way or repeatedly selecting poor material for use in forestry due to insufficient knowledge or data. A review on silvicultural practices and genetic resources is being prepared in France and the Network will discuss its findings before continuing the efforts on the systematic failures.

Between the two meetings, the Network also collected examples of inappropriate use of forest reproductive material in different countries. These examples demonstrate that problems caused by unsuitable forest reproductive material often become visible within 5-10 years time. However, in some cases it took more than 30 years before any problems could be recognized. The problems include low frost or drought resistance, susceptibility to pests and diseases and poor adaptation to site-specific conditions, for example. The areas affected by these problems are often larger than 1000 ha. However, an extreme case is the planting of red oak (*Quercus rubra*) in France; 400,000 ha were planted with the species between 1970 and 2000 but only 27 000 ha of red oak stands persisted in 2004. Furthermore, the Network found examples where the use of first generation material has been a failure while the second generation can be successful (e.g. *Cedrus* spp. which turned out to a success but only 100 years after its first introduction in France). A summary of the examples is available soon.

The Network has also discussed that the value of gene conservation and genetic diversity for European forestry and society should be better acknowledged. The estimation of this value was recognized as a complex subject owing to different conditions and various approaches that need to be considered (e.g. economic or environmental issues). The Network has established a small working group to develop ideas on how to address economic aspects of forest genetic resources as part of the Network activities in the future. At the moment, the working group is waiting for the preliminary outputs of a pilot project in Denmark on economic aspects of forest genetic diversity before developing any concrete activities in this area. The Danish project was initiated in 2006 and it will focus on the genetic conservation programme and the seed source development programme for tree improvement in the country. The project will develop "economic tools" that are relevant for these genetic resources programmes using oak as a pilot species.

As a new activity, the Network discussed the issue of using forest reproductive material (FRM) in the context of energy/biomass plantations. It seems likely that the establishment of biomass plantations with forest trees will increase in the future, especially in Central Europe. As this is not considered as a forestry activity, the FRM used for such purpose does not have to meet the requirement of the Council Directive (EC No.105/1999). Thus there is a danger that poorly documented and low quality seedlings of forest trees may end up planted for forestry purposes if mistakes are made at nurseries or while distributing the seedlings. There are similar problems in using forest trees of unknown origin for hedges or other amenity purposes. A working group is now collecting more detailed information on this problem and it will be further discussed at the third meeting in November 2007.

2.3.2. Species-oriented Networks

Most meetings of the species-oriented Networks focused on specific themes or topics identified by the members as important ones. The Networks have also continued their work on the development of minimum requirements for gene conservation units of forest trees. These are needed to better compare the state of gene conservation in different countries, and identify gaps and overlaps in gene conservation efforts at the pan-European level. This will create a sound basis for further development of common action plans to strengthen practical implementation of gene conservation and to link existing gene conservation units of forest trees throughout their entire distribution ranges in Europe.

The Conifers Network focused on the challenges in managing conifer genetic resources in the Mediterranean basin at the fifth meeting in Cyprus and on the impact of climate change on the conservation of forest genetic resources at the sixth meeting in Iceland. Between the two meetings, the Network drafted minimum requirements for gene conservation units of conifers which were then discussed in detail during the meeting in Iceland. The draft minimum requirements set guidelines not only for individual gene conservation units but also a network of these units within the distribution ranges of tree species. The Conifers Network also agreed to include climate change considerations into the minimum requirements and stressed that the minimum size of the unit should ensure long-term evolutionary potential of the target tree species.

Regarding the development of the common action plans, the Conifers Network is currently focusing on four groups of species and has selected, as a first step, the following conifers as target species: 1) stand-forming/widespread species (*Picea abies, Pinus halepensis/brutia,*), 2) scattered/widespread (*Taxus baccata*), 3) rare/threatened (*P. nigra* ecotypes, Mediterranean *Abies* spp.), and 4) exotic conifers (*Picea sitchensis*, *Pseudotsuga menziesii*). These "CAP groups" are now collecting information on what is done in terms of gene conservation in each country where the above-mentioned species are found. Each Network member has been asked to propose a few gene conservation units in their country, based on the minimum requirements, to be included in the pan-European network of the gene conservation units for these target species. Following this, the CAP groups will review the status of gene conservation efforts for the species and then continue the development of the common action plans.

The Conifers Network is also preparing a discussion paper on genetic consequences of silvicultural practices in conifers and continuing the development of Technical Guidelines for conifers. New guidelines are being finalized for European larch (*Larix decidua*), Bosnian pine (*Pinus leucodermis*), Macedonian pine (*Pinus peuce*) and English yew (*Taxus baccata*).

During the first meeting of the Scattered Broadleaves Network in Denmark in May 2005, the earlier Noble Hardwoods and *Populus nigra* groups met shortly to conclude their activities before the meeting of the new Network was started. The Network adopted criteria and minimum requirements for the gene conservation units of scattered broadleaves and set up three working groups to develop the common action plans for three groups of tree species based on their similar habitats. The groups are 1) common ash (*Fraxinus excelsior*), wild cherry (*Prunus avium*), maples (*Acer* spp.), Wych elm (*Ulmus glabra*), limes (*Tilia cordata*, *Tilia platyphyllos*), 2) black poplar (*Populus nigra*), white poplar (*P. alba*), white elm (*Ulmus laevis*), field elm (*U. minor*), and 3) wild apple (*Malus sylvestris*), wild pear (*Pyrus pyraster*), wild service tree (*Sorbus torminalis*), service tree (*S. domestica*). As a first step, the Network decided to collect information on the existing gene conservation units of two species in each group to assess gaps and overlaps in gene conservation efforts in Europe. The first meeting also included a seminar during which several presentations highlighted the work carried out on forest genetic resources in Denmark.

The second meeting of the Scattered Broadleaves Network, held in the Netherlands in September 2006, discussed the use of genetic resources in forest restoration based on case studies from Belgium and the Netherlands. As part of the meeting, the participants also made a field trip to the restoration sites of the transboundary 'Common Meuse River restoration project'. Subsequently, the Network decided to develop a review publication on experiences on restoration projects with scattered broadleaves in Europe.

During the second meeting, the CAP groups provided updates on their work. The first CAP group had selected common ash and wild cherry as its model species. The second group is working with black poplar and white elm, and the third one with wild pear and wild service tree. The working groups have gathered some information on the existing gene conservation units of the selected tree species but further work is needed before the common action plans can be drafted. Based on the experiences of the CAP groups, the Network updated the criteria and minimum requirements used for collecting data on the units to facilitate further work.

The Scattered Broadleaves Network is also continuing to develop another review on methods for genetic monitoring and future use of the gene conservation units for this purpose. The second meeting already discussed a preliminary draft of this review. Regarding Technical Guidelines, the Network has improved the earlier drafts for Italian alder (*Alnus cordata*), walnut (*Juglans regia*) and European white poplar (*Populus alba*) during 2006 and these are expected to be finalized in 2007.

The Stand-forming Broadleaves Network organized its first meeting in Italy in October 2005. The meeting did not have a specific theme but it included presentations which provided an overview to studies on chloroplast, mitochondrial and nuclear diversity in forest trees as well as the work on stand-forming broadleaves carried out by the University of Tuscia in Viterbo.

The Network decided to initiate development of criteria and minimum requirements for gene conservation units of stand-forming broadleaves, following the work of the other species-oriented Networks. The Network also agreed to compile a Europe-wide map of provenance regions based on national provenance delineation for selected species (*Fagus sylvatica*, *Quercus robur*, *Q. petraea*, *Q. suber* and *Q. pubescens*). However, the progress in collecting data for these maps has been slow due to the very different ways countries have created the provenance regions. The Network is also collecting information for case studies on the use of provenances with emphasis on the effects of transfer of forest reproductive material and on the genetic consequences of silvicultural practices for stand-forming broadleaves. These efforts will complement the work of the Forest Management Network.

During 2006, the Stand-forming Broadleaves Network finalised draft Technical Guidelines for beech (*Fagus sylvatica*) and cork oak (*Quercus suber*) and these will be printed in 2007. The Network is developing additional guidelines for four Mediterranean oak species (*Quercus ilex*, *Q. pubescens*, *Q. frainetto* and *Q. cerris*), birch (*Betula pendula* and *B. pubescens*) and oriental beech (*Fagus orientalis*).

2.4. Documentation and information management

At the fourth meeting in 2004, the Steering Committee decided to change the way progress made in gene conservation efforts is reported by the member countries. Instead of updates at the Network meetings, it was agreed that the reporting will be done through National Coordinators once every 3-4 years. It was further agreed that the country-based information will be compiled into a new publication on "*European Forest Genetic Resources in 200X*". At the meeting it was also discussed that this new publication should be prepared for the next Ministerial Conference in Warsaw. In 2005, however, the MCPFE Liaison Unit Warsaw contacted the Secretariat and asked it to provide relevant data on forest genetic resources for the report on "*State of Forests and Sustainable Forest Management in Europe 2007*". The Secretariat contacted National Coordinators by e-mail and asked whether EUFORGEN inputs to the MCPFE report would provide better visibility for gene conservation than a separate report. The feedback received was in favour of providing the data for the MCPFE report and postponing the development of the new EUFORGEN publication at the end of Phase III. Thus the Steering Committee should discuss the new publication at its meeting in Slovenia and agreed a new schedule for preparing it.

In 2004, the Steering Committee requested the Secretariat to coordinate the development of the inter-Network proposal on FGR information management for the Council Regulation on genetic resources in agriculture (No 870/2004). Subsequently, in September 2005, the Secretariat finalized the project proposal in collaboration with six partners (Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Austria; State Forest Tree Improvement Station (SNS), Denmark; Institut National de la Recherche Agronomique (INRA), France; National Forest Centre (NLC), Slovakia; Slovenian Forestry Institute (SFI), Slovenia; and Forest Research, UK) and Bioversity International submitted it to the first call for proposals. The proposal was titled as "*Establishment of a European Information System on Forest Genetic Resources (EUFGIS)*".

The proposal was approved by the European Commission in June 2006 and the project started its activities on 1 April 2007 for a period of 3.5 years. The total budget of the project is €1,107,721 of which the contribution by the European Commission is €553,860 (50%). The objectives of the project are:

1. To create a Web-based, permanent information system to serve as the European documentation platform for national FGR inventories;
2. To establish a network of FGR inventories in 40 countries to provide data for the information system;
3. To develop minimum requirements for dynamic gene conservation units of forest trees and common information standards for these units at pan-European level;
4. To make available, as a first step, harmonized data on the dynamic gene conservation units of 20 tree species from at least 80 % of the countries within each species' distribution range in Europe; and
5. To provide training on FGR documentation to national focal points in these countries.

The EUFORGEN Networks will provide technical inputs and contribute to the harmonization of minimum requirements for gene conservation units of different trees species and development of information standards for these units. Once established, the information system will benefit the Networks in their further efforts to develop the common action plans and assess the status of gene conservation efforts for various tree species in Europe.

All EUFORGEN member countries will be invited to participate in the project and the National Coordinators will be asked to nominate a national focal point for it. The focal points will receive training on FGR documentation and are then expected to compile national data for the information system. In October 2007, a European workshop on FGR documentation will be organized in Denmark to discuss the present situation and to initiate the harmonization of the minimum requirements for gene conservation units based on the ongoing work of the EUFORGEN Networks.

During the meeting in Slovenia, the Steering Committee will receive further details on the EUFGIS project and its implementation. It is also expected to discuss Terms of Reference for a national focal point, Memorandum of Understanding for sharing and using national data, and the future role of EUFGIS as part of EUFORGEN activities.

In 2004, the Steering Committee recommended to link the grey literature database to the IUFRO Global Forest Information System (GFIS). In 2005, the Secretariat initiated discussions with IUFRO how to link all relevant EUFORGEN information and publications to GFIS. Bioversity International has been registered as one of the GFIS data providers and the relevant EUFORGEN-related data will be soon available through GFIS.

2.5. Publications and public awareness material

In 2004, the Steering Committee agreed that EUFORGEN should continue to produce its publications in English and member countries should translate Technical Guidelines and other relevant publications, if needed, into other languages with their own resources. The Secretariat was asked to provide the necessary templates for this purpose.

Some countries have started translating selected Technical Guidelines (Belgium in collaboration with the Netherlands, Italy and Spain) and several others have also expressed interest doing the same (e.g. Estonia, France, Germany and the Czech Republic). The Secretariat has developed a template and notes to help countries in the process. The content and recommendations of Technical Guidelines as well as authors should remain unchanged after translation while translators or other national experts can author a two-page insert as a supplement to be added to a given publication. The insert should then provide specific national information on a tree species or recommendations for the management of its genetic resources in the country.

In 2004, the Steering Committee further recommended that EUFORGEN could develop guidelines for "genetically friendly" silviculture during Phase III. The development of such "thematic guidelines" has also been discussed by the Networks. The Forest Management Network concluded that the thematic guidelines could be developed at a later stage once there is more relevant information available. The Forest Management Network also acknowledged the interest of the species-oriented Networks to contribute to the development of these guidelines.

The Steering Committee adopted a new publication policy for Phase III. Reports of the Network meetings will not be produced as EUFORGEN publications any more but electronically in PDF simple format. The Networks can continue develop publications independently of their meeting cycle and focusing on relevant themes and issues, which are of interest to wider audiences. The Secretariat has developed a new publication layout in collaboration with Bioversity's Publication Unit and the new style will be also applied for other public awareness tools (e.g. PowerPoint presentations, Web site, leaflets and posters).

In 2005, the Secretariat produced a leaflet on EUFORGEN Phase III and it has been widely used to promote the Programme in various meetings and conferences. The Scattered Broadleaves Network developed a poster on noble hardwoods targeted to general public and it is now preparing public awareness leaflets on poplars, elms, wild cherry and wild fruit trees (apple and pear). In 2006, posters on EUFORGEN and the Conifers Network were updated and printed for the IUFRO Conference on Low Input Breeding and Genetic Conservation of Forest Tree, held in Antalya, Turkey. Other Network posters will be updated in due course.

A list of EUFORGEN publications produced since the fourth Steering Committee meeting in May 2004 is presented in Annex 1.

2.6. Wider influences of EUFORGEN

2.6.1. Austria-funded training programme

In 2005, Bioversity International started to implement a project on "Developing training capacity and human resources for the management of forest biodiversity" in collaboration with the Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Austria. The aim of the project is to establish a training programme that will address the urgent needs and challenges of biodiversity management in forest production systems in developing countries. During this five-year project Bioversity is organising five two-week training workshops and providing five two-year research fellowships. Both the workshops and the fellowships will focus on a different region of the world in each year.

The first training workshop on forest biodiversity was held in Puskino, Russian Federation on 13-24 June 2005. The workshop was attended by 25 young scientists from 14 countries in southeastern Europe and the Caucasus (Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Georgia, Iran, Macedonia FYR, Moldova, Romania, Russian Federation, Serbia and Ukraine). The workshop was organized in close collaboration with EUFORGEN and both the Secretariat and National Coordinators or Focal Points in the above-mentioned countries facilitated the preparations of the workshop. Furthermore, several Network members delivered lectures during the workshop. The young scientists trained during the workshop created an active, informal network and continued their professional interaction and collaboration.

The second training workshop was organised in Kuala Lumpur, Malaysia on 5-16 June 2006 in collaboration with the Asia Pacific Forest Genetic Resources Programme (APFORGEN), the Asia Pacific Association of Forestry Research Institutes (APAFRI) and the Forest Research Institute Malaysia (FRIM). A total of 28 young scientists from nine Asian countries were trained. EUFORGEN provided inputs to the planning of the training workshop in Malaysia and is currently doing the same for the third workshop which will be held in Tashkent, Uzbekistan in August 2007 for Central Asian countries. The third workshop will

be organized in collaboration with the Central Asia and Trans-Caucasus Network on Plant Genetic Resources (CA-TCN/PGR). The workshops have strengthened EUFORGEN's collaboration with APFORGEN and CA-TCN/PGR. In 2008 and 2009, similar collaboration will take place with the Sub-Saharan Forest Genetic Resources Programme (SAFORGEN) and the Latin America Forest Genetic Resources Programme (LAFORGEN).

As part of the project, the first fellowship was granted to Jelena Aleksic from Serbia in 2005. She is currently carrying out her research on Serbian spruce (*Picea omorika*) at BFW in Vienna. In 2006, the second fellowship was awarded to Madhav Pandey from Nepal. He is studying genetic structure and reproductive biology of sal (*Shorea robusta*) in Nepal.

2.6.2. EVOLTREE Network of Excellence

The EVOLTREE project (EVOLution of TREEs as drivers of terrestrial biodiversity) started on 1 April 2006 for a period of four years. It is a consortium of 25 partner institutes from 15 European countries funded by the European Commission under the sixth framework programme for research.

The main aim of the project is to support integration of work on forest genomics in Europe by developing common research infrastructures and exchanging human resources. More specifically, EVOLTREE will 1) assemble and integrate the complementary disciplines in the field of ecological genetics and genomics (ecosystem genomics), 2) establish and implement a European research platform in this field in the form of "laboratory without walls", 3) install the common infrastructures (e.g. a repository centre), field experimental sites, data management systems, and 4) spread high level excellence to the scientific community, end-users and to the general public.

Bioversity International is a partner institute and it has a leading role in the dissemination activities of the project. As part of these efforts, EVOLTREE will set up a stakeholder group to facilitate two-way dialogue between scientists and policy makers in particular. The stakeholder group will consist of representatives of different interest groups such as the scientific community, policy makers, conservation agencies, land managers, forest owners, and forest services. EUFORGEN and the Forest Management Network in particular have an important role in the stakeholder group.

2.6.3. Other EUFORGEN contributions

The Secretariat has provided additional contributions to various initiatives on forest genetic resources and promoted the Programme in meetings and conferences.

A presentation on the role regional collaboration in managing forest genetic resources in Europe was delivered at the XXI IUFRO World Congress in Brisbane, Australia on 8-13 August 2005.

The Coordinator was also invited to give a presentation on regional collaboration on forest genetic resources in Europe to the first Forum on the Conservation of Forest Genetic Resources. The Forum was organised as part of the 30th Biennial Meeting of the Canadian Tree Improvement Association in Charlottetown, Prince Edwards Island on 24-29 July 2006. The event was used for launching the Canadian Forest Genetic Resources Program (CONFORGEN) which aims at strengthening the collaboration between Canadian provinces on FGR conservation.

An update on the EUFORGEN activities was presented during the 14th Session of the FAO Panel of Experts on Forest Gene Resources in Rome, Italy on 31 January – 2 February 2007. The Coordinator also participated as an observer in the 33rd Session of the European Forestry Commission of FAO in Zvolen, Slovakia on 23-26 May 2006, and the 17th and 18th Sessions of the FAO Committee on Forestry (COFO) in Rome (15-19 March 2005 and 13-16 March 2007, respectively).

3. EUFORGEN Management Committee

The Management Committee provides technical and management advice to the EUFORGEN Secretariat. It meets usually once year and between the meetings its members interact frequently with the Secretariat. Presently the Committee is composed of three members; Oudara Souvannavong (Senior Forestry Officer, Biodiversity and Conservation) from the FAO Forestry Department, and Laura Snook (Director, Understanding and Managing Biodiversity Programme) and Lex Thomsom (Senior Scientist, Forest Genetic Resources) from Bioversity International. The continuous support and advice of the Committee members are gratefully acknowledged.

4. EUFORGEN Secretariat

No staff changes have taken place in the EUFORGEN Secretariat during 2005-2006. Lidwina Koop (Programme Assistant) and Michele Bozzano (Programme Specialist) have continued to provide excellent administrative and scientific support, respectively, for EUFORGEN (50% of their time).

5. Financial report 2005-2006

In January 2005, the opening balance of the trust fund was US$ 189,990. During the same year, US$ 252,496 was received as financial contributions. In 2006, the member countries contributed US$ 458,593, i.e. several member countries paid the 2005 and 2006 contributions together. Annex 2 shows the financial contributions received for 2005, 2006 and 2007 (by 30 April 2007). Outstanding financial contributions are US$ 19,036 for Phase III and US$ 8,000 for Phase II. The Secretariat has reminded those member countries with outstanding contributions for Phase III and asked them to provide the outstanding contributions together with their 2007 contribution. Regarding the outstanding contributions for Phase II, the Steering Committee is kindly requested to advice the Secretariat how to deal with them (as the two countries have not joined Phase III).

The estimated budget for 2005-2006 was US$ 684,017 while the actual total expenditure was US$ 782,778 during the same period (Annex 3). Costs of staff, staff travel and species-oriented Network meetings were higher than planned. This is partly due to currency exchange rates (i.e. the strong Euro as compared to US$) and the fact that the species-oriented Networks organized most of their meetings (five out of nine) budgeted for Phase III already during 2005-2006. The negative budget balance of US$ 98,761 for 2005-2006 is likely to be reduced during 2007-2009. However, despite the negative budget balance, EUFORGEN maintained healthy cash availability and the closing balance of the trust fund was US$ 118,300 on 31 December 2006.

Annex 1: List of EUFORGEN and other relevant publications (since the fourth Steering Committee meeting in May 2004).

Meeting reports

Koskela, J., S.M.G. de Vries, D. Kajba and G. von Wuehlisch (compilers) 2004. *Populus nigra* Network, Report of seventh (25–27 October 2001, Osijek, Croatia) and eighth meetings (22–24 May 2003, Treppeln, Germany). International Plant Genetic Resources Institute, Rome, Italy.

Vancura. K., B. Fady, J. Koskela and Cs. Mátyás (compilers) 2004. EUFORGEN Conifers Network. Report of the second (20-22 September 2001, Valsain, Spain) and the third meetings (17-19 October 2002, Kostrzyca, Poland). International Plant Genetic Resources Institute, Rome, Italy.

Bozzano M., M. Rusanen, P. Rotach, J. Koskela (compilers). 2006. EUFORGEN Noble Hardwoods Network, Report of the sixth (9–11 June 2002, Alter do Chão, Portugal) and seventh meetings (22 - 24 April 2004, Arezzo, Italy). International Plant Genetic Resources Institute, Rome, Italy.

Technical Guidelines

Demesure-Musch, B. and S. Oddou-Muratorio. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for wild service tree (*Sorbus torminalis*). International Plant Genetic Resources Institute, Rome, Italy.

Ducousso, A. and S. Bordacs. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for pedunculate and sessile oaks (*Quercus robur* and *Q. petraea*). International Plant Genetic Resources Institute, Rome, Italy.

Fady, B., S. Fineschi and G.G. Vendramin. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for Italian stone pine (*Pinus pinea*). International Plant Genetic Resources Institute, Rome, Italy.

Isajev, V., B. Fady, H. Semerci and V. Andonovski. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for European black pine (*Pinus nigra*). International Plant Genetic Resources Institute, Rome, Italy.

Mátyás, C., L. Ackzell and C.J.A. Samuel. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for Scots pine (*Pinus sylvestris*). International Plant Genetic Resources Institute, Rome, Italy.

Nagy, L. and F. Ducci. 2004. EUFORGEN Technical Guidelines for genetic conservation and use for field maple (*Acer campestre*). International Plant Genetic Resources Institute, Rome, Italy.

In preparation

Ducci F. and A. Tani. 2007. EUFORGEN Technical Guidelines for genetic conservation and use for Italian alder (*Alnus cordata*). Bioversity International, Rome, Italy.

Gil, L. and M.C. Varela. 2007. EUFORGEN Technical Guidelines for genetic conservation and use for cork oak (*Quercus suber*). Bioversity International, Rome, Italy.

Koskela, J., A. Buck and E. Teissier du Cros (editors). 2007. Climate change and forest genetic diversity: Implications for sustainable forest management in Europe. Bioversity International, Rome, Italy.

Koskela, J., C.J.A. Samuel, Cs. Mátyás and B. Fady (compilers) 2007. Conifers Network, Report of the fourth meeting (18–20 October 2003, Pitlochry, United Kingdom). Bioversity International, Rome, Italy.

Palancean I. and N. Alba. 2007. EUFORGEN Technical Guidelines for genetic conservation and use for European white poplar (*Populus alba*). Bioversity International, Rome, Italy.

Varela, M.C., G. Eriksson, R. Lumaret, L. Gil Sanchez, M.P. Díaz Fernández and J. Turok. 2007. EUFORGEN Technical Bulletin: Gene conservation and management of *Quercus suber*. Bioversity International, Rome, Italy.

Vendramin G.G., S. Fineschi, A. Delkov and B. Fady. 2007. EUFORGEN Technical Guidelines for genetic conservation and use for Bosnian pine (*Pinus heldreichii*). Bioversity International, Rome, Italy.

von Wuehlisch, G. 2007 EUFORGEN Technical Guidelines for genetic conservation and use for European Beech (*Fagus sylvatica*). Bioversity International, Rome, Italy.

Other relevant publications

Lefèvre, F., Collin, E., De Cuyper, B., Fady, B., Koskela, J., Turok, J. and von Wühlisch, G. 2007. European forest genetic resources: status of current knowledge and conservation priorities. In: Maxted, N., Ford-Lloyd, B.V., Kell, S.P., Iriondo, J., Dulloo, E. and Turok, J. (eds.). Crop Wild Relative Conservation and Use. CABI Publishing, Wallingford, UK (in press).

Annex 2: Financial contributions received during EUFORGEN Phase III.

Country A	nnual contribution (US$)	Contributions received (US$)			Outstanding contributions PHASE II (US$)	Outstanding contributions PHASE III (US$)
		2005 2006		2007*		
Albania 2,200						
Austria 11,000		11,000	11,000	11,000		
Belgium Flemish Region	6,875	6,875	6,875			
Belgium Walloon Region	6,875	6,875	6,875	6,875		
Bulgaria 5,500		5,500	5,500	5,500		
Croatia 5,500		5,500	5,500	5,500		
Cyprus 5,500		5,500	5,500	5,500		
Czech Republic	7,500	7,500	7,500	7,500		
Denmark	11,000	11,000	11,000			
Estonia	5,500	5,500	5,500			
Finland 11,000		11,000	11,000	11,000		
France 33,000		33,000	33,000	1,317		
Georgia	2,200					4,400
Germany 33,000		33,000	33,000	33,000		
Greece 11,000			11,000			
Hungary	7,500	7,500	7,500			
Iceland 5,500		5,500	5,500	5,500		
Ireland 7,500		7,500	7,500	7,500		
Italy	33,000	33,000	32,664			336
Lithuania	5,500	5,500	5,500			
Luxembourg 5,500		5,500	5,500	5,500		
Macedonia FYR	2,200				6,000	4,400
Malta 5,500					2,000	
Moldova	2,200					4,400
Norway 11,000		11,000	11,000	11,000		
Poland 7,500		7,500	7,500			
Portugal 7,500		7,500	7,500			
Romania 5,500		5,500	5,500			
Serbia	5,500	5,500				5,500
Slovakia 5,500		5,500	5,500			
Slovenia 5,500		5,500	5,500	5,500		
Spain 13,750		13,750	13,750			
Sweden 13,750		13,750	13,750			
Switzerland 13,750		13,750	13,750			
The Netherlands	13,750	13,750	13,750	13,750		
Turkey 7,500		7,500	7,500			
United Kingdom	33,000	33,000	33,000	33,000		
Totals 375,550		**352,255**	**357,420**	**170,949**	**8,000**	**19,036**

* As of 30 April 2007

Letter of Agreement not signed

Annex 3: EUFORGEN budget (US$) and a summary of expenditures (US$) during 2005-2006.

Details	Phase III Budget* (US$)	Total expenditure (US$)	Expenditure in 2005 (US$)	Expenditure in 2006 (US$)	Budget balance (US$)
Coordinator at Bioversity International 186,89	6	198,950	99,479	99,471	(12,054)
Secretariat scientific support (50%) 59,982		71,590	34,673	36,917	(11,608)
Secretariat administrative support (50%)	54,447	56,676	27,529	29,147	(2,229)
Secretariat staff travel	26,000	31,129	15,678	15,451	(5,129)
Steering ommittee (meetings)	0	0	0	0	0
Thematic Networks (meetings and operations) 80,000		69,877	19,550	50,327	10,123
Species-oriented Network (meetings) 120,00	0	222,038	122,140	99,898	(102,038)
Publications and dissemination of information 40,000		13,005	5,672	7,333	26,995
Newsletter (50%, two issues per year)	8,000	8,065	2,975	5,090	(65)
Public awareness tools/action 10,000		1,396	1,173	223	8,604
Communication and office consumables	20,000	20,000	10,000	10,000	0
Sub-total 605,32	5	692,726	338,869	353,857	(87,401)
Overhead (13%)	78,692	90,054	44,053	46,001	(11,361)
Total	**684,017**	**782,778**	**382,920**	**399,858**	**(98,761)**

* Budget approved for 2005-2006 at fourth Steering Committee meeting in 2004

Opening balance on 1 Jan 2005	**189,990**
Closing balance on 31 Dec 2006	**118,300**

Establishment of a European Information System on Forest Genetic Resources (EUFGIS) – project summary

Project code: AGRI RES GEN 2005/009

Project period: 1 April 2007-30 September 2010 (42 months)

Total budget: € 1,107,721 of which the contribution of the European Commission is 50%

Project partners:

P0	Bioversity International, Italy
P1	Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Austria
P2	State Forest Tree Improvement Station (SNS), Denmark
P3	Institut National de la Recherche Agronomique (INRA), France
P4	National Forest Centre (NLC), Slovakia
P5	Slovenian Forestry Institute (SFI), Slovenia
P6	Forest Research, United Kingdom

Project coordinator: Jarkko Koskela, Bioversity International, Regional Office for Europe, Rome, Italy

Background

In 1994, the European Forest Genetic Resources Programme (EUFORGEN) was established as an implementation mechanism for Resolution S2 (Conservation of forest genetic resources) adopted by the first Ministerial Conference on the Protection of Forests in Europe (MCPFE) in 1990. EUFORGEN is coordinated by Bioversity International and participated by over 30 countries. The Programme operates through networks in which policy-makers, scientists and managers from the participating countries exchange information and identify needs and priorities to enhance pan-European collaboration on forest genetic resources. The EUFORGEN Networks have, for example, produced long-term gene conservation strategies, descriptors for inventories of FGR and technical guidelines for gene conservation of forest trees.

The EUFORGEN Networks are currently developing '*common action plans*' for target tree species to strengthen gene conservation efforts from the pan-European perspective. The common action plans aim at sharing of responsibilities for FGR conservation among European countries. A necessary step in the development of the common action plans is to obtain geo-referenced data on the existing dynamic gene conservation units of forest trees throughout their entire distribution ranges in Europe for further analyses and strategy development. Dynamic gene conservation emphasizes maintenance of evolutionary processes within tree populations to safeguard their potential for continuous adaptation. This means either managing tree populations at their natural sites within the environment to which they are adapted to (*in situ*), or artificial but dynamically evolving populations elsewhere (*ex situ*). Climate change makes it even more important to apply the concept of the dynamic gene conservation to manage the genepools of forest trees for the long-term sustainability of forestry in Europe.

The development of the common action plans has been hampered by a lack of common minimum requirements and information standards for the dynamic gene conservation units. In addition, there is no clear understanding on what level of gene management can be considered sufficient enough to declare an area for gene conservation purposes at pan-European level. Scientific definitions for *in situ* and *ex situ* conservation are clear but operational definitions, that take into account factors such as effective population size, isolation and opportunities for reproduction, have been more difficult to develop.

Due to the lack of common minimum requirements and information standards, a wide range of protected forests are presently declared as gene conservation areas in addition to more specific gene reserve forests. However, most protected areas are established solely for species or habitat conservation and their suitability for long-term gene conservation has rarely been assessed prior to their establishment. Furthermore, gene conservation often has a low priority in the management of the protected areas and in most cases any active silvicultural measures, which are typically needed for managing FGR, are not allowed in the protected areas.

The present situation is also creating obstacles for the monitoring of sustainable forest management. The MCPFE criteria and indicators (C&I) for sustainable forest management in Europe include a criterion for maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems. One of the indicators refers specifically to genetic resources, i.e. "area managed for conservation and utilisation of forest tree genetic resources (*in situ* and *ex situ* gene conservation) and area managed for seed production". Unfortunately, the C&I do not provide operational definitions for these three categories of areas. As a result, countries are providing data following different national standards, which makes it difficult to compare the data and assess the state of FGR conservation in Europe.

EUFORGEN has been collecting information on forest areas managed for gene conservation and made efforts to increase common understanding on how to classify various conservation areas at operational level for reporting purposes. EUFORGEN has gathered information on gene conservation efforts for 135 tree species (including sub-species and hybrids) in 38 countries but in terms of data quality, it still suffers from the above-mentioned problems and the fact that not all member countries systematically collect up-to-date FGR information.

In May 2004, the EUFORGEN Steering Committee requested Bioversity International to coordinate development of a project proposal for the new Council Regulation on genetic resources in agriculture (EC No 870/2004) to establish a Web-based information system to support national inventories of dynamic gene conservation units of forest trees in Europe. The proposed system should provide accurate and reliable information for further development of the common action plans and for monitoring FGR conservation as part of sustainable forest management.

A similar Web-based information system is already operational for crop genetic resources in the form of the European Plant Genetic Resources Search Catalogue (EURISCO) (http://eurisco.ecpgr.org), which contains passport data on *ex situ* collections in genebanks. EURISCO is based on data from national inventories of crop genetic resources and it is maintained by Bioversity International on behalf of the European Cooperative Programme for Crop Genetic Resources Networks (ECPGR). Bioversity also hosting the SINGER information system (www.singer.cgiar.org) on the collections of genetic resources held by the CGIAR Centres at global level. In terms of information technology (IT), the know-how and technical solutions to establish the EUFGIS system are readily available and well tested.

In addition to facilitating the work of EUFORGEN, EUFGIS contributes to the FGR work at the national and international level. By developing the minimum requirements for dynamic gene conservation units of forest trees, the project will improve FGR conservation efforts in European countries. The common information standards together with the online information system will strengthen national FGR documentation efforts and increase access to accurate and harmonized FGR information in Europe.

EUFGIS also contributes to the implementation of the EU biodiversity strategy, facilitates European inputs on FGR to the work of the Convention on Biological Diversity (CBD) and supports the ongoing process to develop biodiversity indicators for Europe (Streamlining European Biodiversity Indicators, SEBI2010). The United Nations Food and Agriculture Organization (FAO) is currently planning to include an assessment on the state of forest genetic resources as part of its global forest resources assessment. This will create an additional need to provide accurate information on FGR in Europe. The EUFGIS information system can also ease other global biodiversity reporting efforts if it is linked to the Global Biodiversity Information Facility (www.gbif.org). Both FAO and GBIF have already expressed their interest to establish links with EUFGIS, once it is created.

EUFGIS objectives

The overall goal of the project is to establish a Web-based, permanent and easily accessible information system on forest genetic resources to link national FGR inventories at pan-European level and to support practical implementation of gene conservation and sustainable forest management in Europe. The specific objectives of EUFGIS are:

1. To create a Web-based, permanent information system to serve as the European documentation platform for national FGR inventories;
2. To establish a network of FGR inventories in 40 countries to provide data for the information system;
3. To develop minimum requirements for dynamic gene conservation units of forest trees and common information standards for these units at pan-European level;
4. To make available, as a first step, harmonized data on the dynamic gene conservation units of 20 tree species from at least 80 % of the countries within each species' distribution range in Europe; and
5. To provide training on FGR documentation to national focal points in these countries.

Management of the project

The implementation of the project is overseen by the EUFGIS Steering Group which consists of seven persons representing each partner institution. The project coordinator implements the decisions of the Steering Group and is responsible for day-to-day management of the project. The project coordinator also takes care of the administrative and financial management of the project and coordinates the implementation of technical work packages. Each partner is responsible for providing the agreed contributions to various activities of the different work packages.

EUFGIS Steering Group

Jarkko Koskela	Bioversity International, Italy
Silvio Schüler	Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Austria
Bjerne Ditlevsen/ Ditte Olrik	State Forest Tree Improvement Station (SNS), Denmark
François Lefèvre	Institut National de la Recherche Agronomique (INRA), France
Roman Longauer	National Forest Centre (NLC), Slovakia
Hojka Kraigher	Slovenian Forestry Institute (SFI), Slovenia
Jason Hubert	Forest Research, United Kingdom

The project will be carried out in close collaboration with EUFORGEN. Bioversity International is hosting the EUFORGEN Secretariat and the project coordinator (who is also EUFORGEN Coordinator) will facilitate the linkages between the project and EUFORGEN. The project coordinator will inform the EUFORGEN Steering Committee about the progress and outputs of the project. The EUFORGEN National Coordinators have been asked to nominate a national focal point to provide FGR data for the information system. Bioversity also has contact persons in several non-member countries, which have not yet joined EUFORGEN. These contact persons have also been used as a gateway to seek official nomination of the focal point by relevant authorities in those non-member countries which are interested in participating in the project.

The technical work packages of the project are utilizing the results of the earlier work carried out by the EUFORGEN Networks. To ensure that these results are fully utilized in the development of minimum requirements and information standards, the EUFORGEN Networks will be asked to provide technical inputs to various activities of the project. Experts from the EUFORGEN Networks have been invited to join the expert group that will harmonise the minimum requirements and develop the information standards.

Principles for sharing and using national FGR data through the information system will be agreed in a Memorandum of Understanding (MoU), which will be signed between Bioversity International and a country providing data. By signing the MoU, the countries will agree to provide data for the information system and frequently update their data once the information system is operational. Bioversity is committed to maintain the information system as part of the EUFORGEN activities once the project has been finalized.

Implementation plan of the project

The first meeting of the EUFGIS Steering Group was held in Rome on 12-13 April 2007. The meeting discussed the overall project implementation and management. It also agreed the activities to be carried out during 2007. On 22-24 May 2007, the project was also presented to the EUFORGEN Steering Committee which then discussed the nomination of the national focal points for EUFGIS as well as a draft Memorandum of Understanding for countries to share their data. By October 2007, a total of 33 countries had nominated their national focal points.

On 23-24 October 2007, the project will organize a European workshop on FGR inventories and documentation at Magleås Center in Birkerød (near Copenhagen), Denmark. The national focal points are expected participate in the workshop together with the representatives of the EUFORGEN Networks and other observers. The purpose of the

workshop is to analyze how different countries are collecting and managing their FGR information. The first EUFGIS expert group meeting, which will be held on 25 October 2007, will further discuss the outcomes of the meeting. It will then initiate the harmonization of the minimum requirements for gene conservation units of forest trees and the development of information standards for the EUFGIS information system. The names of the expert group members are shown below.

EUFGIS Expert Group

Representatives of the EUFORGEN Networks	
Forest Management	Thröstur Eysteinsson, Iceland Forest Service, Iceland
Conifers	Leena Yrjänä, Finnish Forest Research Institute, Finland
	Paraskevi Alizoti, Aristotle University of Thessaloniki, Greece
Scattered Broadleaves	Lorenzo Vietto, Istituto di Sperimentazione per la Pioppicoltura, Italy
	Peter Rotach, Swiss Federal Institute of Technology, Switzerland
Stand-forming	Sándor Bordács, Central Agricultural Office, Hungary
Broadleaves	Tor Myking, Norwegian Forest and Landscape Institute, Norway
External experts	
FAO	Oudara Souvannawong, FAO Forestry Department, Italy
Global Biodiversity Information Facility	Éamonn Tuama, GBIF, Denmark (to be confirmed)
IUCN	To be confirmed

The expert group will have its second meeting in France in early 2008 and the third and final meeting in Slovenia in summer/autumn 2008. During the process, the EUFORGEN Networks, national focal points and other interested organizations will have a chance to provide their comments to the draft of the common minimum requirements and information standards.

The overall implementation plan of the project is presented in the following table by work packages. The titles of the work packages indicate the work package leaders and the third column shows activity leaders. After the table, the activities of the Work Package 2 and 4 are described in detail as these are the most relevant for the national focal points.

Table 1. Implementation of the project activities.

Activity	LP	Months																			
		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
WP 1. Creation of a network of national FGR inventories (Lead partner P2: National Forest and Nature Agency, Denmark)																						
1.1a Development of ToR for national focal points	P0																					
1.1b Nomination of national focal points	P0																					
1.1c Development of a MoU for sharing and using data	P0																					
1.2 Workshop on FGR inventories in Europe	P2																					
1.3 Final project meeting	P1																					
1.4 Dissemination of the project outputs	P2																					
WP 2. Development of minimum requirements and information standards for dynamic gene conservation units (Lead partner P3: INRA, France)																						
2.1 EUFORGEN survey	P0																					
2.2a Expert group meetings	P0																					
2.2b Development of draft minimum requirements and information standards (blue print)	P3																					
2.2c Finalization of the minimum requirements and information standards	P3																					
2.3 Development of a documentation manual for national FGR inventories	P3																					
2.4 Case studies	P3																					
WP 3. Creation of the information infrastructure (Lead partner P0: Bioversity International)																						
3.1 Creation of database	P0																					
3.2a Front end design-beta version	P0																					
3.2b Finalisation the Front-end design	P0																					
3.3 Implementation database	P0																					
3.4 Development of manual and guidelines	P0																					
3.5 Help Desk support	P0																					
WP 4. Building the information system (Lead partner P5: Slovenian Forestry Institute, Slovenia)																						
4.1 Pilot data gathering	P5																					
4.2 Pilot group meeting	P5																					
4.3 Pilot implementation	P5																					
4.4a Training workshop for Northern Europe	P2																					
4.4b Training workshop for Central and Western Europe	P1																					
4.4c Training workshop for Eastern and South-eastern Europe	P5																					
4.4d Training workshop for the Mediterranean region	P3																					
4.5 Data gathering and uploading	P0																					
WP 5. Coordination (Lead partner P0: Bioversity International)																						
5.1 Overall technical coordination	P0																					
5.2 Administrative and financial management	P0																					
5.3 Creation of the project website	P0																					
5.4 Steering Group meeting	P0																					

Work Package 2: Development of minimum requirements and information standards for dynamic gene conservation units (Leader: P3 INRA)

The objective of this second work package is to develop minimum requirements and information standards for dynamic gene conservation units at pan-European level. These will then create a basis for the development of a documentation manual for national FGR inventories. The work package will also carry out case studies to demonstrate the use of the minimum requirements and the information system for further development of the common action plans for European forest tree species.

Activity 2.1: EUFORGEN survey
A survey on national requirements for *in situ* conservation areas and related FGR documentation work in Europe will be carried out in collaboration with EUFORGEN. The purpose of the survey is to provide detailed information on the currently used requirements and national FGR documentation systems. The survey will also assess how countries have used earlier species-specific EUFORGEN descriptors for inventories of *in situ* conservation stands in their documentation work. The results of the survey will be reported to the workshop on FGR inventory organized within WP01 (Activity leader: P0 Bioversity International).

Activity 2.2a: Expert group meetings
An expert group will be established in collaboration with the EUFORGEN Networks to develop minimum requirements and information standards for dynamic gene conservation units of forest trees. The expert group will have three meetings and individual experts will be contracted to carry out specific tasks between the meetings (Activity leader: P0 Bioversity International).

Activity 2.2b: Development of draft minimum requirements and information standards (blue print)
The expert group will prepare draft minimum requirements and information standards building on the earlier work of the EUFORGEN Networks and based on the inputs from the EUFORGEN survey and the workshop on FGR inventories. The draft requirements and standards will be circulated to the focal points, the EUFORGEN Networks and other end-users (e.g. MCPFE and SEBI2010 processes) for their comments (Activity leader: P3 INRA).

Activity 2.2c: Finalization of the minimum requirements and information standards
The draft will be finalised based on the feedback from the focal points, the EUFORGEN Networks and other end-users. The EUFORGEN Networks as well as the MCPFE and SEBI2010 processes will be then asked to endorse the final minimum requirements and information standards and adopt them as a common basis for their reporting efforts on FGR (Activity leader: P3 INRA).

Activity 2.3: Development of a documentation manual for national FGR inventories
The expert group will continue its work and will develop a documentation manual based on the final minimum requirements and information standards. The manual will be targeted to the national focal points and other professionals who are responsible for FGR inventories and documentation (Activity leader: P3 INRA).

Activity 2.4: Case studies
Once WP03 has created the information infrastructure and WP04 has collected data on the existing dynamic gene conservation units in Europe, this activity will carry out case studies using the information system. The case studies will focus on improving practical selection methods of gene reserves at pan-European level and demonstrating the use of the information system for further development of the common action plans for European forest trees (Activity leader: P3 INRA).

Work Package 4: Building the information system (Leader: P5 SFI)

The objective of the fourth work package is to build the information system by compiling and uploading data from national FGR inventories. The work package will also provide training on FGR documentation to national focal points through sub-regional training workshops.

Activity 4.1: Pilot data gathering
Partners P1-P6 and national focal points in Austria, Denmark, France, Slovakia, Slovenia and United Kingdom will collect data on dynamic gene conservation units that meet the agreed minimum requirements. As a first step, this pilot data will be collected for 10 tree species following the earlier agreed information standards (Activity leader: P5 SFI).

Activity 4.2: Pilot group meeting
The meeting will be organized to share experiences of the pilot group in compiling national data sets according to the information standards and to compare the data sets between the pilot countries before they start uploading their data in the information system (pilot implementation). The meeting will also serve as a training event for the pilot group on the use of the first version of the information system and data upload (Activity leader: P5 SFI).

Activity 4.3: Pilot implementation
The pilot data will be used for pilot implementation of the information system during which errors in uploading procedures and the database design will be corrected. This activity will then provide feedback to WP03 and its efforts to finalize the information system for large-scale data uploading. (Activity leader: P5 SFI)

Activity 4.4: Training workshops
After the pilot implementation, the pilot countries will have gained extensive experience in compiling national datasets and uploading data into the information system. Partners P1, P2, P3 and P5 will organize regional training workshops for national focal points and share their experiences. Partner P0 will also contribute to all training workshops.

Activity 4.4a training workshop for Northern Europe:
Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Russian Federation and Sweden (Activity leader: P2 SNS).

Activity 4.4b training workshop for Central and Western Europe:
Austria, Belgium, Czech Republic, Germany, Hungary, Ireland, Luxemburg, Netherlands, Poland, Slovakia, Switzerland, United Kingdom (Activity leader: P1 BFW).

Activity 4.4c training workshop for Eastern and South-eastern Europe:
Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Moldova, Romania, Serbia and Montenegro, Slovenia, Ukraine (Activity leader: P5 SFI)

Activity 4.4d training workshop for the Mediterranean region:
Albania, Cyprus, France, Greece, Italy, Macedonia FYR, Malta, Portugal, Spain, Turkey (Activity leader: P3 INRA).

Activity 4.5: Data gathering and uploading
After receiving training, national focal points will compile datasets from the above-mentioned countries and upload them into the information system. The work will carried out as agreed in the MoU between Bioversity International and each country. (Activity leader: P0 Bioversity International).