# QUALITY AND COMPETENCE IN HIGHER FORESTRY EDUCATION

Proceedings of the 15th SILVA European Meeting

Held in Freising, Germany 15-17.04.2004


SILVA PUBLICATIONS 2

2004

Editors

Tahvanainen, L.  Pelkonen, P. Mola, B.

This book is published by the:
University Press
University of Joensuu
P.O. Box 111
FIN 80101 Joensuu
FINLAND

Layout done by:
Liisa Tahvanainen
Blas Mola-Yudego

ISBN Number:

This book has been partially funded by the SOCRATES/ERASMUS Programme of the European Union

## SILVA Network

This document has been prepared by the SILVA Network, in co-operation with AFANet - SOCRATES Thematic Network for Agriculture, Forestry, Aquaculture and the Environment and with the support of The Finnish Government.

The SILVA Network is a European Academic Network for Forest Sciences and a Standing Committee for Forestry of ICA (Interuniversity Consortium for Agriculture and Related Sciences). The SILVA Network, established in 1989, is a non-profit academic organization concerned with higher forestry education in Europe. At present the Network has over 40 member institutions involved in higher forestry education representing most European countries.

The SILVA Network is stimulating and facilitating educational co-operation in the field of forestry in Europe. The activities to reach the objectives include e.g. seminars and workshops, student and staff mobility, joint education and enhancing the use of ICT (Information and Communication Technology) in education. The ultimate aim is to maintain and improve the high quality, competence and attractiveness of European forestry education in Europe and in a global context.


The SILVA Secretariat and AFAnet Forestry team wish to thank all those who contributed the conferences and writing this publication.

## Contents

# Preface

## QUALITY AND COMPETENCE IN HIGHER FORESTRY EDUCATION

### Backround

Over the last 15 years, the SILVA Network has aimed to promote a high quality, competitive and attractive European Forestry Education. SILVA has currently 44 member universities providing higher forestry education all over the European continent. Additionally, the SILVA Network actively works towards a global academic forestry education area, promoting network development, partnership between universities in Europe and other continents and is participating in the ongoing starting phase of IPFE International Partnership for Forestry Education.

In Europe the SILVA Network has enhanced and coordinated higher university forestry education since 1989 and is celebrating its 15$^{th}$ year anniversary this year, and faces more than ever the importance of being a strong networking body of forestry education. The whole higher education sector in the European Union is undergoing remarkable structural changes as a result of the Bologna process at the same time as the forestry sector is rapidly changing in order to respond to the new needs of the societies.

The Bologna declaration is leading the European Union towards overall convergence in higher education, but still today the European university landscape is characterized by a high degree of heterogeneity which is reflected in organization, governance and operation conditions. Most European countries are committed to attain the Bologna declaration's objectives in a few years. The possibilities to co-operate and to offer students far more choices are expanding. This means also expanding competition and demand for quality standards or certification system for universities to attract students and experts in international markets.

The enlargement of the educational field in forestry (such as social and cultural elements of sustainability) requires specialization, and coordination of the universities together with committed partnerships. The comparatively small forestry education units are not able to cover properly the new areas, and at the same time maintain the quality of teaching. In order to increase its competitiveness, forestry education has to analyse the needs and requirements of its clients for the next decade. The role of students and their

unions and associations is more important than ever. Accepting the young specialist for the planning of future education the universities are thereby taking a proactive rather than reactive role.

The experiences from all the members of the SILVA Network have shown the need for continuous development of substance and quality of education and renewing ability of higher education to be able to meet the needs of the society.

## Conference objectives

The objectives of the conference were:

- the interconnectedness: a catch-word of our world today. Understanding of this concept is a precondition for fruitful partnerships, both on bilateral or network basis. Today's collaboration and networking are based on a wide scope and scale of interconnectedness, and on the fact that these associations are less and less bound by time and space. This event aims to gather together European and Global experts in Higher Forestry education to discuss quality and competence issues in forestry education
- to present and discuss the needs of and benefits gained through quality assurance of forestry education in European and in International level
- to present and discuss methods for quality assessment and assurance in universities
- to discuss the role of different implications for policies and concepts including the relation of innovation policies to forest sector specific policies as well as sustainable development, rural development and other policies and programmes;
- to identify future priority areas and directions for further cooperation

## Outcomes of the 15th European Meeting

The 15th Anniversary meeting and Conference concentrated on the globally significant issue of quality of higher education. Based on the discussions of the conference in Freising, Germany 15-17.04.2004 the Conference states its opinions on:

### 1. Quality of University Education

The Conference stressed the importance of subject specific development of quality criterions. The Network will appoint a task force to prepare quality assurance procedure for university forestry education.

- recognized different dimension of the quality – need to adjust education to the needs of society values and requirements of its people, nature and industry
- need to develop new kind of tools for education to be able to promote skills needed in working life in modern societies
- initiatives to start internship with industry and research training programmes

### 2. Young people's participation

The Conference took notice on the growing importance of young people (student) participation. University networks should empower young people, responding to their needs and ideas. Stronger partnership with IFSA (International Forestry Student Association) and other student forums as well as development of such activities should be promoted and facilitated.

### 3. Importance on Networking, Global Partnership and Capacity Building

The conference stressed the need for global transparency and networking, the importance of regional networks in every region, prioritizing the building up of regional networks in Africa, Asia and Latin-America.

- initiatives to enhance cooperation between eastern and western Europe in form of exchange programmes and joint courses
- importance to create joint master programmes and continue with those started

- cooperation with FAO and capacity building programmes in Africa
- enhancing network building in African and Andean countries

On behalf of the SILVA Network and the Conference

*Prof. Dr. Paavo Pelkonen*
*President of the SILVA Network*
*University of Joensuu, Finland*

*Dr. Liisa Tahvanainen*
*Secretary General of SILVA Network*
*University of Joensuu, Finland*

*Prof. Dr. Rosario Fanlo*
*Member of SILVA Advisory Board*
*University of Lleida, Spain*

*Prof. Dr. Lech Plotkowski*
*Member of SILVA Advisory Board*
*Agricultural University of Warsaw, Poland*

*Ass. Prof. Dr. Heinz Utschig*
*Member of SILVA Advisory Board*
*Technical University Munich, Germany*

## Programme of the Conference

### Wednesday April 14th

IPFE meetings

### Thursday April 15th

| | |
|---|---|
| 09:00 - | Registration |
| 08:15 – 11:00 | IPFE core group meeting |
| 11:00 – 12:30 | Lunch |
| 12:30 – 15:30 | IPFE workshop |
| 15:30 – 17:00 | MSc EF meeting of partners |
| 17:00 – 17:15 | Welcoming Address by Center of Food and Life Sciences Weihenstephan |
| 17:15 – 19:00 | SILVA Network General Assembly |
| 19:00 – 20:00 | Welcome dinner |
| 20:00 – 22:00 | Guided walk Cathedral Hill and get-together at Domberg-Stüberl |

### Friday April 16th

THE 7th SILVA EUROPEAN CONFERENCE

Quality and Competence in Higher Forestry Education

| | |
|---|---|
| 09:00 – 09:15 | Opening of the Seminar by president of SILVA Network |
| 09:15 – 09:45 | Welcoming Address by Technische Universität München<br>*Dr. Hannemor Keidel, Vice President of TUM* |
| 09:45 – 10:15 | Challenges for higher forestry education in integrating Europe<br>*Prof. Dr. Paavo Pelkonen* |
| 10:15 – 10:45 | Challenges of the Bologna Process for the Education System in Germany<br>*Prof. Dr. A. Fischer* |
| 10:45 – 11:00 | Coffee break |
| 11:00 – 11:30 | The Need of Cross-Continental Student and Staff Exchange in International Forestry Education<br>*Prof. Dr. Glen Galloway, CATIE* |
| 11:30 – 12:00 | Globalization of Forestry Education<br>*Forestry Officer, Ir. Peter van Lierop, FAO* |
| 12:00 – 12:30 | Goals and Strategy of International Partnership for Forestry Education<br>*Prof. Dr. Peter Kanowski, IPFE* |
| 12:30 – 14:00 | Lunch |

| | |
|---|---|
| 14:00 – 14:30 | How to Guarantee the High Quality in Developing Teaching Program?<br>Mountain Forestry as a Case<br>*Prof. Dr. Hartmut Gossow* |
| 14:30 – 15:00 | Future of Work and the Consequences for Professional Education in Forestry<br>*Prof. Dr. W. Warkotsch* |
| 15:00 – 15:30 | Quality Assurance in Europeanizing higher forestry education<br>-.challenges for Universities and Polytechnics<br>*Dr. Irene Müller* |
| 15:30 – 16:00 | Marketing of International Study Programmes: Challenges and Opportunities<br>*Ms Outi Savonlahti* |
| 16:00 – 16:20 | Coffee break |
| 16:20 – 16:40 | How students see the quality of Forestry Education in IFSA?<br>*Ms Anniina Kostilainen, president of IFSA* |
| 16:40 – 16:10 | The Bologna Process: Quality and Competence in European Higher Education<br>– meaning of standardization and means to assess the quality<br>*Ms Ida Mielityinen* |
| 16:10 – 16:30 | The Bologna Agreement: Where We Come from and Where We Go to?<br>*Prof. Rosario Fanlo* |
| 16:30 – 17:00 | Conclusions of the Conference by the Chairman<br>– What is quality and how to increase competence in global educational markets? |
| 18:00 – 19:00 | Dinner |
| 19:30 – 21:00 | Guided walk tour Campus Weihenstephan |
| 21:00 – 23:00 | Beer Tasting Seminar, conducted by *Dr. Leopold*, Food Technology |

Saturday April 17th

08:00 Excursion

*The excursion is so designed, that also companion persons would enjoy it. The landscape is really beautiful, the beech trees are impressive, the city of Munich is very attractive and the museum of Modern Art is unique in Germany.*

- Protected Beech Forest – A Contribution to Natural Forest Research
- Long Term Thinning Experiment Starnberg 91 – An example for knowledge based development of models and silvicultural rules.
- Lunch in the forest (lunch package served)
- Munich City Tour and Museum of Modern Art (Pinakothek der Moderne)

| | |
|---|---|
| – 17:30 | Back to Kardinal-Döpfner-Haus |
| 19:00 – 24:00 | SILVA 15th Anniversary Banquet |

*Venue: Aula of Kardinal-Döpfner-Haus*

- •Wiaddnmusik, a traditional and very modern Bavarian dance and folk music
- •SILVA Awards

Sunday April 18th

Departures

# Welcoming address

Vicepresident of the Technical University of Munich
Dr. HANNEMOR KEIDEL.

Dear Mr. Chairman, Ladies and Gentlemen,

It is my great pleasure to welcome you at the occasion of the 15th Anniversary of the Silva Network at the Technische Universität München.
I also would like to extend a warm welcome of President Herrmann, who regrets very much for not being able to greet you himself today.

It is a great honour for our University to host your annual conference this year in Weihenstephan, which is one of our three campuses in and around Munich. Here our department for forestry is located as one important corner-stone of our life science centre Weihenstephan.

At the same time I would like to congratulate you to your Silva Network and its 15 years of existence, having more than 40 universities in whole Europe as partners. The Silva Network has been established in the course of the first phase of Erasmus exchange programmes. The idea was brought about long before the Bologna Process started. But initiatives like these prove that the success of the Socrates/Erasmus exchange is based on such network activities.

As Vice President I am in charge of the international affairs at our university. Therefore I am quite aware of the role of international high quality networks in the field of higher education at present and even more so in the future.

International networks play an important role for developing new fields of studies and promoting higher quality education and research within and beyond our universities.

The so-called Bologna Process is the most important and wide ranging reform of higher education in Europe since the establishment of the nation-states and its outcome is politically clear. But the implementation into the educational systems of different countries proves to be more challenging. Therefore manifold efforts have been made, to get the process going. One mean is certainly that European universities work together in such

networks like Silva to develop joint curricula and the modalities to accept exams from other universities.

Internationalization has been a key issue for TUM during the past years. Within half a decade the number of foreign students studying at our University has risen from 7 to almost 20 percent. About the same percentage of students are spending some time abroad.

We acknowledge this for once to the efforts within the faculties, but also by our Centre of International Affairs within our Student Service Centre, which supports the faculties in their efforts to foster and enhance international initiatives, but also helps incoming and outgoing students in getting the right information at the right time.

As a consequence the campus has become truly international, with more than 100 nationalities studying at TUM.

The attraction of the TUM has also been augmented by introducing the modular structure into our study programme, by implementing the ECTS credit point system and adding the Diploma supplement to our regular Diplomas. The continuous process in the direction of the two-tier Bachelor and Master system, but also the introduction of international Master Programmes, which are taught exclusively in English – have added to this attraction. The International Master Programme in Sustainable Resource Management is one of many highly successful examples in this direction.

Nevertheless we think it is also highly important that students learn German, while they are here. Therefore additional German Courses are offered for our foreign students. The language of the host-country is the clue to its culture. This philosophy is applicable the other way around as well. We encourage to study and teach our outgoing students in the language of their future host countries.

This applies also to the Eastern European Universities. Already a large number of our foreign students come from Eastern Europe, but so far there are not so many going into the other direction. Therefore we have to improve and deepen the contacts into the East. But also here, the Silva Network has taken a pioneering function, by concentrating their efforts during the last 5 years on Eastern European countries. I heard that even colleagues from Moskow, Petrozavodsk and Yoshkar-Ola are here today.

I believe the idea of Silva Network has contributed towards an integration of European Universities, as it is imagined within building a European Union. Its activities are

in full accordance with the aims of TUM in working and competing with the best universities in Europe and in the world.

As far as forestry is concerned, the traditional professional image has undergone major revisions in recent years. You all know about these dramatic changes in the forest sector. Higher education in Forestry at TUM within the Life Centre for nutrition, land-use an environment strengthens the competence in liable environmental management and planning skills and knowledge about renewable resources and all related fields, taking advantage of manifold interdisciplinary approaches. The chance of such a network lies in working together and building up a network of excellence in higher education. Therefore we encourage you to continue in this important work.

As one consequence it is very necessary to develop new curricula within your subject. At the same time we need an effective system of quality management in higher education. A forum like Silva Network is extremely useful in the field of environmental research and education. Ideas can be discussed and promoted. The development of curricula and courses is not a stand alone process, it is integrated in this network.

Forest is a main resource in the world, its function for the environment and for mankind is, like you know, of utmost importance. People who deal with forests are quiet and patient, observing and solving problems, but very serious and highly enthusiastic in their field.

I want to express my gratitude to the chairman of Silva Network, Professor Paavo Pelkonen, that he is successfully leading Silva Network through these changing periods at all universities in Europe. To bring out new ideas and to inspire a small group for it, is one thing, to continue such a work and to bring in new ideas and elements to proceed a task, to make it sustainable, is another challenging effort.

"*Never doubt that a small group of thoughtful committed citizens can change the world; indeed it's the only thing that ever does.*" Margaret Mead

Congratulation to 15 years of Silva Network and I wish good discussion about the "*Quality and Competence of Higher Forest Education*" during a hopefully successful conference.

Thank you for your attention

*Dr. Hannemor Keidel*

# CHALLENGES FOR HIGHER FORESTRY EDUCATION IN INTEGRATING EUROPE

P. PELKONEN[1]

1: University of Joensuu, Faculty of Forestry, P.O. Box 111, 80101 Joensuu, Finland; e-mail: paavo.pelkonen@joensuu.fi.

## 1. Background

For centuries forestry has been an attractive field of studies in the European universities. The field has connected the human needs to preserve and utilise forest resources. A requirement of the balanced attitude towards the needs of preservation and utilisation has caused increasing contradictions in forestry education and in practical working life in Europe.

The concept of sustainable forest management has been applied in education for a couple of hundreds of years for placing emphasis on the renewable nature of forest resources in its various dimensions from aesthetic to utilitarian values. The new concept of sustainability in the post-modern society was defined in the Bruntland Report in 1987 (The Bruntland Report 1987) and has offered a great challenge for forestry education, when the various needs of increasing individualism and market liberalism has to be taken into consideration.

A great majority of young people who have started their forestry studies in the European universities have been understandably interested in forests as a natural environment. According to a stereotyped characterisation forestry students like hiking deep into the forest, far from metropolises and city life. The dimensions of modern sustainability concept as they are defined by the increasing population of city dwellers may be in good agreement with that stereotyped characterisation and not so well with the content of traditional forestry education based more on utilitarian viewpoint.

## 2. The concept of forestry education originates from societal changes

Forests can exist without people; forestry by definition cannot. Forestry is affected by turbulent changes in society. This was clearly realised in the SILVA-network seminar that was held in Wageningen in 1997. It is a challenge that forestry has to be dynamic is stating professor Karssen, the former rector of the University of Wageningen in the foreword of the seminar publication (Karssen 1998). Forestry as a professional and educational area has to place more emphasis on inter-disciplinary expertise.

Towards the end of the 20th century the number of stakeholders interested in forestry has increased due to internationalisation and globalisation of trade and environmental movements. In this context forests are widely seen as a common, global resource, producing environmental services through the basic ecological processes like carbon and water cycle and through maintaining of biodiversity. In a short period of time the locally oriented field of forestry was at the centre of global discussion and decision making. This approach was dominating the discussions also in the UN “World Conference on Sustainable Development” in Johannesburg in 2002.

Forest sector development in the European Union is a typical example of difficulties in attitudes towards the local, national and global policy. Since the three forested countries Austria, Finland and Sweden joined the EU, their aim has been to keep forestry matters outside of the integration process. The national focus left forestry fully out of the political core process and forestry has only been defined as part of the environmental policy in the EU policy documents (Action Plan for the Northern…). The attitude towards the joint forest policy has changed recently and it will have an impact on higher forestry education together with the restructuring of the higher education area in Europe. The European dimension together with the national nuances will be the two core elements of the academic forestry education in Europe.

There are no direct and only a few indirect references to forests and forestry in the draft treaty establishing a Constitution for the European Union:

1) Traditional cork production in Annex I of the TEC (the list of agricultural products), (Section 4, Agriculture and Fisheries, Article III-121).

2) Union policy on the environment shall contribute to pursuit of the following objectives: (c) prudent and rational utilisation of natural resources; (d) promoting measures at international level to deal with regional and worldwide environmental problems (Section 5, Environment, Article III-129.

3) The Council of Ministers shall unanimously adopt European laws or framework laws establishing: (b) measures affecting: (ii) quantitative management of water resources or affecting, directly or indirectly, the availability of those resources (Section 5, Environment, Article III-130).

4) Union policy on energy shall aim to: (c) promote energy efficiency and saving and the development new and renewable forms of energy (Section 10, Energy, Article III-157).

The general framework for the utilisation of natural resources has been stated in Article II-37 (Environmental protection):

A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development.

## 3. From economic to cultural sustainability through ecological diversity and social responsibility

The key role of sustainable forest management, according to the Bruntland Report, has been widely accepted as the basic concept of forestry education. The relatively recently introduced social and cultural elements of sustainability offer a great challenge for curriculum development. Traditionally a great emphasis has been placed on the economic and ecological as well as technological aspects of forestry. The socio-economic dimension was commonly introduced in curriculum development in 1980s whilst the socio-cultural aspects of forestry are still taking the first steps in the forestry education in Europe.

Social responsibility is a core phrase of business management of today. The role of defining the values for the market is increasing and this trend will brand the first decades of this century. Forestry education should be able to provide tools for students to analyse sustainable forest management with respect to the three basic values (having, being and

loving) of humanity. What does common, shared and individual ownership mean to the different elements of sustainability? What kind of doctrines and ideologies are directing the fundamental questions of existence and being in forestry with respect to sustainability? What kind of loving values can be identified in the people-to-people relations and in the relations between persons and forests as part of nature? Forestry education together with forest science has to be able to define the credible balance of rights and responsibilities of human thinking and actions along the long chain between the local people who are working in and for the forests and global stakeholders who are working for the forests.

**Networking**

Partnership through networking is a new programmatic and pragmatic concept of federalism and yielding. It is based on the voluntary alliance of universities, who understand that their own autonomy and independence will be best served by working together (Policy Perspective 1993). The core issue is the strong commitment of partners. High-quality co-ordination can be organised in different ways.

European integration is based on networks, especially in the field of higher education and research. The basic policy of the Union is to provide networks with seed funding only. The partners of a network can show their commitment through self-funding either in cash or in kind. The aim is to combine resources from different organisations in order to increase strong partnership, collaboration and new innovations.

The European union has also opened channels of networking to non-EU countries, even in the other continents. Phare, Tacis, Intas, Interreg, EU-Canada, EU-US, Alfa and Asia-Link have provided funding for collaboration, especially in the field of higher education and human capacity building special programmes have been developed for North America, Latin-America, Asia and non-EU Europe. The new Erasmus-Mundus will open incredible opportunities for cooperation. What is the competence and competitiveness of the European forestry faculties in this new area?

Virtualisation – a new challenge

Virtual education is an imperative outcome of the integrated and harmonised European higher education area. The European universities, especially in the field of forestry are not in the first wave of development. The experiences from the United States

have shown that virtual education is a necessary and unavoidable part of quality university work in which the best specialisation has to be adapted even on a distant partnership over several time zones.

Even though the first steps of virtualisation may be mostly unsatisfactory, there are also encouraging outcomes from the exercises in forestry. Furthermore, the European and global needs and perspectives give a good reason to improve the performance. Qualified European topic centres with excellent expertise in virtualisation will be challenging partners not only for the European universities but also for the universities from the other continents. In addition, the joining of Russia to the European higher education development is a great challenge for virtual forestry education (Realising the European Higher …2003). Russia is the key player in every dimension of forestry and the distances to various educational institutions are significant with respect to other parts of Europe.

Forestry education can learn from other disciplines and at the same time try to find the best possible practices for their own field in virtualisation. On the basis of first experiences there is no need to make any total change for virtualisation but better to combine step by step traditional contact teaching with the methods of internet based teaching and learning. The benchmarking of IT-applications for forestry will show the most suitable areas and the priorities of development between the field courses, laboratory courses or traditional lecturing. Even though careful piloting is important, in addition serious attempts for using ICT are needed towards real courses, rather than various demonstration events without any ambitions of degree teaching and learning.

## 4. New partnership of students and teachers

In order to increase the competitiveness, forestry education has to analyse the needs and requirements of the clients of the next decade. The role of students and their unions and associations is more important than ever. The International Forestry Students' Association (IFSA) is a competent and important partner for taking actions in developing the field of forestry education in Europe (The International Forestry…). Accepting the young specialist for the planning of future education the universities are building preconditions to be more proactive than reactive.

Students can play a very dynamic role in universities; the role that they play should step beyond one of merely imbibing the knowledge that is passed onto them. Teachers need to utilise the resource that is the student, and form a partnership which would strengthen the transfer of knowledge and skills, but also draw the students closer to the institutions which provides solid foundations for the future

## 5. Technology and knowledge transfer - challenge for education

The transfer of knowledge and technology for the use of changing societies is the fundamental element of the future activities and performance in the institutions of higher education and research. The rapid development in every field of the society has made it necessary to develop efficient methods of transferring knowledge. Due to the poorly developed collaboration between research/ educational institutions and industries and the public stakeholders of societies, people and their skills are under-utilised in many countries. Institutions are often relying on past success and traditions in order to avoid necessary changes for improving flexibility and in order to meet the requirements of a society.

The role of expertise and experts in a university is a key factor for a successful performance. New management and leadership are about trying to find a good balance between the needs of individuals and the organisation. This target is especially important since financing of institutions has been difficult in most countries during the last ten years. Future perspectives are predicted not to be any rosier. Everybody in the organisation has to be flexible in order to meet rapidly evolving challenges. Commitment to educational and research targets of a society and the relating needs and arrangements of funding are not only the responsibility of managers and leaders, but also increasingly the responsibility of every research scientist or teacher in an organisation. The commitment to the targets of a society is an elementary part of everyone's personal accountability.

## 6. Concepts of knowledge and technology transfer

Traditionally the transfer of knowledge and technology within universities has been based on teaching. An experienced scientist, a master has transferred certain skills to a novice (student), who has applied these skills for the development of society. Direct contacts

between scientists and institutions of a society, like private or public organisations have also been increasingly used for knowledge and technology transfer. Nowadays, the links are so frequent and strong that even the independence of science has been questioned in some cases.

An efficient knowledge and technology transfer process provides stakeholders first of all with the opportunities to concentrate on various fields of specialisation, needed to fill the gaps of know-how. At the same time it should be possible to offer good collaboration, leading to full understanding of the partners' needs and skills. The special role of research scientists and teachers in a university is to strengthen the scientific heartland, which has to be found in the traditional academic departments formed around disciplines and some interdisciplinary fields of study. The orientation of a department or faculty can still be towards the problems of basic or applied research, but a further requirement should be the development of an entrepreneurial unit, reaching more strongly to the outside with new programmes and relations (Clark 1998).

A modern concept to improve the knowledge and technology transfer process is to strengthen and expand the developmental periphery. The units of developmental periphery are expert offices which work on transfer matters, industrial contact, intellectual property development, continuing education and fundraising. Typically they can also be interdisciplinary, project oriented research and development centres which organise collaboration between different research units and enterprises (Clark 1998).

In order to improve a traditional transfer process from a master to a novice and to a society, a great number of business incubators have been developed in many university cities. Students who have gained expertise and skills during their studies can learn more business management, leadership and further develop business ideas in an innovative environment. Often young talented people are even financed by the public funds before they move to real business. The development of business incubators has been very fast during the last ten years when information and communication technology has been the driving-force of economies in most of the industrialised countries.

The European Round Table of Industrialists, a group of 40 European industrial leaders, proposed during the economic recession of the early 90s that Europe's only durable resource lies in its people and called for a coherent approach by industry and government to the "human dimension" of Europe. The message was to give young people

the skills and motivation to live and work anywhere in Europe through educating them to higher standards (ERT 1992). Following the call of the industrialists, the network of Business Innovation Centres was strengthened in Europe and wider awareness dealing with the necessity of improved entrepreneurship was promoted even to the remote regions in the European Union.

The centres of expertise were developed in order to increase connections between companies and researchers of the universities and research institutes. Combining different sorts of skills and knowledge in a centre of expertise young people are able to solve practical problems critical to the economic and social development of changing societies (Clark 1998).

## 7. The changing relations between the governments and institution of research and higher education

Governments have traditionally been the main definers of public policies relating to universities and research institutes. Research and education have been provided as a public good. When society has had needs for changes it has to exert pressure on the government to redirect its public policy. Due to differing arrangements with regard to autonomy, especially in the universities, the negotiations between the government authorities have often been difficult.

Nowadays the role of government should not be as strong since public policy is becoming less important. The competition inside the research and education sector has increased and there is a great need to rapidly react to the changing requirements of the different sectors. The stakeholders in research and education have more opportunities to influence directly through constituency pressure and direct purchases. Even if universities still have autonomy they have to be prepared to carry out open and direct dialogue with society (Policy perspectives 1993).

## 8. Conclusions

1) It is not probable that the forest policy of the European Union will direct the academic forestry education in Europe.

2) The increasing competition and adoption of the consequences of the Bologna process will underline networking and partnership.

3) Forestry education as a relatively small player in the European higher education area needs active cooperation with forestry related sciences.

4) Europeanization means also Global challenges and responsibilities.

5) Forestry education has to be flexible, self-acting and proactive in the pressure of the competing and stronger areas of academic education.

## 9. References

Action Plan for the Northern Dimension in the External an Cross-Border Policies of the European Union 200-2003. 1.10.2003. http://europa.eu.int/comm/external_relations/north_dim/ndap/06_00_en.pdf

Clark, R.C. (1998) Creating Entrepreneurial Universities: Organisational Pathways of Transformation. IAU Press/Pergamon

ERT (1992) Rebuilding Confidence: An Action Plan for Europe proposed by the European Round table of Industrialists. ERT.

International Forestry Students' Association. 1.10.2003. www.ifsa.net

Karssen, C. 1998. Preface. In: Schmidt, P., Huss, J., Lewark. S. Pettenella, D. and Saastamoinen, O. (Eds.). New Requirements fro University Education in Forestry. Demeter Series 1.

Policy Perspectives June 1993 Volume 5 Number 1 Section A. Policy Perspectives. The Pew Higher Education Roundtable Program.

Realising the European Higher Education Area, Communiqué of the Conference of Ministers

Responsible for Higher Education in Berlin on 19 September 2003. 1.10.2003. http://www.bologna-berlin2003.de/pdf/Communique1.pdf

The Bruntland Report (1987). 1.10.2003. www.srds.ndirect.co.uk/sustaina.htm

# GLOBALIZATION OF FORESTRY EDUCATION

P. van LIEROP[1]

1: FAO-Rome, Viale delle terme di Caracalla 00100 Rome, Italy
e-mail: pieter.vanlierop@fao.org

## 1. Introduction

Many people agree that forestry education institutes are in a crisis. In the Western world students are lacking (and consequently funding for education and research) for many possible reasons like decline of students in general, a career too much associated with environment-unfriendly wood loggers, or just not able to compete with high-tech careers which seem to have more appeal for students. In many developing countries education in general has to deal with declining national and international funds, augmenting number of students because of growing population and thus higher quota of students for whom forestry often is one of the last choices. In some countries there is a high forestry potential without, or deficient, forestry training capacity and in others the quality of training must be strengthened and contents have to be adapted. But at a global level, through privatisation of forestry and technology development there will be less need for professional foresters. Besides that, they will need to be trained in a different way with new skills and compete with graduates from other disciplines.

At the same time one can also see many regional or global initiatives which all try to contribute to the solution of the problems felt. It might be clear that for some universities participating in these initiatives it is a way of strengthening the quality of their programmes, while for others it is the search for a market.

In this presentation I would like to show you which kind of international networks in forestry education have emerged, how forestry education institutes are working together in delivering education and the curriculum consequences of forestry globalization and possible relations between universities and global organizations dealing with forestry.

## 2. Regional and global networks in forestry education

From 1964 till 1997 the Advisory Committee on Forestry Education (ACFE) of FAO organized regular meetings, initially every two years and later once a year. The purpose of the Committee was to advise the Director-General of FAO on the evolution of its (FAO's) forestry education and training programmes in developing countries. The Committee had 30 members from different parts of the world. They acted in their personal capacities as experts in their fields and did not represent their governments. Unfortunately, and mostly for economic reasons, this Committee had to be abolished in 1997. It used to be the only global platform on forestry education and as such its disappearance has to be regretted.

A regional network - the Asian Network for Forestry Education (ANFE) - coordinated by FAO Regional Office in Bangkok had its last meeting in 1993.

Since the end of this period regional networks of forestry education have been set up:

- SILVA for forestry education in Europe (1989)
- ANAFE, African network for agroforestry education (1993)
- SEANAFE, South East Asian network for agroforestry education (1999)
- RIFFEAC, network for forestry and environmental training institutes in central Africa (2001)

Although part of the IUFRO network, its subject group 6.15.00 "Improving education and further education in forestry" was founded in 1995 and can be considered a network in itself.

Although the focus might be different for the different networks, common discussions seem to concentrate on:

1. Regional cooperation in the form of student and teacher exchange
2. Curriculum harmonization enabling student exchange
3. Curriculum development to adapt to specific issues emerging in forestry
4. Distance learning through the Internet
5. International education programmes

After these regional approaches over the last years some global initiatives have started:

- International Partnership in Forestry Education

- IFPRI (International Food Policy Research Institute) has proposed a Global Open Agriculture and Food University, including forestry education.

Both initiatives are still in different stages of initial development, and both seem to receive some support or interest from the World Bank.

### 3. International forestry education programmes (models)

I would like to distinguish three models of international forestry programmes in forestry education, considering the following criteria:

1. Level of cooperation between universities
2. Student mobility
3. Teacher mobility

### University in the centre model

The first model, the university centre model, in its simplest form refers to the traditional university model. Students from one country study at a university in their country with teachers working for that university. Traditionally students would follow their whole study period at this university, be it at the bachelor, master's or PhD level (Fig. 1a).

Regional education institutes like ERAIFT in the Democratic Republic of the Congo for the Congo Basin and CATIE in Costa Rica for Tropical America are forestry related training institutions with training programmes set up for a regional audience. The institutes have a staff (permanently based or not), students come from the region and will follow a complete programme or a specific course. As money for forestry education is slowing down the use of regional schools should be rediscussed, especially for regions where forestry education has not developed strongly enough to cover all the needs. Often people visiting these schools already have finished their training and will come for an additional title, at master's, PhD or post doctorate level, or just an additional course (Fig 1b).

Many university faculties or departments are offering international master's and Ph. programmes. Students might come from all parts of the world; teachers are from the university (figure 1b). Many of the universities in developed countries offer these courses

and many developing countries still depend on them for master's and PhD level training. While the change to studying at another university in another part of the world can certainly enrich theory development by exchange of different opinions and realities, it is also worrying that same regions like sub-Saharan Africa still depend so strongly on this, although intellectual capacities exist in these countries. How often do the fellowships from developed countries contribute to the maintenance of their own institutes and slow down the development of the training and education capacity in developing countries? The argument that this responds to free market is not true, as often the fellowships (and programmes?) come from cooperation funds.

## Student in the centre model

This model has emerged where student exchange for certain modules or semesters from one university to another. Recognition of the modules by both universities then becomes crucial for students, in order not to lose time (figure 2a).

When education becomes more standardized in a region and exchange is promoted by regional governance, like the Erasmus programme in Europe, students might even find themselves in a network of possibilities for choosing modules from other universities (figure 2b).

This advantage in Europe combined with the functioning of SILVA has led to student and teacher mobility within Europe as well as with groups of universities in Canada and Asia (ASEFOREP) (fig 2c). This model we see at master's level training.

## Programme in the centre model

In this model, universities work together to deliver a common master's programme with students and teachers from the different universities. An example is the master's in European forestry developed by SILVA members and a proposal for a master's in Mediterranean forestry, crossing the border of Europe (Figure 3). The examples I know have a geographical emphasis (European, Mediterranean) and therefore teachers and

students are from the same area. Theoretically this might also be possible on a thematic base, which might be open for students from all over the world.

Another example of regional cooperation is the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), an intergovernmental organization with a regional Mediterranean vocation. The Centre currently has 13 member countries: Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia and Turkey and works through four Mediterranean Agronomic Institutes in Bari (Italy), Chania (Greece), Montpellier (France) and Zaragoza (Spain) respectively.

Distance learning is not a different model, it is a means used within the three models.

Which model to choose will depend on the situation but the success of SILVA and ANAFE may indicate that cooperation at regional level should be the starting point. Financial support from the European Union in the first case and from the Swedish government in the second to support regional cooperation has certainly enabled a facilitating environment.

## 4. Curricular consequence of forestry globalization

In order to know more about the consequence of forestry globalization for forestry education we should ask which elements in forestry are emerging or have emerged globally.

In many parts of the world forestry practice is faced with the need for more expertise in the fields of conflict management, natural resource based enterprise development, participatory forestry, decentralisation of forest responsibilities, forestry's response to poverty alleviation and job creation, certification, national forestry programmes and many others. Discussion might arise if these issues should replace some of the old traditional subjects, or will curricula have to keep growing?

At another level there is a strong need for the inclusion of global, cross border issues, which include intergovernmental deliberations on forests; forest related conventions, instruments and treaties; and ways to realize global economic, environmental and social benefits from the forests. Issues include the IPF/IFF/UNFF process, CPF, Convention on Biological Biodiversity, Kyoto protocol of the United Nations Framework Convention on Climate Change, ministerial conferences on the protection of forests in Europe, etc. In order

to play a better role as foresters in this international political arena, negotiation skills are also strongly needed among foresters. Delegations to intergovernmental fora have rarely included academics or researchers as members or even as external advisers. But also, forestry's contribution to the UN millennium goals should be discussed and included in the forestry curricula.

## 5. Networking with international organizations and agencies dealing with forestry

Universities may strengthen their ties with international organizations and agencies dealing with forestry in several ways, including the following:

- promoting joint programming, including joint research and application for funds;
- encouraging faculty staff to spend sabbatical leave with specialized agencies;
- hosting staff from international organizations as visiting teachers and researchers;
- providing consultancies to agencies on specific issues;
- training graduates at international organizations (apprenticeship);
- encouraging staff to undertake research of direct relevance to international issues and strengthening ties with international research centres;
- playing a more active role in scientific bodies such as the International Union of Forestry Research Organizations (IUFRO);
- publishing scientific opinions on relevant international issues;
- participating in country delegations to international fora as technical advisers to diplomats (El-Lakany, 2004).

## 6. Individual institutions

While globalization of forestry education might strengthen it in some ways, individual institutes will have to undertake also their own efforts. A recent publication of FAO and UNESCO: Education for rural development-Towards new policy response, (Atchoarena and Gasperini, 2003) detects criteria for success of higher agriculture education (HAE), which in its broad sense also includes higher forestry education.

HAE institutions used to define their priorities from inside, today they need to be responsive to external demands and take on new responsibilities to foster rural development. As a result HAE institutions tend to become more entrepreneurial, more sensitive to the needs of the rural learners, more dedicated to outreach activities and more community focused. Without pretending to be exhaustive, the case studies suggest that innovative HAE institutions include those that:

- expand their mandate beyond agriculture production to embrace rural development issues;
- introduce flexibility in the curricula as well as in the administrative structure;
- establish creative alliances with business;
- contribute to workforce development in their community;
- bring new information about technology, markets to farms and small businesses;
- promote entrepreneurship, the goal being to make entrepreneurship not just a programme but a modus operandi for the institution as a whole;
- develop linkages with the rest of the world to build knowledge.
- adopt governance practices relying on partnership with outside stakeholders and on strategic planning methods,
- use flexible forms of staff management, introducing performance related incentives and staff development programmes;
- diversify their sources of funding, particularly through increasing income generating outreach activities.

## 7. Conclusions

While globally the market for forestry education seems to shrink, there still exists a need to strengthen the quality of forestry education and include new emerging issues in the curricula.

Networks of forestry education at a global level are still evolving, but at regional level networking between forestry education institutes is developing. SILVA, using the momentum of European unification, promotion of academic recognition of education in member states and available funds, seems quite successful. Also ANAFE in Africa has been so successful that a similar network has been set up in South East Asia. The

experience of these networks can be of use to other regional networks and they should be invited to discuss how other regional networks in developing countries can learn from their experience.

Global initiatives have not yet overcome:

- a definition of common interests to partners, especially between the north and the south,
- a different participation level of partners from north and south (individual universities and network representatives)
- different possibilities for partners in developing and developed countries to participate.

FAO is willing to serve as a forum to analyse and discuss global cooperation within forestry education.

In forestry education many models of cooperation in education delivery between universities have emerged. This cooperation is moving from a 1 to 1 cooperation to cooperation between regional groups or networks. Regional cooperation, leading to recognition of education systems gives a good basis for cooperation within the group; the Bologna convention is a good example of this, and it also serves as a basis for cooperation outside the group with others. Attention should go to those models that guarantee equality between their members, especially for the developing countries.

Forestry globalization also requires curriculum adaptation. There is a need in many places for the inclusion of issues from outside the traditional forestry curricula, like conflict management, negotiation skills, natural resource based enterprise development and others. But there is also a strong need for the inclusion of global, cross border issues, which include intergovernmental deliberations on forests; forest related conventions, instruments and treaties; and ways to realize global economic, environmental, cultural and social benefits from trees and forests.

Globalization of forestry education is a fact that can help strengthen forestry education, but it will not be a guarantee for individual education institutes. Individual institutions will first have to find ways to respond to new national demands and then pay attention to regional and global trends and demands on forestry. Such institutes will have to

broaden their scope, become more entrepreneurial, define their role in rural development (poverty alleviation and rural employment), create alliances with private enterprise, etc.

The final question will be: Is the market big enough to justify forestry education institutions? Forestry education might be delivered by non forestry education institutions or forestry education institutions will have to broaden and no longer be solely forestry education institutions.

As the international arena is becoming more important for forest, universities should strengthen their ties with international organizations and agencies dealing with forestry.

## 8. References

ANAFE: African Network for Agroforestry Education. WWW address at:

*http://www.worldagroforestrycentre.org/childcontent.asp?ChildID=10&ID=62&Category=Training%20and%20education&SubCategory=Education%20networks&ChildName=African%20Network%20for%20Agroforestry%20Education*

Atchoarena, D. and Gasperini, L. eds. (2003): Education for rural development. Towards new policy responses. FAO, UNESCO.

CGIAR: The global Agriculture Open University. New directions in distance learning. Brochure

El-Lakany, H. (2004): Looking outward: incorporating international forestry in higher forestry education and research. Lecture presented to the Faculty of Forestry, University of British Columbia, Canada.

FAO (1996): FAO Advisory Committee on Forestry Education. Eighteenth session, 11 14 November 1996, Santiago, Chile. Proceedings

FAO (2001): Expert consultation on forestry education.17-19 October 2001

FAO, RIFFEAC et UICN (2003): Évaluation des besoins en formation dans le secteur forestier en Afrique centrale

RIFFEAC: Network of forestry schools: http://www.iucn.org/themes/spg/brac.html

SILVA NETWORK: WWW address at: *http://gis.joensuu.fi/silva/*

**Figure 1a:** Traditional university in the centre

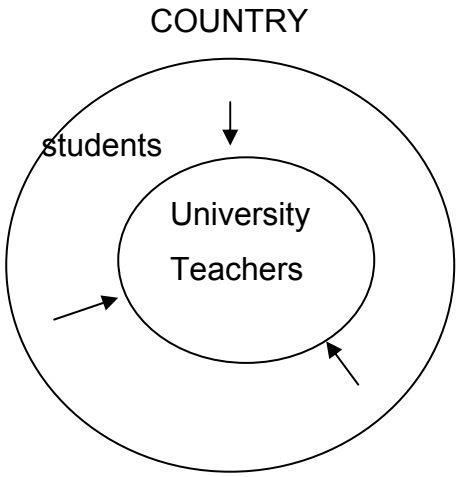



**Figure 1b:** Regional school or international programmes

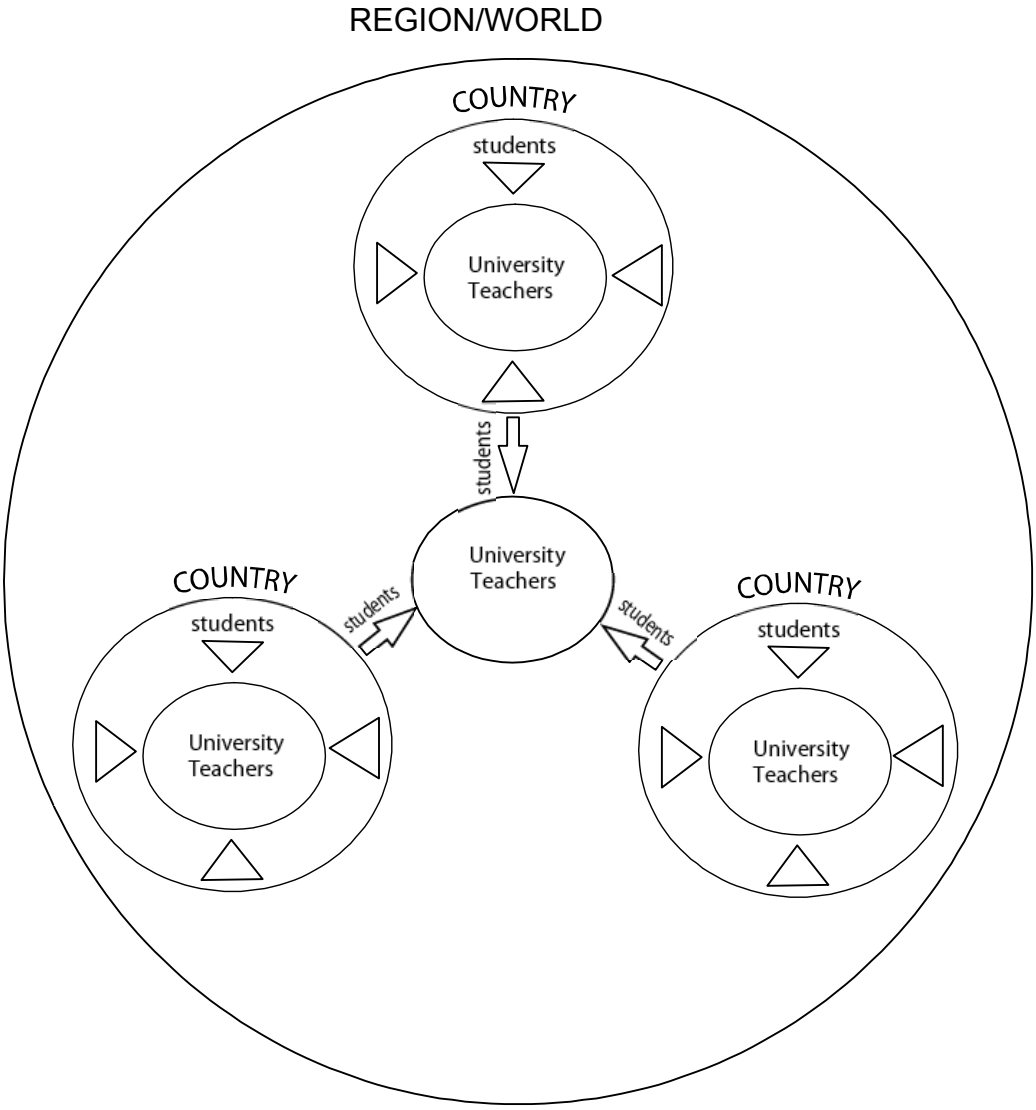


**Figure 2a:** Simple student in the centre model

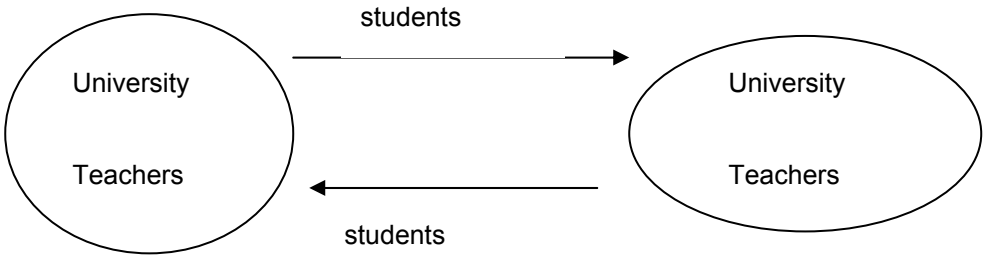
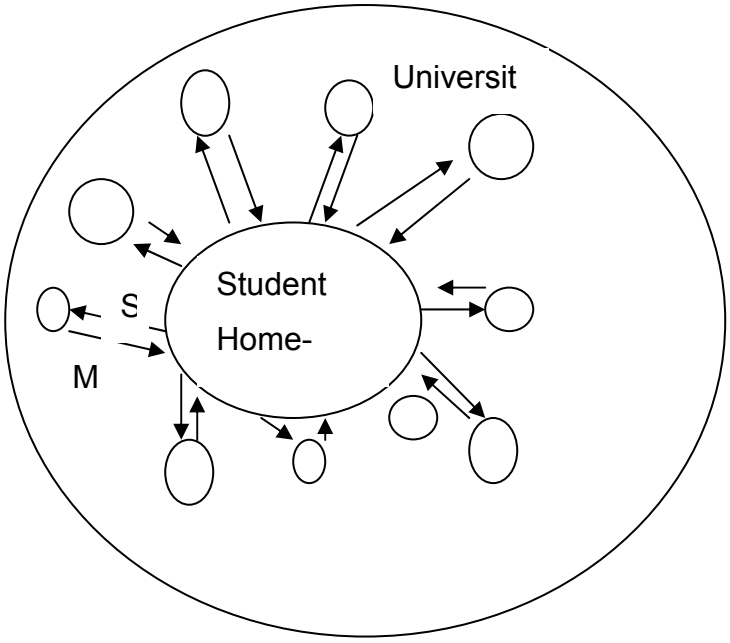


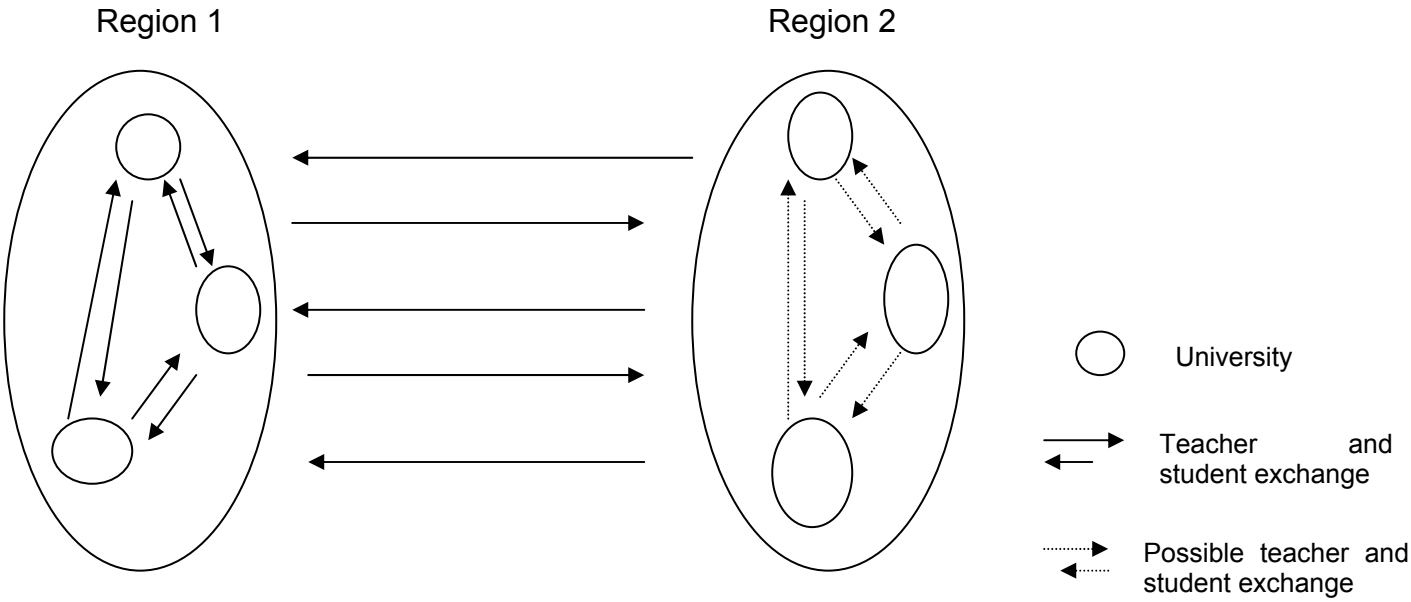

**Figure 2b:** Student's choice within regional recognition of education systems




S: student

M: module

**Figure 3:** Interregional student and teacher exchange



# QUALITY AS AN ISSUE IN THE HIGHER EDUCATION OF EUROPE

I. MIELITYINEN[1].

1: Planning officer. University of Joensuu. P.O. Box 111 80101 Joensuu (Finland).

## 1. Background

Since 1999, the European concept of the quality of higher education has been strongly influenced by the follow up process of the Bologna Declaration. Ministers have reaffirmed their commitment to the objective of establishing European Higher Education and modified the goals of the common policy in the Higher Education at the minister's meetings every second year (Prague 2001, Berlin 2003 and Bergen coming 2005). The process is widely knows Bologna-process, which is the political process aiming to enhance the attractiveness of European systems of HE outside the Europe. It has a competitiveness agenda and through the process, it has been trying to create the most competitive dynamic knowledge-based economy in the world by 2010. In this process, the common quality assurance systems have been seen as an instrument: coherent, compatible, internally and externally legible common framework of European degrees requires an effective multilateral mechanism for the assurance and demonstration of quality.

The Prague Communiqué of 2001 challenged three organisations - the European University Association (EUA), the National Unions of Student in Europe (ESIB), the European Network for Quality Assurance in Higher Education (ENQA), and the European Commission - to collaborate in establishing a common framework of reference and to disseminate best practices. The quality culture and the implementation of quality assurance need to be strengthened among members.

At the Ministers meeting and the Communiqué accepted in the Berlin 2003, the quality issues were taken to the focus of the work. According to the Berlin Communiqué: "... Ministers call upon ENQA, through its members, in co-operation with the EUA, EURASHE and ESIB, to develop an agreed set of standards, procedures and guidelines on quality assurance, to explore ways of ensuring an adequate peer review system for quality

assurance and/or accreditation agencies or bodies, and to report back through the Follow-Up Group to Ministers in 2005. Due account will be taken of the expertise of other quality assurance associations and networks". And: "…by 2005 national quality assurance systems should include: 1) A definition of the responsibilities of the bodies and institutions involved, 2) Evaluation of programmes or institutions, including internal assessment, external review, participation of students and the publication of results, 3) A system of accreditation, certification or comparable procedure, 4) International participation, co-operation and networking"

**2. Why do we need a coherent response at the European level?**

We need the common answers avoiding a chaotic jungle of quality assurance systems and agencies. Nearly all European countries have their national system or agency for the quality assurance. National QA tools miss their very purpose if they are not trusted abroad. The systems tend to be isolated from what is happening in other countries. National systems can not be the answer when it comes to evaluation of the imported and transnational education, which has been developing across Europe. The same programme could be fully accredited in some countries and not recognised in others. The most of the world is accustomed to some kind of accreditation. European universities may have huge disadvantages in the world wide competition if they cannot show that they are accredited in some way. Europe needs its own "brand name" in field of QA. Missing the own systems the European universities have started to turn towards US accreditation systems. We will see more and more different kinds of partnerships of universities in Europe, like joint degrees and increasing student exchanges.

In most European countries, university education is no longer elitist. It is expected that the university system addresses itself to a high percentage of young people. Under these circumstances, the level of instruction must adapt to many different needs, expectations, and prior education of a diversified student body. Here we are registering a conflict between the duties of the university system to address itself and the need to be accountable to the public and prospective employers for the level of competence of the graduates.

## 3. Outlines of Quality Assurance

According to the Commission's proposal for a recommendation on further European cooperation in quality assurance in higher education (12.10.2004, 2004/0239), there are five steps to achieve mutual recognition of quality assurance systems and assessments across Europe.

a) Internal quality assurance mechanism. " require all higher education institutions active within their territory to introduce or develop rigorous internal quality assurance mechanism."

b) A common set of standards, procedures and guidelines. " require all quality assurance or accreditation agencies active within their territory to be independent in their assessments, to apply the features of quality assurance laid down in the Council Recommendation of September 1998 and to apply a common set of standards, procedures and guidelines, for assessment purposes."

c) European Register of Quality Assurance and Accreditation Agencies. "encourage quality assurance and accreditation agencies, together with organisations representing higher education, to set up a "European Register of Quality Assurance and Accreditation Agencies and to define the conditions for registration."

d) University autonomy in choice of agency. Enable higher education institutions active within their territory to choose among quality assurance or accreditation agencies in the European Register, an agency which meets their need and profile."

e) Member State competence to accept assessments and draw consequences. "accept the assessments made by all quality assurance and accreditation agencies listed in the European Register as a basis for decisions on licensing of funding of higher education institutions, including as regards such matters as eligibility for student grants and loans."

## 4. Methods of Quality Assurance

Four main evaluation types can be identified as a method: Evaluation, Accreditation, Audit and Benchmarking.

Evaluation is often used as a general term for the procedures of QA. Evaluation can have different focal points, such as subject, programme, institution or theme.

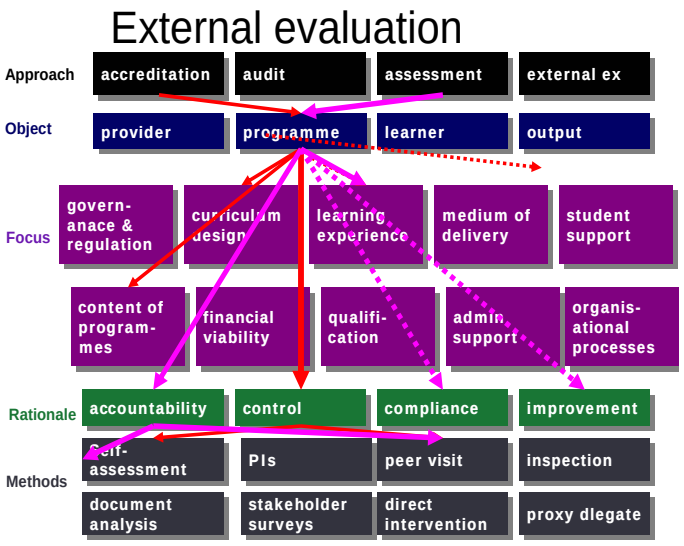
Accreditation is another widely used method in European quality assurance. Accreditation includes the same methodological element but it is important to note that it is not the same as evaluation. Accreditation always refers to a standard, evaluation may or may not do so.

Quality audit is concerned with an institution's processes for quality assurance and quality enhancement. The fundamental issue on quality auditing is how does an institution know that the standards and objectives it has set for itself are being met? More specifically, on what evidence is the assessment on the quality of its work based and are the procedures in place to ensure that the significant processes are followed up and continuously improved? The point of departure in quality audits is a sense of the concept of quality as a dynamic force. Quality audits are used to measure the effectiveness of the internal quality procedures in place at higher education (HE) institutions; the assumption is that a quality assurance system is in place and working. In Finland, the quality audit has chosen the way to fill up the new expectations of the quality assurance. All higher education institutions will be audited by 2010.

In the same way, the term accreditation benchmarking may be discussed as method or an element of evaluation. Benchmarking could be defined as a method, whereby a comparison of results between subjects, programmes, institutions or themes leads to an exchange of experiences of best practice.

The following four-stage model is generally accepted today as the shared foundation of European quality assurance, which includes 1) Independent quality assurance organizations, 2) An internal self-examination component, 3) Visit by external experts, 4) The publication of a report. The following picture illustrates the multitude of issues that should be defined when planning the evaluation.

**Figure 1.** External evaluation (Harvey, Lee)




## 5. Universities facing the new culture and challenges

It is natural and important to note here that the primary responsibility of quality and quality assurance always lies with the institutions themselves: it is their right and privilege in the practice of their very autonomy. At the same time, QA is and should be seen as one of the Higher Education Institutions key tools in the maintenance of their competitiveness, both nationally and internationally, in the fast expanding global HE market.

The current challenge for state and university representatives consist in establishing meaningful quality assurance procedures which reveal the success and shortcomings of higher education of HE institutions with respect to their public functions and responsiveness to society, without falling short of institutional uniqueness of the university in seeking a creative and critical distance from society.

Quality control and improvement mechanism has to find the balance: how to help institutions to get aware of the problems and help the improvement. Institutions should not be evaluated too much or too rigidly, thereby hindering institutional profiling and stifling innovative potential. Evaluation process does not produce the wanted outcomes if there is not the enough room left for higher education institutions to define their goals in the quality evaluation and accountability procedures.

What are the aims? Establish accountability, promote changes in institutions, evaluate effectiveness and/or promote internal quality mechanisms, promote innovation, or promote a quality culture? The focus of quality audits lies on mechanisms established by the institution itself to guarantee good quality teaching/learning and research. Governance, leadership and strategy of the institutions are all of importance as the responsibility for QA lies within the institutions. Institutional audits could include further domains linked to teaching and learning infrastructure, student life, equity, internationalization, employment studies, cooperation, services, etc.

For universities, the value of the evaluation procedures probably depends to a large extent on their readiness to consider the links between teaching and research as well as between these core functions and other dimensions of institutional management. As complex systems, they cannot react to a problem seen in one without indirectly affecting another one as well. The solutions of the problems should also be seen in the context that is affected by many external mechanisms, such as funding system.

## 6. What the Silva Network could do to improve quality work in its member universities?

Like we have seen quality discussion is quite new in Europe and it is still going on and looking for the procedures and traditions. Silva-network already has the history in co-operation and its members know and trust each other. This kind of situation creates idealistic and potential circumstances for systematic co-operation at the field of quality assurance. Discussion about QA is not a temporary phenomenon and it will be an essential part of professional and institutional development in the future, not an isolated area. There is no doubt that internationally the use of standards and criteria are relevant tools in connection with transparency, but the essential question is of course the extent to which this promotes the continuous quality improvement of the higher education institutions.

According to Commission’s recommendation, institutions should have the freedom to choose the QA agency, which would evaluate the institution. It is generally interpreted that this kind of development would encourage the evaluations specializing in the certain field of education. The most of departments and faculties are more interested to compare their work to the colleagues in other countries than convince people in own university´/country

that they are producing good quality. This is specially the case, if there is only few or no other institutions in the same field of education in own country. Now it is time to think what we need to know concerning our work to become better.

What are those essentials questions in the field of higher education in forestry?

**6. References:**

Haug Gay, 2003: Quality assurance/accreditation in emerging European higher education area: a possible scenario for the future. European Journal of Education, 3/2003

Harvey, Lee, 2003: The Power of Accreditation: views of academics. Seminar paper.

Quality procedures in European Higher Education. An ENQA survey, 2003, European Network for quality Assurance in Higher Education. Helsinki.

Reichert, Sybille & TAuch Christian: Trends 2003, Progress towards the European Higher Education Area, 2003. European Commission.

# QUALITY ASSURANCE AND INTERNATIONALISATION – a challenge for Universities and Polytechnics

I. MÜLLER[1]

1: Fachhochschule Technikum Kärnten University of Applied Sciences A-9800 Spittal/Drau, Villacher Strasse 1. Austria

**Abstract**

Education and research became subjects of a common European policy only in the 1990s. Since then all European summits underlined the contribution of education in setting up the « European knowledge society ». In this context HEIs gained a new, additional profile through an institutionalized internationalization of academic life.

This development was strongly supported by the signing of the Sorbonne Declaration in 1998 and of the Bologna Declaration one year later. Especially the Bologna Declaration had an incredible effect on the restructuring of European higher education. One particular element within the so-called “Bologna-process” has been the growing awareness of quality and quality assurance so that nowadays both national and international education are no longer imaginable without a strong connotation of quality. In the wake of Bologna national follow-up groups were set up in order to give more momentum to the implementation of the Bologna goals. These goals were reaffirmed both at the Prague and the Berlin Conference and especially in Berlin the importance of effective quality assurance systems was underlined by the responsible Ministers.

At present the status of implementation of quality culture regimes at HEIs in Europe varies. While some countries have a very long tradition with evaluation and accreditation procedures, others are more hesitant in their approach towards institutionalized quality control measures.

In general Universities of Applied Sciences, with their closer link to industry, have been familiar with accreditation & evaluation procedures much longer than traditional Universities.

However, as universities tend to become more entrepreneurial nowadays, quality control will become a predominant issue very soon too.

Quality assurance in higher education is usually based on 4 essential features:

- autonomous body for quality assurance
- internal self-evaluation
- external assessment by a peer-review group and site visits
- publication of a report

The quality of internationalization of higher education can be appraised in 2 ways, either in the course of an overall evaluation process or within special audits (e.g. the“International Strategies and International Quality Audit” at BOKU Vienna and KVL Copenhagen).

These audits are based on the traditional scheme of evaluations (self-evaluation report, followed by a site visit of external experts, finally publication of the evaluation report). In both cases the findings and recommendations were considered as extremely useful and led to concrete action plans for the university management.

quality assurance in internationalization is a vital part of a university’s quality culture, if quality is neglected either in the organization of mobility programmes or in the development of joint study schemes, or even in the realization of internationalization at home-mechanisms, then the overall quality of an institution will be infringed.

## 1. Introduction

Education in general and higher education in particular had not been subjects of a common European policy during the early years of the EC, its main focus lying on economic issues. With the strengthening of the European Community however and the gradual and often hesitant growing together of Europe, it became evident that this could not happen solely via economic channels but that education and research were vital elements in this process. In 1992, Article 126 of the Treaty of Maastricht (Treaty on the European Union) postulated that

*“The Community shall contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action, while fully respecting the responsibility of the Member States for the content of teaching and the organization of education systems and their cultural and linguistic diversity.”*

So, since the early 90s, also the official EU documents acknowledged the importance of education as a vital factor in the process of Europeanization. However, the Community has always seen its role as a complementary one: to add a European dimension to education, to help to develop quality education and to encourage life-long learning – without inflicting any pressure of harmonization. All the recent European summits (from Lisbon 2000 on) underlined the contribution of education in setting up the « European knowledge society ».

Obviously, numerous activities have been going on at European institutions of higher education focusing on this major goal, to create among the younger generations a stronger awareness for our common European heritage, for the cultural and political diversity and to lead them on a path towards a common “philosophy of Europe”.

Within this framework HEIs started to develop a completely new facette in their traditional teaching and research activities, they added the European or international component. What had been done on a haphazard and volatile basis before became a well-structured process, new positions were created within the institutions and new funding mechanisms supported this development. In fact, over the last 10 to 15 years, internationalization and Europeanization of higher education gained a momentum that had been unimaginable in earlier periods.

At the political level this development was accelerated even more by the signing of the Sorbonne Declaration in 1998 and of the Bologna Declaration one year later. Especially the Bologna Declaration had an incredible effect on the restructuring of European higher education, and it was also due to the so-called “Bologna-process” that quality and quality assurance gradually gained importance so that we are now in a phase where both national and international education are no longer imaginable without a strong connotation of quality.

This presentation shall outline how this development took place, how quality assurance is handled on a European-wide scale nowadays and then focus on some personal experiences concerning the evaluation of internationalization at various institutions.

## 2. From Bologna to Berlin

In the wake of the Sorbonne Declaration of 1998 the Bologna Declaration on the creation of a European space for higher education is a pledge taken by 29 countries to reform the structures of their own higher education system in such a way that overall convergence emerges from the process at the European level. This Declaration is not just a political statement, it rather sets out an action programme for which it defines the key aspects:

A clearly defined common goal – the creation of a coherent European higher education area, as a means to foster employability, mobility and the international competitiveness

A realistic deadline – this HEA should be completed within a decade

A set of specified objectives

- the design of a common framework of reference of easily readable and comparable degrees
- the adoption of a system essentially based on two main cycles, undergraduate and graduate
- the generalization of ECTS-compatible credit systems
- a European dimension in quality assurance
- the elimination of remaining obstacles to the mobility of students, teachers and graduates

an organized follow-up and implementation structure and process

In fact the process launched by this Declaration means structural change – nothing less than a reform of national educational systems including curricular and institutional changes. The follow-up structures put in place have been extremely effective – most signatory countries have set up own Bologna follow-up groups and the country reports published for the Berlin Conference last autumn show that numerous initiatives have been undertaken and that we are really well on the way towards a common higher education area.

The 2001 Prague Conference reaffirmed the main objectives of the Bologna Declaration, putting already a strong emphasis on the vital role that quality assurance

systems play in ensuring high quality standards and in facilitating the comparability of qualifications throughout Europe. Universities and other higher education institutions were encouraged to disseminate examples of best practice and to design scenarios for mutual acceptance of evaluation and accreditation/certification mechanisms. Ministers called upon the universities and other higher educations institutions, national agencies and the European Network of Quality Assurance in Higher Education (ENQA) to collaborate in establishing a common framework of reference and to disseminate best practice.

It was at the Berlin Conference of Ministers responsible for Higher Education in September 2003 that a general stocktaking of the level of realization of all Bologna goals was undertaken. In their Declaration the

*"Ministers emphasize the importance of all elements of the Bologna Process for establishing the European Higher Education Area and stress the need to intensify the efforts at institutional, national and European level. However, to give the Process further momentum, they commit themselves to intermediate priorities for the next two years. They will strengthen their efforts to promote effective quality assurance systems, to step up effective use of the system based on two cycles and to improve the recognition system of degrees and periods of studies."*

It had become evident that the quality of higher education was at the heart of the setting up of a European Higher Education Area.

Therefore the Ministers agreed on four principles, which should be incorporated into national quality assurance systems by 2005:

- the responsibilities of the bodies and institutions involved should be clearly defined;
- the evaluation of programmes or institutions, including internal assessment, external review, participation of students and the publication of results, should be systematically introduced;
- a reliable system of accreditation, certification or comparable procedures should be practised;
- international participation, co-operation and networking should become the rule of activities of national quality assurance bodies.

At the European level, the Ministers called upon ENQA to develop an agreed set of standards, procedures and guidelines on quality assurance, to explore ways of ensuring an adequate peer review system for quality assurance and/or accreditation agencies or bodies.

## 3. Quality Assurance at HEIs

Hardly any other area is more sensible towards bureaucratic obstacles or infringements of its autonomy than the University sector. Educational pluralism, innovation and competition might be endangered by quality assurance mechanisms which tend to insinuate standardization and homogeneity. Although it is generally accepted nowadays that quality assurance and quality enhancement are necessary – the former to assuage the fears of the funding institutions that money might be wasted, the latter because the search for excellence as an intrinsic element of every university strategy can be achieved much more easily if a quality framework is in place, the relevant procedures are manifold and the intensity of being applied varies greatly.

As a matter of fact, there are different speeds in the implementation of quality culture regimes all over Europe. While some countries have a very long tradition with evaluation and accreditation procedures (esp.UK, partly the Scandinavian countries, all Central-Eastern European countries after the fall of the Iron Curtain), others were more hesitant in their approach towards institutionalized quality control measures.

However, with the transformation of more and more European universities into independent self-governing institutions, the philosophy of a new university management - from bureaucracy to entrepreneurial university (however on a not-for-profit basis) gains momentum

With a leadership structure that is borrowed from the corporate world, with a clear output orientation and with the obligation to negotiate performance contracts with the Ministry, quality and quality assurance become foremost issues. As performance contracts usually serve as planning and management tools, clear performance indicators are needed in order to draw up the budgets, e.g. number of publications, impact factors, annual student numbers, costs per student, also number of international students, international partnerships, joint programmes etc. Another impact of becoming entrepreneurial is the increase of competitiveness, with the growing comparability of HEIs, students will tend to

pick those institutions that have the best reputation quality-wise, consequently a high student intake is a clear indicator for high quality.

This entrepreneurial element can be seen very clearly in the second type of tertiary education, the Polytechnics, Fachhochschulen or Universities of Applied Sciences or Universities of Professional Education. They have mostly been set up in order to provide practically-oriented academic education with a particular sensitivity towards the needs of the job market. They work in close contact with industry and very often their organization is governed by corporate law. With flat hierarchies and a slim management structure they can adapt their programmes rather fast. Their practically oriented focus is reflected in their curricula. They often include a mandatory career-oriented practical training unit (job-based internship). Due to this closer link to industry and the needs of society, accreditation and evaluation have always been an issue in this system.

For example in Austria, every degree programme at an UAS has to undergo a profound evaluation at the end of its duration / after its completion and the positive result is the prerequisite for re-accreditation.

What is now the present situation regarding institutionalized quality assurance in Europe?

In his comprehensive survey Christian Thune, Chairman of ENQA, provides a good overview about existing QA concepts in 2003.

On 24 September 1998 the European Council published a Recommendation on European Cooperation in Quality Assurance in Higher Education in which it suggests that member states establish quality assurance systems for higher education. These systems should be based on certain characteristics identified as common to quality assurance systems, including – the creation of an autonomous body for quality assurance

- targeted utilization of internal and/or external aspects of quality assurance
- the involvement of various stakeholders
- the publication of results.

By now, in most European countries autonomous quality assurance agencies have been established on national or regional level. There are agencies for the university sector and for the non-university sector and in some countries the agencies cover both sectors.

Their main functions are

1) quality improvement, quality assurance in a traditional sense – most common function

2) disseminating knowledge and information – very important because good transparency on HE quality is an essential condition for good employment prospects and international competitiveness of individuals;

3) accreditation - quite often also the function of agencies

“Evaluation” and “accreditation” are often used synonymously. In fact there is quite a difference between the two terms. Although “evaluation” is often used as a general term for the procedure of quality assurance, it denotes in a stricter sense a special method with different focal points such as subject, programme, institutions and theme

Subject: focuses on the quality of one specific subject, typically in all the programmes in which this subject is told

*Programme:* focuses on the activities within a study programme (studies leading to a degree)

*Institution:* examines the quality of all activities within an institution – organization, financial matters, management, facilities, teaching and research

*Theme:* examines the quality or practice of a specific theme within education e.g. ICT

Accreditation, on the other hand, is usually considered to follow from evaluation. It is the final formal decision following an evaluation procedure. There is a certain danger however that, while evaluation mainly aims at quality improvement, accreditation may cause this improvement function to suffer as every institution will first aim at obtaining accreditation.

Both procedures include the same methodological element, the so-called four-stage model of quality assurance which had been introduced already in 1995 as the methodological framework of the European Pilot Projects in Quality Assurance and is nowadays the shared foundation of European quality assurance:

- creation of an autonomous body for quality assurance
- internal self-evaluation
- external assessment by a peer-review group and site visits
- publication of a report

As has been mentioned before, most European countries have set up accreditation agencies by now, and it was only natural that a European Consortium for Accreditation in

Higher Education would be established in order to achieve mutual recognition of accreditation decisions among the participating countries. Its main focus lies on

- cycles and levels
- qualification descriptors (the so-called Dublin descriptors have been developed in order to define generic competences for the Bachelor and Master's level. They are now widely accepted and used as reference points in national legislations and accreditation frameworks).
- Credits – ECTS is widely used for describing workload and course units
- Access requirements – will vary considerably within the national contexts
- Progression – movement possibilities from one programme/cycle to another
- Diploma supplement – all graduates should receive it free of charge by 2005
- Recognition – if a qualification is not formally recognized by national higher education system it should not be part of a European qualifications framework.

## 4. Quality Assurance and Internationalisation

After these more theoretical reflections on the position of quality assurance at HEIs, the basic question has to be tackled: how can quality be assured and guaranteed in the internationalization process of HEIs?

Internationalisation at HEIs covers a wide spectrum, from mobility programmes to joint curricula, activities of internationalization at home to international research cooperation.

The first mobility programmes – ERASMUS, COMETT and TEMPUS were already launched in the late 80s and during these years, international student exchange became the most typical scenario for international educational cooperation. The late 80s and the early 90s were dominated by passionate efforts to increase the number of mobilities, the number of cooperation agreements and the number of months that students studied abroad. Major attention was paid to quantitative rather than to qualitative aspects, the important thing was to be international no matter with whom…

Only gradually the question of quality in international cooperation became an issue. With the first strategies for the internationalization of universities it became evident that it was not enough to set up nice MoUs or exchange agreements without paying attention to

the level of quality of the various exchange mechanisms. At the same time, new types of international activities such as double-degree programmes gradually started to develop, and the question of quality became even more of an issue.

It is certainly legitimate to use Bernd Waechter's distinction between "Old internationalisation" with its main concern on the mobility of students and scholars and "New internationalisation" which deals with joint international efforts related to structural and regulatory issues of higher education systems such as quality assurance, lifelong learning and online education.

Naturally, with the growing mobility of students quality also became a selection criterion influencing the students' decision where to study – from comparability to compatibility!

We can say that quality awareness has been a steadily growing element in university life during the last years and it has affected all aspects, not in the least internationalization.

## How can the quality of internationalization be assessed?

Actually, there are 2 possibilities: if an institution undergoes a systematic and overall evaluation process, the status of its internationalization will be one important aspect. This is for example the case at Austrian Universities of Applied Sciences which are evaluated every 5 years and this institutional evaluation is the pre-condition for the re-accreditation of its programmes. A similar procedure is applied in the Netherlands. In other countries quality audits of HEIs are still rather a voluntary exercise, programme accreditation is done by the responsible Ministry and only gradually do regular quality audits find their way into normal University life. The fact that most European countries have established accreditation agencies by now and that the Berlin Conference postulated the introduction of national quality assurance systems by 2005 will change this situation dramatically.

The second possibility is a special audit of the international activities, internationalization strategy etc. of an institution. There has been an exercise of this type launched by CRE, the European Rectors' Conference, predecessor of today's EUA. Although it was an institutional evaluation, it had a strong focus on the international performance of the institution.

By chance we had the opportunity to discuss the usefulness of such evaluations with one of the fathers of this method, Dr.John Davies, and as a result, the idea was born to develop a special type of evaluation which should assess the level of international performance of institutions, tailor-made to the needs of HEIs for agricultural and related sciences

In the framework of the Thematic Network “AFANet” of which SILVA is also an active part, a group of responsibles for international relations together with 2 external experts developed an innovative type of quality assessment especially focused on internationalization. The “International Strategies and International Quality Audit” was organized at and by BOKU Vienna in 2001 and the goal was to find out whether the institution’s internationalization strategy was consistent and whether the efforts in this respect were on the right track. According to the traditional scheme of evaluations it started with a self-evaluation report, followed by a site visit of external experts, finally publication of the evaluation report. The special situation lay in the fact that the 2 external experts, Profs. John Davies and Roger Field guided a team of evaluators – vice-rectors and directors of international offices from all over Europe – who were first familiarized with basic principles of systematic internationalization strategies and with the development of a strategic audit framework for assessing one particular internationalization strategy, and secondly they had to apply these principles on the model case that was evaluated, namely BOKU Vienna. It was a very ambitious undertaking, the colleagues worked hard and the outcomes were extremely beneficial both for BOKU and for the participants. All basic findings and recommendations were introduced into an action plan and clear objectives, steps to be taken as well as ways to measure the achievement of objectives were formulated. After two years quite a few improvements can be noticed and the fact that the Centre for International Relations at BOKU survived all the restructuring processes going on during the last year is certainly partly due to the fact that a clear consolidated concept has been put in place and a consistent set of measures guarantees the realization of an agreed internationalization strategy.

A similar exercise took place in spring of 2003, this time KVL hosted a group of international responsibles and served as study-object at the same time. The output has been similarly beneficial for the colleagues in Denmark.

In both cases the following documents were essential ingredients:

* Self-evaluation report of the institution to be assessed – enough time has to be allocated to this activity, lots of sessions, good organizational framework – who collects data etc.

* Questionnaires for participants

a) short analysis of own institution, containing basic data on organization, importance of internationalization, importance of quality management;

b) SWOT questionnaire related to field of internationalization

c) organizational improvement plan for internationalization

by filling-in the questionnaires the participants gained their first learning experience before the main evaluation exercise:

d) evaluation forms.

The essential questions that the evaluators focus on are:

Teaching: - number of foreign teachers

- number of incoming-outgoing students, of mobility programmes
- number of lectures in foreign language – with intercultural background
- existence of functioning joint study schemes
-

Research: - international doctoral or post-doc students

- international guest researchers
- percentage of outgoing researchers
- memberships in international editorial boards, international associations
- number of accepted project proposals (EU – international projects)
- reputation of staff in the scientific community
- international prizes, awards for researchers

Infrastructure:

- functioning international relations unit –

ideally one-stop shop for student services – both for outgoing and incoming students

- quality of international marketing
- staff training in international matters: both academic & administrative staff

should be prepared for the “international classroom” internationalization at home

## 5. Conclusion:

”Quality and competence” is the title of this year’s SILVA Conference. I am convinced that quality assurance in internationalization is a vital part of a university’s quality culture, if quality is neglected either in the organization of mobility programmes or in the development of joint study schemes, or even in the realization of internationalization at home-mechanisms, then the overall quality of an institution will be infringed.

There are various ways of measuring this quality, maybe we should support the idea that evaluation and accreditation agencies draw special attention to the area of academic internationalization and that specialists in this field participate in institutional evaluations with a particular mission. Maybe international networks such as SILVA, IROICA or ICA could provide expertise in this field.

The experiences of the 2 audits in Vienna and Copenhagen make me confident that there is room for special internationalization audits – as long as we consider the international field as a core element of higher education – which I do.

# DEVELPING AND IMPROVING TEACHING PROGRAMMES: the MSc “Mountain Forestry” at BOKU as a Case Example

H. GOSSOW[1]

1: Universität für Bodenkultur Wien (BOKU) Peter Jordan Straße 76, A-1190 Wien, Austria

e-mail: hartmut.gossow@boku.ac.at.

**Abstract**

The Faculty of forestry at BOKU University in Vienna (Austria) has organised and coordinated within the last 10,12 years various field camps, intensive programmes, extension courses, and since 2002 also an international master´s curriculum in „ Mountain Forestry“ (MF). This contribution shortly reports the main comments and recommendations of the preceding international MSc audit in early 2001, and how the implementation of this MF MSc looks like so far: as evidenced by the MF students´ evaluation (of the first run in 2003), and partly compared to experience and evaluation results from three SOCRATES IP field camps (2000-2002) on „ Mountain Forests for Production and Protection“.

**Key words:** *BOKU; Bologna process; forestry education; internationalisation (at home); mountain forestry*

## 1. Introduction:

The Forestry Faculty at BOKU University in Vienna (Austria) has undergone a remarkable developmental progress in its curriculum improvements over the last 30 years, especially in the last decade. This was partly enhanced and supported by legislative steps in Austria (e.g. University Acts1975 – 1993 – 2002; Forestry Acts 1975 – 2OO2), but especially through European or EU developments such as the SOCRATES/ERASMUS and other programmes in favour of more academic mobility and human resources development. The so-called „ Helsinki process“ and the „ Ministerial Conferences for the Protection of the Forests in Europe“ (MCPFE 1990 – 1993 – 1998 – 2003) as well as NATURA 2000 and the EU Life Programme were more or less instrumental and challenging: while the study programme of the mid-70es culminated in the compulsory diploma thesis at the end of the

studies, a more interdisciplinary and student-centered teamwork-focused way of teaching – especially in the final semesters – developed in the early 90ies, followed by a quite innovative modularisation of lectures, courses and excursions since 1998. Since 1999 the Austrian higher education system has also been strongly influenced by the envisaged implementation of the Bologna Declaration which entails, among other aspects, the gradual introduction of the Bachelor-Master-Doctorate scheme.

Especially at the master's level, starting with the academic year 2003/04, we will have an interesting spectrum of various curricula within the field of forestry, partly also of a quite new design and effort, offering more possibilities for specialization and enhancement of competences for our students. For example, „ Mountain Forestry", started in the „ International Year ofthe Mountains 2002", was a precursor MSc curriculum – but it had precursors itself: the international SOCRATES Intensive Programme (IP) „ Mountain Forests for Production and Protection" (1999 – 2002), or corresponding lectures given by visiting professors from abroad.

It must be emphasized that the internationalisation progress at BOKU, and here especially at its smallest faculty (in terms of student enrollment) - the faculty of forestry, wood technology, and avalanche & torrent control - was characterized by a highly synchronous interaction of various internal and external circumstances. Here, especially the innovative support by our International Relations Office (Irene MUELLER), the fruitful cooperation with the SILVA NETWORK (since 1990, becoming later a member of ICA), and the active involvement of the Forestry Study Commission were very encouraging and instrumental!

It was well realized at BOKU how important a strengthened internationalisation was for the university's future competence and its competitive capacities: beside increased international research cooperation, improved lecture contents, didactic techniques or courses taught in English, more extension offers and more short courses, intensive programmes or summer schools would be needed in future, organized beside the regular study programme, in the vacation periods, as additional contributions for more „ internationalisation at home" (this was especially encouraged and emphasized in 2002).

A similar effort concerns more interdisciplinarity in research cooperation within BOKU. This is also one of the major issues in BOKU's Internationalization Strategy (approved 1999). Since 1999 BOKU has also been strongly supportive of increased

transdisciplinary initiatives when a special research funding programme was launched by the Rector. The comparatively early internal cooperation within our forestry faculty (in projects on forest die-back, and on forest rehabilitation, initiated by Erwin FUEHRER and Hubert STERBA, respectively) made us better prepared in this respect and was reinforcing also the curricula development process.

**2. Results And Its Discussion:**

Forestry education as a more international challenge and effort dates back at BOKU just 10 years, at least since having this implemented in a more conscious, intended and systematic way:

In 1994, BOKU organised – together with Sopron´s forest faculty – in both countries an international summer field camp, on “environmentally compatible forestry”.

And Irene Mueller had sent that year a 1st conceptual draft about “Eurosilva” what she had suggested already in the year before as a good idea within the SOCRATES programme, and which became or the later Intl. Master´s intention in “European Forestry” (EF).

In 1998, a next major effort of BOKU-Forestry became realised, organizing a summer field camp together with Freiburg and Toronto, 1 week in the Black Forest, 1 week in our teaching forest and in the adjacent limestone alps. And Irene and I applied that year for a SOC-IP “Mountain Forests for Production and Protection” (MFPP), which was organised 3 consecutive times in the years 2000, 2001, and 2002.

In 1999-2000 Gerhard GLATZEL (from the forest ecology institute) developed a BOKU-based intl. master´s programme on “Mountain Forestry” (MF) – this was internationally discussed and evaluated in an ad hoc-workshop in March 2001 and started in Feb 2002. In Feb 2004, the 1st batch of successfully finished “Mountain Foresters” left BOKU again, the 2nd one had started in October 2003, and a 3rd one in October 2004.

In Dec. 2000, I had Ian SPELLERBERG from Lincoln Univ., N.Z., as a visiting Prof. (for a short course) at my institute, and both we encouraged a group of BOKU–colleagues to develop what meanwhile became a joint international master´s programme for “Natural Resources Management & Ecological Engineering (NARMEE)” – and which is broader, a more transdisciplinarily conceptualised one than our “Mountain Forestry” master. Similarily,

we had also successfully applied (in 1999) for a LEONARDO-supported pilot course called “Media Naturae” (MN) which meanwhile became a BOKU course, lasting two years and including several neighbouring universities along the former Iron Curtain, like the universities in Brno, Zvolen, Sopron (and EURAC in Bozen), with whom we organise several 5-8 days lasting intensive course weeks in the respective countries + several others in Austria (and in S-Tyrol). The idea behind was to concentrate educational efforts on these mostly underdeveloped land belts along the former Iron Curtain as a source potential for nature conservation and a corresponding socio-economic development.

Forestry and foresters´ responsibilities end and start by law in Austria just at the forests´ edges. The more recent landscape-oriented scientific interests and management intentions are insofar considered perhaps not enough in the MF master – but hopefully under some further improving development. In the NARMEE master, or in the MN courses, a more transdisciplinary regard and access is realised already much more.

So, let me illustrate and discuss in the following some aspects of our curriculum concepts for MF as well as, comparatively, some results and consequences, or even recommendations, of our evaluations (including MFPP).

To start with the experiences at and the recommendations of the MF audit in 2001 (based on the respective Executive Summary, compiled by Birgit Habermann, April 2001): several weaknesses and gaps in our curriculum draft, became obvious there, or were especially emphasized as important topics, like

- the programme should develop the student´s skills linked to preliminary participatory assessments;
- the importance of participatory research and development, based on local knowledge and gender roles, should be reflected throughout the course;
- a balance has to be found among animal husbandry, rural development, agriculture, wildlife management, and forestry;
- it was proposed to include the various fields of modelling in the respective courses instead of having one single course;
- there appears too much emphasis on the technical side, but ignoring, for instance, that there has been in parts of Asia a proscription against cable harvesting, and discussing more indigenous technologies appears not sufficiently involved;

- the weight of the socio-economic bloc appears is too weak; even if in “development co-operation” and in “multiple criteria decision making” certain amounts of socio-economic aspects are integrated;
- mountain forest policy covers only (or much too much) the European view, challenges, and options.

As important, but not (sufficiently) regarded in the curriculum contents (draft) were mentioned, for instance

- becoming able to carry out comprehensive protective measures such as fire control, water and soil conservation, etc.;
- develop and implement participatory monitoring and evaluation techniques;
- skills on communication and extension, to mobilise the people and their community . . . , should be trained much more;
- scope for students, coming from different parts of the world, to directly contribute with their specific experiences and priorities to the contents of the course;
- a clear lack of trans- and interdisciplinarity which should be implemented by more case- and project-based learning and inter-cultural communication;
- failure to include a landscape ecological or ecosystem based management perspective;
- insufficient treatment of several topics of critical importance for mountain forests, such as disturbance ecology and fire management (policy).

But there was also questionable

- whether a Masters programme should not offer a deeper specialisation in some area(s), but
- that a too narrow perspective at the Masters level should be avoided, and
- if there is a certain danger that the curriculum might be trying to cover too much for a 2 years programme (so that students may emerge without a “critical mass” of understanding of any one topic)!?

We have tried to improve our MF curriculum contents as much as possible. But if one looks at the final student evaluation of the MF masters programme and its realisation, there are obviously some quite typical weaknesses and gaps still existing:
The MF curriculum corresponds obviously too much to our traditional curriculum design in forestry, concerning contents, contact hours, modes of teaching etc., but also concerning more infrastructural, information, and social aspects.

For instance, (most or some) students answered or commented

- that “courses/lectures generally appeared too overloaded”;
- that “the major problem was time”, especially for the final thesis preparation, and if fieldwork is related with the home country (then the period should be at least 9 months)
- that a more practical way of teaching should be increased, on cost of traditional teaching (too many contact hours and frontal lecturing);
- that harvesting coursework should “not only/ too much focus on the high tec harvesting methods (since most MF students are from developing countries)”;
- that (all) “courses given should touch & discuss issues from all over the world, not mainly cases & examples from Austria or Central Europe in general”;
- that the science of mountain disasters was presented too theoretically;
- that economical aspects of mountain forests/forestry should be more specific (even with regard to NTFPs, gender aspects, etc.);
- that mountain forests policy and politics should be improved in a more international respect;
- that “making every subject compulsory to all MF students ... and giving unbalanced credit hours to the subjects”, should be adapted and improved;
- that specific courses can be combined together, especially when/ because “many times, same stuff was handled by different professors”;
- that “the course(work) duration should be reduced to one year and be narrowed down to specific subjects”
- that also landscape management should be included – and not at least

- that “the social integration into BOKU´s student community” was still too poor, like also more introduction into Austria´s culture and environment (not only academic) - should be improved too.

I have summarized here mainly suggestions for improvement and critiques on insufficiently appearing coursework and its transfer. Nevertheless, the overall reactions and assessment of the MF students were very positive, and the prepared thesiswork a most valuable and impressive one. All of the participants – also of the new class – were already professionally active people, skilled and highly motivated, and interested and prepared for a more participatory mode of teaching as well as for more learning by doing. But forestry education in Austria (and Germany) appears still too much trying to train ‘ omniscient foresters’ – what had been criticised by Fred Bunnell already in the 80ies: to be(come) trained for nearly every challenge in their assumed professional field. But the professional field - the challenges for nowadays foresters as being more a natural resources manager in a more interactive and multiple criteria decision making process - needs skills which cannot be mediated in the classroom via frontal teaching only.

Our MF students, so far, are nearly exclusively students from developing countries in Asia and Africa – not yet so our own forestry students from BOKU, or from other western or northern countries; own BOKU students appear more interested in the NARMEE masters course (mostly students of landscape planning, or of civil engineering & water management). That explains part of the critical comments and of the MF weaknesses, and what could be learned from the NARMEE course design, for instance. Or even from the MFPP-IP, organised 3 times in previous years: Already suggested in the MF audit, as a most valuable teaching tool and challenge, we have now also 3 field camps in the MF curriculum – but they are still a matter of BOKU-own docents´ participation and interaction, and from the forestry faculty only. That appears counterproductive, at least from my experiences and evaluation outcomes of 5 international forestry field camps and intensive programmes at BOKU/in Austria: Each time, when preparing a next IP or field camp, we considered experiences, demands, and recommendations of the students in the previous one, like for instance more excursions, more group work and discussions/presentations, less frontal lecturing, more free time, more vegetarian food options etc.. Nevertheless, the enlarged excursion programme in MFPP was valued increasingly less good, and so the

locations. I see mainly two reasons: the decrease in participating foreign lecturers and experts, and insofar an increasing dominance of Austrian presentations vs. less interdisciplinary discussions and team teaching. But there was also a remarkable shift in the participating students, from more NW European countries in the beginning to more southern (mediterranean) provenances, with corresponding differences in academic and language skills. On the other hand, the MF students, participating in our last MFPP-IP were extremely inspired and enthusiastic to make this IP part of the MF curriculum; and they were also the most interactive participants of this IP.

So our conclusion: In internationally announced field camps, short summer curses and the like, but probably also for an international MSc, it is important and instrumental to have not only an international students mixture, but also a well-balanced international conbination of cocents and experts involved – and, both, students and teachers, not too exclusively from classical forestry only!

To invest so much time and energy just into these international summer field camps or intensive programmes – besides all the usual teaching efforts in the official curricula and term periods – has its reason in BOKU´s interest in more student mobility as part of our internationalisation strategy. But as a german-speaking Country, we have difficulties to attract especially students from Anglo-American countries for university stays just for a term or even a full academic year. Whereas summer field camps and internships were repeatedly suggested as a more attractive alternative.

But as one can see from our field camp experiences – and also from the MF development so far -, more foreign lecturers involved should make them even more attractive. The question arises how long/how far foreign colleagues may cooperate if interuniversity competition for students is increasing, as well as the offers of international university course activities quite generally!?

**p.s.** Concerning language skills, we are increasingly confronted with another problem which I would like to mention it shortly: There are coming more and more foreign students which expect to do a short-time field project without any more concrete contact and agreement in advance; or students realising more difficulties with lectures held in German, who then may also want to do a project (supervised in English – but what about grey literature in German, or if also their English is not the best?!) instead of passing coursework (in order not to lose their scholarship). But learning/ improving a foreign

language is one of the main SOCTATES/ERASMUS intentions! So, how much should those “strategies” be supported!?

And there exist sometimes troubles with our ECTS credits which may be too low – as compared to the practice in some other countries – that they may not be fulfilled with a realizable amount of lectures and the respective examinations: what is again a matter of our high amount of compulsory lectures/ courses; and credits (practically) often only for the contact hours 1:1 or 1:1.5!

# FORESTRY EDUCATION TOWARDS SUSTAINABILITY:

# - Experience Of Ukrainian State University Of Forestry And Wood Technology

L. MAKSYMIV[1], L. ZAHVOYSKA[2].

1:. Doctor of economic sciences, Head of Environment and Natural Resource Economics Center, Ukrainian State University of Forestry and Wood Technology, Faculty of Woodworking Technology. Str. Gen Chuprynky, 103, 79057 Lviv, Ukraine. Tel +322 353213

2:. Senior Teacher, Ukrainian State University of Forestry and Wood Technology, Economic Faculty. Str. Gen Chuprynky, 103, 79057 Lviv, Ukraine. Tel. + 322 970388. E-mail: zld@forest.lviv.ua

## 1. Introduction

Ukrainian State University of Forestry and Wood Technology (USUFWT) is one of the two main Ukrainian institutions, offering courses and research in forestry. It was founded in Lviv in 1874 as a regional forestry school. Now there are six faculties, which train near 5000 students in economics, forestry, mechanization and logging engineering, woodworking technology.

The new interesting point in its activity is experience of master course in Environment and Natural Resource Economics (ENARECO). This one and a half year master degree course is aimed to prepare high-level specialists who can combine ecology with economics and who will be able to tackle the demands created as Ukraine moves toward:"... novel ecological, economic and social challenges have to be met. Therefore, sustainable development should be induced as an instrument to balance society's various demands" (ENARECO, 1998).

In the process of curricula development, USUFWT has been supported by European Union universities of Freiburg (German), Gent (Belgium) and Padova (Italy). Each EU University has provided expertise in relevant scientific areas and training.

The main peculiarities, that differ ENARECO course from a plenty of newly established programs in the field of sustainable development, are:

The basic theme for all classes is the question how economic and societal demands can be rendered compatible with the requirements of environmental conservation and a careful use of natural resources.

The teaching contents of the course are not limited only to concentrating on the theory of environmentally friendly economics, but attempts practically illustrate principles of the various sectors of a political economy. Hence students are expected to become experts, capable of implementing the principle of sustainable development in practically all-relevant areas of economy and society.

The central concern of the program is a practice-oriented education.

The new study program is open to graduates from a variety of different fields. It is not restricted to economists, but open to geographers, law students, forest scientists, ecologists and others (ENARECO, 1998).

The curricula of ENARECO course has been structured around seven teaching areas:

Environmental policy, including environmental law;

Land use economics;

Economics of tourism and recreation;

Natural resource management;

Environmental economics;

Enterprise environmental management;

Methodology of environmental economics.

The subject unit “Methods and Instruments of Environmental Economics” from last but not least teaching unit “Methodology of environmental economics” deals with quantitative methods and with models in natural resources management and models for evaluation of environmental products and services. ENARECO students familiarize with modelling approaches, studying models, presented in recent environmental literature. Hence, it is expectation of the program that the graduators will be well trained to apply these approaches and techniques in decision-making, to develop and to implement ecologically sound, socially acceptable and economically feasible activity.

**Literature**

ENARECO. 1998. Towards an Economist-Ecolog Master Degree within Two Years. Ukrainian University of Forestry and Wood Technology. Lviv. - 144 pp.

Forestry Curriculum Development and Revision. Case studies in developing countries, 2001. FAO, Rome. 320 pp.

Greene T., Lee S., and Newsom W., 1978. The Decision Science Process. New York; Petrocelli Books.

Tunytsya, T. 1999. Environment and Development in Transitional Countries: a Ukrainian Perspective on Training in Environmental and Natural Resource Economics. Hesling, York, YO105DD. 60 pp.

**Figure 1:** General Organisation Of The Enareco Course

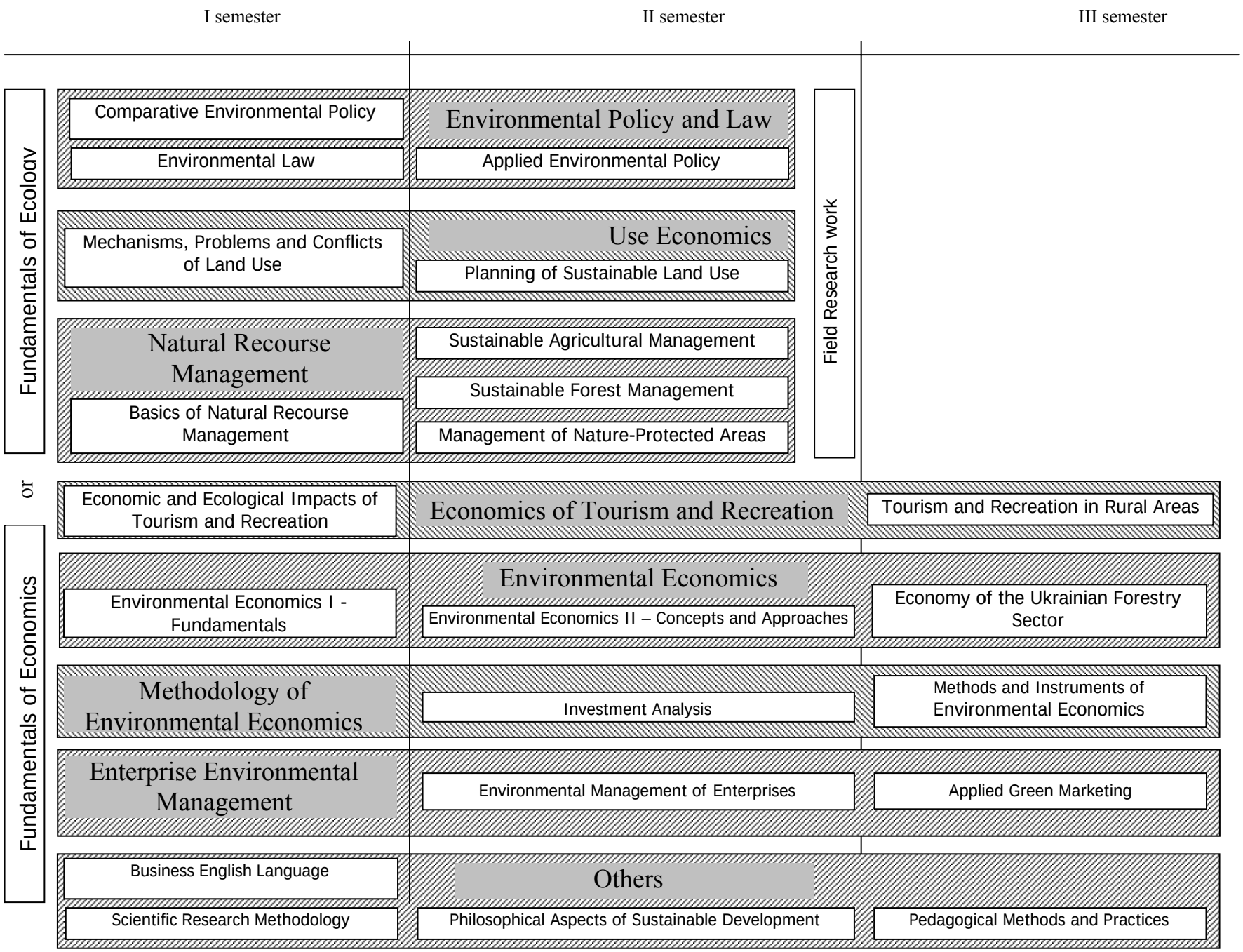
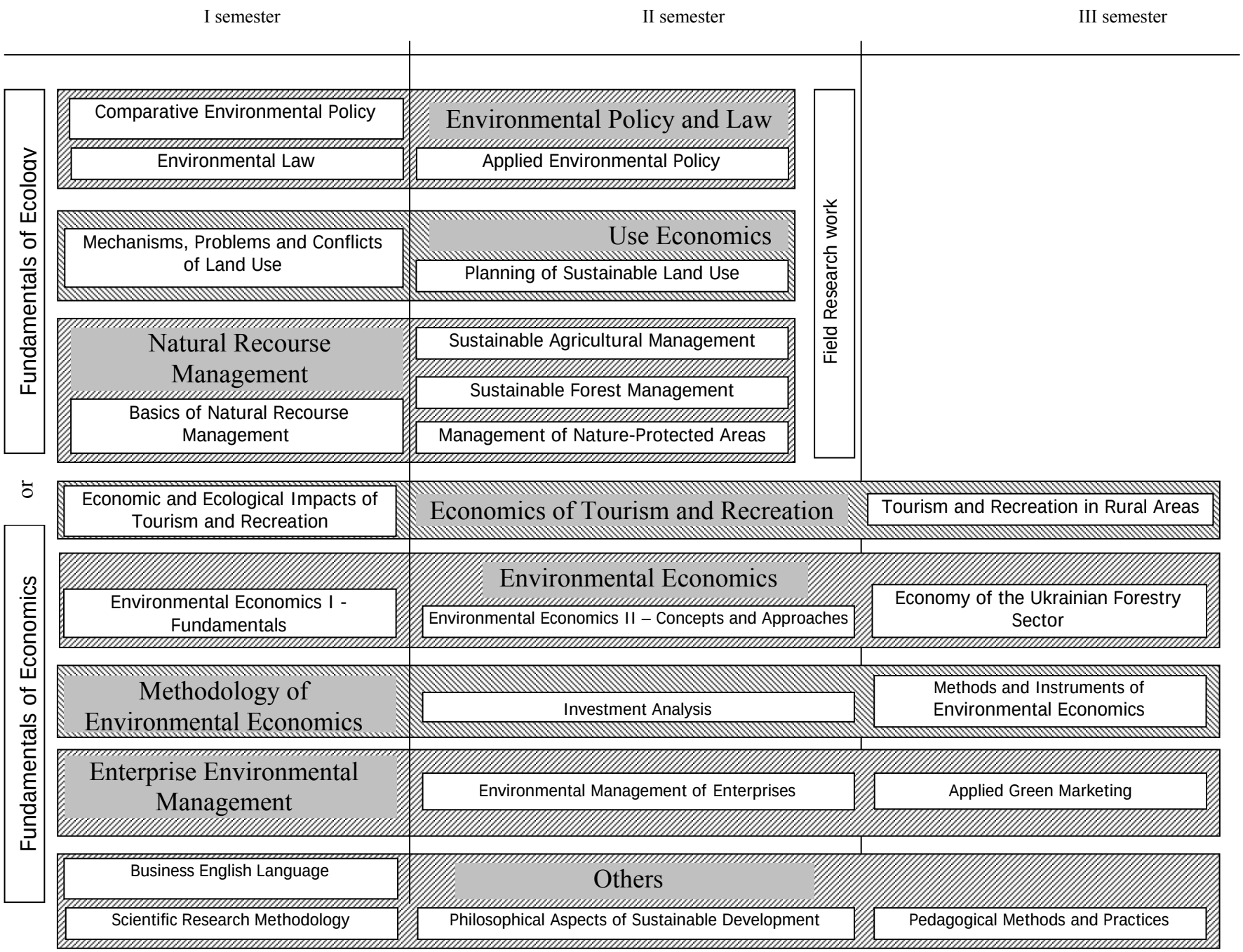


**Figure 1:** General Organisation Of The Enareco Course



# The SILVA Network

## THE GOALS

- *Stimulating and facilitating educational co-operation in Europe*
- *Cooperation in curricula development and creation of joint courses, future trends and needs in curricula development*
- *Developing and assuring the quality of forestry education in Europe*
- *Enhancing capacity building in other continents by network development and partnership*
- *Promoting and facilitating educational cooperation and student and staff exchange between Europe and other continents*
- *Developing new teaching methods including the use of ICT*

## PROJECTS AND ACTIVITIES

- **Master of Science in European Forestry,** joint European master programme
  - Was launched in January 2002
  - Austria, Finland, Germany, Spain, Sweden, The Netherlands
- **ASEFOREP, Asia Europe Forestry Exchange Programme**
  - Started 2000 and is mainly funded by ASEF (Asia Europe Foundation)
  - Europe: Austria, Finland, Germany, Italy, Spain, Sweden
  - Asia: Indonesia, Japan, Malaysia, PR China, Republic of Korea, Thailand, Vietnam
- **AFANET, EU SOCRATES Thematic Network for Agriculture, Forestry, Aquaculture and related Sciences**
  - 2000 – 2004 SILVA Network coordinates the Forestry workpackage
  - Aims to design and development virtual education
  - Austria, Finland, Germany, Poland, Spain, The Netherlands
  - New application "Quality Assurance in Forestry Education" for 2004-2007
- **EU – Canada Human Dimensions in 21st Century**
  - 1998 – 2001, new application for 2004-2007
- **IPFE International Partnership for Forestry Education**
  - SILVA is a member in IPFE since 2003
  - Started 2003, developing global network of networks
- **SILVA Net-Seminar**
  - The first seminar will be in May 2004 with the topic of "Is Bioenergy Changing World Wood markets?"
- **Forestry in Changing Societies in Europe,** joint teaching module
  - Study books and CD
  - Under updating
- **Annual Conferences**
  - e.g. 2002 in Warsaw, Poland "*Virtual European Forestry Faculty – Information and Communication Technology in Education*"
    2003 in Beauvais, France "*ICT in Higher Forestry Education*"
    2004 in Freising, Germany "*Quality and Competence in Higher Forestrest Education*"
- **SILVA Publications and News**
  - SILVA Publications for proceedings, study books and other reports
    - Latest publication "ICT in Higher Forestry Education in Europe"
  - SILVA News for communication and information
    - Latest SILVA News 2004 is a joint newsletter with IFSA News (International Forestry Students Association)

## MEMBERS of the SILVA Network:

| | | |
|---|---|---|
| **Austria:** | Agricultural University Vienna (BOKU) | |
| **Belarus**: | Belorussian State Technological University | |
| **Belgium**: | Catholic University Leuven (K.U. Leuven) | Gembloux Agricultural University |
| | Université Catholique Louvain (UCL) | University of Gent |
| **Bosnia-Hertsegovina**: | University of Sarajevo | |
| **Croatia**: | University of Zagreb | |
| **Czech Republic**: | Czech University of Agriculture Prague | |
| **Denmark:** | Royal Veterinary and Agricultural University | |
| **Finland**: | University of Helsinki | University of Joensuu |
| **France:** | The French Institute of Forestry, Agricultural and Environmental Sciences (ENGREF) | |
| **Germany**: | Albert-Ludwig University Freiburg | Technical University Dresden |
| | Technical University Munich | University of Göttingen |
| **Greece**: | Aristotelian University Thessaloniki | |
| **Ireland:** | University College Dublin (U.C.D.) | |
| **Italy:** | University of Firenze | University of Padova |
| **Lithuania**: | Lithuanian University of Agriculture | |
| **Norway**: | Agricultural University of Norway | |
| **Poland:** | Agricultural University of Warsaw | |
| **Portugal:** | Technical University of Lisbon | |
| **Romania**: | Stefan cel Mare University of Suceava | |
| **Russia**: | Forest Institute of Saint-Petersburg State Forest Technical Academy | Moscow State University |
| | Mari State Technical University | Petrozavodsk State University |
| | Saint-Petersburg State Forest Technical Academy | |
| **Spain**: | Polytechnic University of Madrid | Polytechnic University of Valencia |
| | University of Gordoba | University of Lleida |
| | University of Valladolid | |
| **Sweden**: | Swedish University of Agricultural Sciences | |
| **Switzerland**: | Federal Institute of Technology, ETH Zürich | |
| **The Netherlands**: | Agricultural University Wageningen | |
| **Ukraine**: | Institute of Forestry and Landscape Architecture of National Agriculture University | Ukrainian State University of Forestry and Wood Technology |
| **United Kingdom**: | University of Aberdeen | University of Edinburgh |
| | University of Wales | |