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Postgraduate Education in Mountain Forestry: New Challenges for European Universities

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Zusammenfassung

Europäische Universitäten befinden sich derzeit in einem Reformprozess auf dem Weg zu einem gemeinsamen Europäischen Hochschulbildungsraum. Um einen langfristigen Erfolg und ausreichende Konkurrenzfähigkeit auf dem globalen Bildungsmarkt zu sichern, müssen neue Masters und PhD Programme sorgfältig geplant werden. Die Universität für Bodenkultur (BOKU) hat ein internationales Mastersprogramm in Bergwaldbewirtschaftung als Beitrag zum Internationalen Jahr der Berge initiiert. Die Etablierung eines internationalen Programms über nachhaltige Bewirtschaftung von Bergwäldern war eine große Herausforderung. Insbesondere der multikulturelle Charakter des Programms und der globale Anspruch verlangen nach einem ausreichendem Maß an Toleranz und der Bereitschaft ganzheitliche und multidisziplinäre Ansätze zu integrieren. Die verschiedenen Gebirgsökosysteme und Bewirtschaftungssysteme müssen verglichen und diskutiert werden. Verstärkte Kooperationen zwischen Europäischen Universitäten sollten die vorhandene Expertise im Bereich Management natürlicher Ressourcen in Berggebieten für eine breitere Gruppe internationaler StudentInnen zugänglich machen – eine gemeinsame Strategie für den Bildungs- und Forschungssektor zu finden, ist eine große Herausforderung und könnte ein wertvoller Beitrag zum Internationalen Jahr der Berge 2002 sein.

Summary

European universities are currently undergoing a reform process on the way towards a common higher education area. The establishment and assessment of new Master's and PhD programmes has to be carefully implemented to guarantee a long-term success and sufficient competitiveness on the global education market. The University of Agricultural Sciences, Vienna (BOKU) has established a Master's programme in Mountain Forestry as a contribution to the International Year of Mountains 2002. To offer an international degree programme in such a complex field as the sustainable management of mountain forests is a huge challenge. For all actors involved it is important to learn to accept different views and approaches, and to

adapt a holistic and integrated view instead of a mono-disciplinary way of thinking. Different mountain ecosystems and management strategies as well as different types of technologies have to be compared and discussed. European universities and research institutions dispose of a vast pool of knowledge and experience in the field of management of natural resources and sustainable development in mountain areas and should therefore work together on a common strategy on both the educational and the research sector for the time after IYM 2002.

POSTGRADUATE EDUCATION¹ AT EUROPEAN UNIVERSITIES - „TOWARDS A HIGHER EDUCATION AREA“:

Since several years serious efforts have been undertaken in Europe to establish a common system in higher education, in particular with the support of the upcoming European Research Area. The course has been set in the right direction by the so called “Bologna Process” (1999), but to achieve greater compatibility and comparability of the systems of higher education there has to be a continued effort. The Bologna Process is meant to result mainly in the introduction of the two-tier system (Undergraduate-Postgraduate) according to the Anglo-American system, and the internationalisation and standardisation of European Higher Education systems. At a conference on “Postgraduate Education in Europe – Past, Present and Future” in Sweden (Swedish National Agency for Higher Education, 2001) the following were named as the most common problems in European Postgraduate Education:

- Training of supervisors: There is a high pressure to improve the performance of research supervision and to provide supervisors with the appropriate skill for such a task; supervisors are encouraged to see their role as more broadly based than simply instructing in the specific area of research.
- Lack of student mobility: The majority of students stays at the same university from undergraduate to postgraduate level in spite of considerable efforts to increase mobility through various modes of funding.
- Funding constraints: In spite of an increase in funding, there are still constraints for both universities and students (particularly doctoral students).
- Many universities face enormous internal problems while attempting to reform university structures.

¹ The author refers to Master's programmes (Master of Science, MAS, etc.), PhD or Doctoral programmes and educational activities aiming at Life Long Learning (short diploma, summer academy, etc.).

- Lack of cooperation: In particular with regard to private companies cooperation has to be increased. Insufficient regard is paid to vocational aspects in postgraduate studies and the adjustment to the labour market.
- Demographic forecasts show that within the next 10 to 15 years there will be a lack of postgraduate students at European universities: Internationalisation is therefore not a choice but a matter of survival for many universities.

The UK, unlike most other European countries, have a long experience with the two-tier system. Still there have been considerable changes during the last years according to Green, H. (2001): The Harris Report (1996), a review of postgraduate education in the UK, marked a watershed in postgraduate development in the UK. Up to this point, there had been a largely unplanned growth in postgraduate students attending a proliferation of programmes of study, all of which led to a considerable level of confusion in the system (particularly from a sponsor and student perspective). The past 10 years have seen significant changes in higher education in the UK. The growing number of undergraduate students has led to a move towards a mass higher education system. The changes were characterised by the growth in student numbers and the changes in the ratio full time/part time students (the latter particularly increased in postgraduate studies). The number of postgraduate students has changed from 13 % in 1979 to 21 % in 1994/95, in the period from 1982/83 – 1992/93 the postgraduate grew by 125 %, compared with 70 % for undergraduate. Additionally an increasing equalisation of the gender balance became noticeable and a significant growth in the number of overseas students.

DEVELOPMENTS IN POSTGRADUATE EDUCATION IN AUSTRIA: Case study International Masters Programme Mountain Forestry

The University of Agricultural Sciences, Vienna (BOKU) has established a Master's programme in Mountain Forestry in 2002. BOKU has a long tradition in forestry education and research in mountainous areas, both in the Alpine region and internationally. The importance of higher education and research in mountain forestry is obvious and well established, and has been emphasised by the global efforts in mountain science and research during the last decades. Although there is a common consent about the existence of the human capacity in mountain forestry, higher education systems failed to meet the demand for postgraduate education in mountain forestry so far.

The draft proposal for the currently offered "Master of Science in Mountain Forestry" was presented to a group of international experts during a workshop in Vienna in 2001. The result

of the preparatory phase was an international curriculum that emphasises interdisciplinary work learning by doing, intercultural communication and teamwork, participatory thinking and bottom-up approaches. Graduates in Mountain Forestry are expected to be able to recognise and solve problems occurring in mountain forest management, taking specific ecological, ethical, technical, social, economical and political conditions of mountain systems into consideration. The programme therefore emphasises the following aspects:

- Specific ecological situation of mountain forests
- Pressing forest and land use problems in mountain areas
- Management and restoration of mountain forests in a sustainable way
- Technical challenges in mountain forestry
- Socio-economic situation of mountain communities in different parts of the world

The main objective of the programme is to teach the students to recognise and manage specific technical or ecological problems in a sustainable way, while taking local people's needs and requirements into account.

WHY IS POSTGRADUATE EDUCATION IMPORTANT FOR THE DEVELOPMENT PROCESS ?

The UNESCO World Science Report in 1998 revealed a tremendous difference between the ratio of scientists per inhabitants in the North and the South (see Fig. 1). The need to improve higher education and vocational training for researchers and practitioners in developing countries is well documented, nevertheless the situation is improving at a very slow pace. In the field of natural resources management improved education and information systems empower resource users, particularly in otherwise remote and disadvantaged mountain societies. Improved qualification of field officers and foresters facilitates improved extension services and leads to changes in the development process. The implementation of social and community forestry is more likely to be fostered, as well as the access to diverse sources of income through agro forestry and NTFPs. Food security becomes feasible through improved land management that combats land degradation and

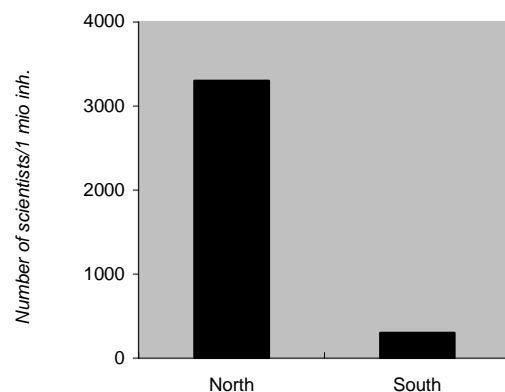


Fig. 1: The ratio scientists per one million inhabitants according to the UNESCO World Science Report 1998.

fights increased poverty caused by an imbalance between rapid population growth and land availability.

WHAT ARE THE BENEFITS FOR (MOUNTAIN) SOCIETIES ?

EXPECTED RESULTS OF IMPROVED HIGHER EDUCATION IN MOUNTAIN FORESTRY

LOCAL LEVEL OUTPUT:

- ⇒ Empowerment of mountain communities through:
 - Inclusion in the decision processes
 - Capacity building at a local level
 - Institution strengthening
- ⇒ Identification of local expertise and traditional knowledge resources
- ⇒ Building up of local community structures
- ⇒ Increased attention to local needs and knowledge while applying advanced technical knowledge in a sustainable way if deemed appropriate by resource users

REGIONAL LEVEL OUTPUT:

- ⇒ Networking of institutions involved in mountain development and resource management
- ⇒ Improved extension services
- ⇒ Knowledge exchange between regional authorities, researchers and resource users
- ⇒ Sustainable use of resources (timber, fuel wood, NTFPs, water, energy...)
- ⇒ More reasonable acting of professionals in mountain development and resource management with regard to the specialities of mountain communities and ecosystems

NATIONAL LEVEL OUTPUT:

- ⇒ National forest management strategy geared towards sustainability and participation
- ⇒ Education makes mountain forests an attractive and appreciated value, for recreation, conservation, and national pride: Increased awareness of the value of the natural environment as well as the economic values of sustainable land use
- ⇒ Maintenance and further development of democratic and cultural values, economic growth and political awareness
- ⇒ Strengthening of research and education structures – capacity building at academic institutions/ universities, research organisations, NGOs and the public sector

INTERNATIONAL LEVEL OUTPUT:

- ⇒ International network of mountain foresters
- ⇒ Expertise in mountain forestry familiar with interdisciplinary team-working and mutual learning
- ⇒ International knowledge sharing among researchers and resource users
- ⇒ Bundling of knowledge resources in mountain forestry
- ⇒ Increase in research activities in mountain forestry
- ⇒ Better understanding of working processes in different countries, acceptance of other economic concepts/ thinking
- ⇒ Increased awareness of cultural values, rich traditional knowledge of mountain societies
- ⇒ Significant contribution to sustainable mountain development (global effects) in the developed and the developing countries

Box 1: The benefits of improved higher education in mountain forestry on different levels according to Habermann, B. (2001).

EVALUATION OF THE PILOTE PHASE OF THE MSC I MOUNTAIN FORESTRY

Interested students are likely to come from international organisations and regional NGOs, governmental departments, research organisations/universities in mountainous regions/ countries, that do not offer adequate academic training programmes in mountain forestry:

During the period from August 2001 to August 2002 255 students from more than 50 countries world-wide have requested information about the MSc Mountain Forestry at BOKU. With regard to their countries of origin more than 43 % were from South Asia, about 27 % from Africa, and 10 % from EEA countries and North America. The countries with the highest rates of requests were Nepal and Ethiopia. This is due to existing co operations and the particular high demand for higher education in mountain forestry in these two countries.

Six months after the start of the first year many useful lessons have been learnt through continuous evaluation of the programme. The students have been offered to discuss the status of the programme with the study co-ordinator every two months. This discussion process helped the students to shape the programme according to their own needs and requirements. The teachers were equally encouraged to forward their own comments and observations to the co-ordination office. This open discussion process has helped both students and teaching staff to get accustomed to this new situation. Most of our students are experienced professionals from government service, NGOs or similar organisations in developing countries. This enables them to contribute to the programme with their own background and experiences, thus enriching the level of knowledge exchange substantially. Different mountain ecosystems and management strategies as well as different types of technologies have to be compared and discussed. Direct contact with local forest owners, farmers as well as forest companies is an essential part of the programme.

The importance of vocational courses and the increasing numbers of mature students coming to postgraduate work demand new forms of delivery (distance or e-learning, more work based, team working, interactive teaching modules,...). This means a different client group with different requirements – e.g. institutional facilities will have to be open at weekends and holidays as well. Infrastructure needs to be improved - for an international postgraduate programme it is obligatory to have computer rooms in English language, to offer sufficient English literature in the library, to advise on matters such as health insurance, visa and housing matters, and to offer language classes.

To guarantee access to education facilities for both European and international students the funding situation has to be improved: Agreements with national and international funding organisations for scholarships have to be arranged. This requires more emphasis on quality assessment, benchmarking and professional training of teachers and supervisors, who have to be provided with the appropriate skill for research supervision. The latter includes additional

requirements such as international experience, language skills and understanding of different cultures and scientific approaches in natural resources management.

CONCLUSIONS

Research strategies and scientific development have to address the needs of the users. Foresters, researchers and scientists working in mountainous environments need a very thorough inter- and trans disciplinary background to ensure both conservation and sustainable use of mountain resources and to understand the complexity and needs of mountain societies.

High quality communication systems and increased access to distance learning methodology enables the development of shared degree programmes at different universities. The increased mobility within the European Union, but also world wide, should enhance special training courses at all academic levels for European and non-European professionals in mountain forestry. Equally important is adequate training specifically for managers and decision makers involved in sustainable mountain development.

To work on a common strategy in both the educational and the research sector is an important challenge for all actors involved for the time after IYM2002. A postgraduate programme taking all these factors into account will hopefully provide graduates in mountain forestry with the adequate background to come up with these high expectations and challenges. A professional mountain forester is expected to directly implement his/her knowledge and competencies, and to transfer the acquired knowledge to others at academic institutions and in other working environments for the benefit of mountain communities and ecosystems.

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For information about the Bologna Process (1999) compare
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