

**ELLS Meeting - SWGA, Warsaw
25- 27 October 2006**

**Subject area: Environmental Science
Progress 2006 and Activity Plan 2007**

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Steering Group

Prof. **Andreas Fangmeir**, UHOH

Assoc. Prof., Docent **Jan Lagerlöf**, SLU

Prof. **Willibald Loiskandl**, BOKU

Prof. **Andre van Amstel**, WU

Prof. **Karel Stastny**, CUA

Prof. **Stefan Ignar**, SGGW

Prof. **Hans Chr. Bruun Hansen**, KVL

Assoc. Prof. **Bjarne W. Strobel**, KVL



Progress 2006

- **Steering Group.** Three meetings of the steering group: KVL – March; Grimsö (Sweden) – August; SGGW – October; CUA – Nov./Dec? (1 day meetings)
- **3-week Intensive Summer School (EFEES)**
 - EFEES 2006 in Sweden; organised by SLU; 35 students.
 - EFEES 2007 in Austria; BOKU is organising.
 - Soil-Microbe-Plant interactions; BOKU (3rd year)
- **European Master in Environmental Science (ENVEURO)**
 - Final formulation of program and submission
- **e-Textbook project**
 - Project reformulated due to difficulties with original concept.

History

- **2001, Nov.:** Wageningen - Kick-off meeting for ELLS
- **2002:** Crisis! Difficult to identify objectives, structure and representatives
- **2003, Febr.:** Meeting at KVL – Kick-off for Env. Sci.
 - Decided to list all EnvSci courses at partner universities
 - Decided to develop **EFEES = European Field Excursions in Environmental Science**
- **2004.** First EFEES in DK (KVL funds). Erasmus IP funding for next summerschools. QA/Evaluation. Listing of Env. Sci. courses on ELLS homepage. Decided to develop a proposal for European MSc in Env. Sci. Textbook project.
- **2005.** EFEES in Schwarzwald (UHOH, Erasmus IP). Discussions on MSc becomes focused, but forth and back...

History (cont'd)

- **2006.** EFEEES in Sweden (SLU). Final agreement on content and formulation of MSc program (ENVEURO).



ENVEURO in brief

Soil, Water and Biodiversity: the European Approach

Vision

International MSc in Environmental Science providing candidates who acquires in-depth insight in environmental effects of natural resource use and the EU legislative/regulative frames, and who based on this knowledge are able to use and develop analytical and management tools, and environmental technologies for improving sustainable production systems.

European context: History, legislative/regulative/monitoring system, at the frontier in Env. Sci., job market

Water key role: Integrates effects from agriculture, industries, households

Complementarity: Use the best offered by the partner universities

Context: Program which starts by understanding the requirements/restrictions set by policy, legislation and economy and works toward solutions rooted in natural science.

ENVEURO components

Extent: 120 ects

Semester packages: Basic Semester package (BSP), two advanced semester packages (ASPs) and a thesis. Semester package: Consists of compulsory and elective courses/activities. Based on existing courses. The students selects her/his profile through the composition of ASPs.

Specialisation: Five specialisations possible. A student can have only one specialisation and is defined by thesis topic and at least one ASP within the same field.

Thesis: Main- and co-supervisor. 30 ects, option for 45 ects.

Internationalisation: students should stay for at least one semester outside the home university; the typical student is expected to spend one year at one university and one year at one/two of the other universities.

E-learning: Introduced from the start to get students used to the opportunities and to enable students scattered around to work together efficiently.

ENVEURO MSc time line

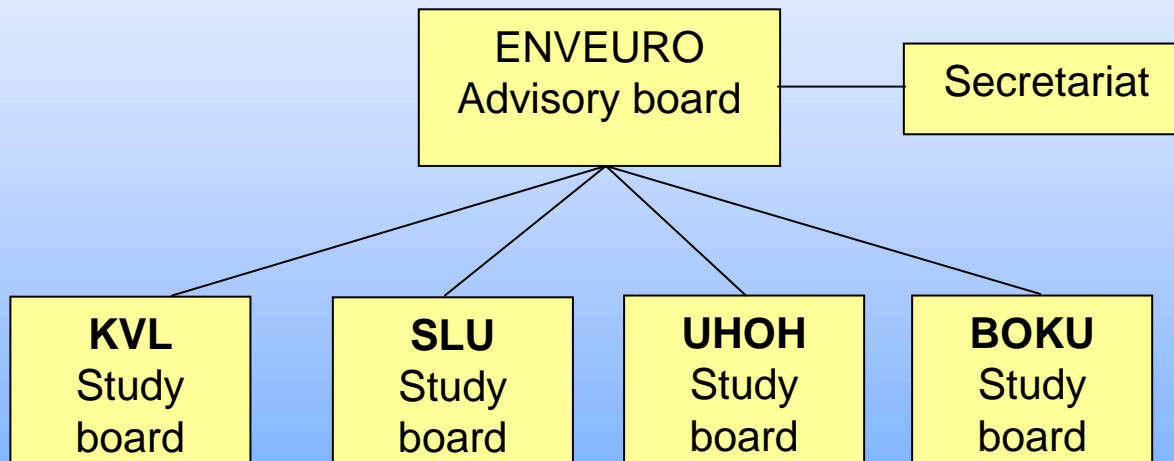
University 1	1 st semester BSP	Environmental Management in Europe (EME). Intro-week in August + e-learning during semester, 15 ects	
		Compulsory or elective courses, 15 ects	
	2 nd semester 1st ASP	Compulsory courses, 15 ects	
		Elective courses, 15 ects	
University 2	3 rd semester 2nd ASP	Summer course, 6 ects	Compulsory courses, 9 ects
		Elective courses, 15 ects	
Univ. 1 or 2	4 th semester Thesis	Thesis, 30 ects	

Specialisations

Specialisations	BOKU	UHOH	KVL	SLU
Water Resources	X			X
Environmental Impacts		X	X	
Soil Resources and Land use	X	X	X	X
Ecosystems and Biodiversity	X			X
Environmental Management		X	X	

Each university has three fields of specialisation, requiring that the university offer ASPs within each of these.

Organisation



Each of the university study/program boards have at least one representative in the advisory board (to ensure institutional anchoring of the program)

Head of the advisory board: A person committed to take care of the program and day-to-day management in cooperation with the secretariat.

Challenges

There are many! But let us be pragmatic at a start.

- **Semester structures:** They are different at all universities with overlap between semester/teaching blocks.
- **Diploma:** Joint, double, supplement... Who should issue the diploma?
- **Examination and grading** systems
- **Admission.** Who decides whom to let in – common criteria
- **Approval of the program/ accreditation** (QA group working on that)
- **Registration of students** (home university and host university) and transfer of study credits
- **Fee structure/policy.** Competition factor between universities.
- **Financial matters** (field courses, travelling, course development, management, etc). Who pays for what?
- **Housing**

- **Meetings of steer-group:** CUA spring; BOKU summer (associated with the summer course); KVL (CU) autumn
- **ELLS Field Excursion in Environmental Science (EFEES)**
Integrated Watershed Management, July - August 2007 (3rd year). Erasmus IP. BOKU responsible. Forchtenstein "Lehrforst"
New IP program has to be submitted by March 2007
- **Workshop in Natural Disaster Prevention (CUA)**
- **MSc in Environmental Science (ENVEURO)**
 - Program approval by partners; consortium agreement
 - Setup of homepage and other info (flyer, info trips, video)
 - Organisational structure; advisory board; admission (Jan 2007)
 - Finish formulation of semester packages
 - Development of "Env. Managem. Eur. (EM)" (15 ects) and e-learning tools
 - Planning of the intro week (part of EME)
- **Application of Erasmus Mundus program**
ENVEURO → EM program; application deadline during April 2007
- **Textbook**
Collect material from EFEES and ENVEURO to make text book/collection of cases.



Conclusions

- **Organisation:** The steering group meets regularly, all involved are working and enthusiastic. Now with participation of CUA and SGGW. Nice to have one steer group meeting together with the summerschool.
- **Summer schools:** Three EFEEES summerschools which have been succesful; evaluations were positive but efforts to run the courses were quite high. Experiences are summed up each year. Nice to have the course at different locations in Europe.
- **MSc program:** MSc program (ENVEURO) formulated and proposals submitted to BOKU, UHOH, SLU and KVL. Plans for startup Aug./Sept. 2007.
- **Textbook:** More difficult than thought due to i) copyrights and ii) no time/resources among the teachers to prepare material in a homogenous format.
- **Funding:** Application for Erasmus IP; funding received, now for the 3rd year. Funding from ELLS incentives fund (ENVEURO program).

ELLS summer course



Subtitles and locations

EFEES 2004 in Denmark

Intensively cultivated landscapes and the environment

EFEES 2005 in Germany

Ecological aspects, and environmental problems and management related to land use systems at different altitudes in the Black Forest region

EFEES 2006 in Sweden

Conservation and management of biodiversity in landscapes with agriculture and forestry

EFEES 2007 in Austria

Integrated watershed management

The 3-week course structure

e-learning prepare cases in international groups	field excursion morning lectures	field excursion morning lectures
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Pre-course videoconference approx. 1st June for first contact and introduction

Videoconference day one in the course introducing the one-week study in home country

Assessment of 4 assignments and individual marking

European Field Excursion in Environmental Science (EFEEES)



Field course objectives

- to get insight into different European ecosystems
- to understand tools for collecting, analysing, modelling and interpreting environmental and ecosystem data
- to solve problems in international groups



Why a field excursion?

Learning by seeing
/ application of theory in practise

European environmental issues and solutions
– often based in the same EU legislation but with different national priorities

Students getting a larger home range of cases

- Erosion, flooding, draught, eutrofication, mining, biodiversity in more ecosystems and climate zones, etc.



River Rhine 1828

Topographical map dated 1828. Detail of the so-called "Rhein-grünzkarie" (Rhine Border Map). In the area of the so-called

"alluviation zone" – prior to its correction by Tulla – the Rhine represented a wild river running its course by forming nu-

merous loops and arms around many islands and gravel banks, while constantly changing its course.



1872

Topographical map dated 1872. Subsequent to the correction by Tulla, the numerous river arms were walled to form a contained

river bed which was 200m wide and able to transport about twice as much middle water as before. In the event of larger flows,

the river broke its banks and flooded the alluvial woodlands up to the inland flood dikes.



1963

Topographical map dated 1963. The systematic development of the Upper Rhine was carried out by constructing the Rhine side channel up to Breisach and continuing with the so-called "loop

solution" from there onwards. For the Marchbolsheim barrage depicted in this illustration, a weir was constructed, with the dike walls containing the water being moved directly next to the

river bed in order to be able to discharge water into the canal loop near Burkheim. As a result, the Rhine Woods between Breisach and Burkheim are no longer affected by any floods.

Added values in joint courses

International groups of students solving problems together

Cultural differences in a mixture of traditions and skills

Improve powers of observation in the nature

Larger home-range for known (seen) environmental issues

The society phrame for the application of the scientific knowledge

Different implementation of EU legislation, e.g. Water Framework Directive (one directive for all EU countries)

European Field Excursion in Environmental Science (EFEEES)

ELLS summer course organised by 6 univers

Bjarne W. Strobel (Denmark)

Andreas Fangmeir (Germany)

Jan Lagerlöf (Sweden)

Willibald Loiskandl (Austria)

Andre van Amstel (Netherlands)

Hans Christian Bruun Hansen (Denmark)



Financed by

EU funding (accommodation, food, travelling, bus) (70%)

Member universities (staff expenses)

Student costs: accommodation fee (50 euro) + travelling to venue

