Univerza *v Ljubljani*

Utrecht **Network**

INTERNATIONAL SUMMER SCHOOL

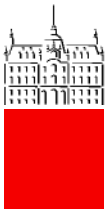
ENVIRONMENTAL AND RESOURCE MANAGEMENT

Ljubljana July 8th to July 22th, 2007

www.uni-lj.si

www.utrecht-network.org

Univerza *v Ljubljani*



Dear Student,

We invite you to the Utrecht Network International Summer School on

Environmental and Resource Management

which will be held in Ljubljana from July 8th to July 22th, 2007.

This summer school is a joint initiative of member universities of the Utrecht Network. It brings together students and academic staff from partner institutions in the beautiful city of Ljubljana to study and discuss environmental issues in an interactive and intensive way.

The academic staff come from all over Europe, making the summer school a truly international and multidisciplinary experience.

The aim is to invite 50 well-motivated, advanced undergraduate or postgraduate students with at least two years of academic experience from member, associated universities and partners, regardless of their fields of study to experience this new and, hopefully, rewarding opportunity.

Enclosed you will find information on the Republic of Slovenia and its capital city of Ljubljana, information on the University of Ljubljana, and the Utrecht Network and its summer school together with practical details about your stay.

If you have any additional questions do not hesitate to contact the international relations office of your university. We expect you to turn in your application to the international relations office of your university by April 16th, 2007.

The Utrecht Network Task Force for Summer Schools

All universities involved are encouraged to grant their students academic recognition for their participation in this intensive seminar.
The total workload is measured at 5 or 7 ECTS credits. This includes attendance at all lectures and seminars, presentation and successful completion of the final essay.

UNIVERZA V LJUBLJANI / UNIVERSITY OF LJUBLJANA

Utrecht Network International Summer School Environmental and Resource Management Ljubljana, Summer School: July 8th July 22th 2007

Academic Committee: F. Lobnik, J. Barry, G. Steiner, A. Aragão, H. Wiggering, M. Kibblewhite

Utrecht Network Task Force Summer School:
P. De Clopper, A. Higgins, G. Galloni, S. Poller, K. Cerjak
Head of School: F. Lobnik
Organization: F. Lobnik, K. Cerjak
Wording: F. Lobnik, K. Cerjak

Opening lecture: F. Evers, Chair, European Environmental and Sustainable Development Councils

Invited lecturers:
A. Aragão, University of Coimbra (Portugal)
B. J. Barry, Queen's University Belfast (Northern Ireland)
L. Bruzzi, University of Bologna (Italy)
B. Gunnarson, University of Akureyri (Iceland)
M. Kibblewhite, Cranfield University (UK)
F. Lobnik, University of Ljubljana (Slovenia)
I. Marušič, University of Ljubljana (Slovenia)
J. Mencinger, University of Ljubljana (Slovenia)
P. Novak, University of Ljubljana, (Slovenia)
D. Osborn, Sustainable Development Commission (UK)
J. Rakovec, University of Ljubljana (Slovenia)
G. Steiner, Karl-Franzens-University of Graz (Austria)
H. Wiggering, ZALF (Germany)
M. Brilly, University of Ljubljana (Slovenia)

Fieldtrips:
M. Pintar, University of Ljubljana, (Slovenia), 1. field trip
M. Zupan, University of Ljubljana (Slovenia), 2. field trip

Illustrations and Pictures: Archives
of The Council for Environmental Protection
of the Republic of Slovenia, http:/www.gov.si/svo

Graphics and printing:
Editor: Franc Lobnik

CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

UTRECHT Network International Summer School (2007 ; Ljubljana)
Environmental and resource management / [Utrecht Network]
International Summer School, Ljubljana, July 8th - July 22th, 2007;
[editor Franc Lobnik ; illustrations and pictures Archive of the
Council for Environmental Protection of the Republic of Slovenia]. -
Ljubljana : University, 2007

ISBN
1. Gl. stv. nasl. 2. Lobnik, Franc, 1942-
224613632

Univerza v Ljubljani

Utrecht Network

INTERNATIONAL SUMMER SCHOOL

ENVIRONMENTAL AND RESOURCE MANAGEMENT

Ljubljana, July 8th - July 22th, 2007

Students from Utrecht Network and associated members
can apply before 16 April , 2007
at the International Office of their university:

Lecturers from 8 different countries will hold courses amounting to
a workload of 5 to 7 ECTS credits.

The fee of 500 € includes tuition, study materials, organised excursions
and accommodation in double rooms with breakfast and lunches.

Some universities offer scholarships to cover part of the fee.
Please inquire at your International Office!

www.uni-lj .si http://www.let-group.com www.utrecht-network.org

UTRECHT NETWORK INTERNATIONAL SUMMER SCHOOL

ENVIRONMENT AND RESOURCE MANAGEMENT

University of Ljubljana, 8th July - 22th July, 2007

Introduction to the International Summer School:

- *We constantly interact with the environment.*
- *It influences us and we modify it in everything we do.*
- *We respond to the environment and to our perceptions of it.*
- *If it stimulates us in ways we do not like, we take action.*
- *We can manipulate the environment with human activities. When we do so, we may have a long-term impact on the environment.*
- *What can we do to promote harmony between our thoughts, actions and the environment we construct?*
- *Sometimes our relationships with the environment have strong biological, geological, chemical, physical roots. Over time, these may be captured in experience, tradition and culture.*

The objectives are to present scientific knowledge about Environmental and Resource Management, explain the vulnerability of the environment to different sources of degradation, and explore solutions to environmental problems that involve all relevant stakeholders and employ sustainable technology. Then we will debate the essential question of how best to transfer knowledge and recommendations to policy makers, regulators, local authorities and business.

University of Ljubljana (Rectorate)

UTRECHT NETWORK

Aarhus (Denemark)	Krakow (Poland)
Antwerp (Belgium)	Leipzig (Germany)
Basel (Switzerland)	Lille I USTL (France)
Belfast Queen's University (N. Ireland)	Ljubljana (Slovenia)
Bergen (Norway)	Lund (Sweden)
Bochum (Germany)	Madrid - University Complutense (Spain)
Bologna (Italy)	Malta (Malta)
Brno (Czech Republic)	Reykjavik (Iceland)
Budapest - Eötvös Lorand (Hungary)	Strasbourg I, II and III (France)
Coimbra (Portugal)	Thessaloniki (Greece)
Cork (Ireland)	Utrecht university & arts school (Netherlands)
Helsinki (Finland)	Vilnius (Lithuania)
Hull (England)	Graz (Austria)
Riga (Latvia)	Bratislava (Check Republic)

MAUI: Mid American Universities International

Baylor University	University of Nebraska at Kearney
Iowa State University	University of Nebraska at Lincoln
Kansas State University	University of Nebraska at Omaha
University of Kansas	University of Oklahoma
University of Missouri-Columbia	Oklahoma State University
University of Missouri-Kansas City	South. Illinois University Carbondale
University of Missouri-Rolla	University of Texas at Austin
University of Missouri-St.Louis	Texas Tech University

AEN: Australian European Network

Edith Cowan University	University of Tasmania
Deakin University	University of Western Sydney
Griffith University	University of Wollongong
Macquarie University	

PARTNERS

Cranfield University (UK)	Centre for Agricultural Landscape Research ZALF (Germany)

Council for Environmental Protection of the Republic of Slovenia

The Utrecht network is a group of 27 universities from almost every European country co-operating in the area of internationalisation in the broadest sense of the word. It belongs to the 5 large institutional networks operating on the European continent. The members of the group are prominent and comprehensive Higher Education Institutions which assume a cultural responsibility alongside their educational and research tasks.
The international activities of the Utrecht Network cover the entire range of internationalisation of higher education. The network has been very successful in the development of student mobility among its partners but assumes some responsibilities for the management of international projects as well.
The Utrecht Network is associated to the Mid-America Universities International (MAUI) a consortium of 16 institutions in the Midwest region of the United States and the Australian European Network (AEN), a consortium of 7 Australian universities. http://www.utrecht-network.org . Environment and Resource Management Summer School in Ljubljana has also three partners. Cranfield University (UK), Centre for Agricultural Landscape Research ZALF (Germany), and Council for Environmental Protection of the Republic of Slovenia.

GENERAL INFORMATION

Target group

About 50 students from the Utrecht Network partners (European and associated members from overseas) will be selected to participate in the summer school. The target group will consist of advanced undergraduates and postgraduates, irrespective of their academic background, though some affinity with the subject is recommended.
Major selection criteria will include maturity skills, and a clear indication as to the motivation and expectations the programme will bring and the impact on your further study.

Working language and language proficiency

The working language of the Summer school is English. In order to assure active participation of all students, a good command of English in all its aspects (spoken, written and comprehension) is a prerequisite.

Fees

This summer school is a joint initiative of Utrecht Network members and made possible, thanks to the financial input of the Utrecht Network, the University of Ljubljana, the EU in the framework of the Erasmus programme together with participating universities as well.
The contribution fee of 500 € covers tuition, study materials, organized field trips and accommodation in double rooms with breakfast and lunch.

Application procedure

Please complete the application form (available on www.utrecht-network.org) and send it together with a short c.v. and a letter of motivation to the international relations office of your university before April 16th, 2007.

A confirmation letter and a full information pack-age will be addressed to all selected students in the second half of May. It will include practical information as well as reading material available at www.uni-lj.si, www.utrecht-network.org and http://www.let-group.com/ as an essential preparation for successful attendance of the programme.

We invite you to apply and look forward to be meeting you soon in Ljubljana!

Students are requested to contact the international relations office of their university in order to apply for a potential scholarship. Member universities are encouraged to contribute by making an extra small student grant available.

Programme

All the technical knowledge in the world does not necessarily lead societies to change environmentally damaging behaviour. Hence a critical understanding of socio-economic, political and cultural processes and structures has been acknowledged of central importance in approaching environmental problems. An increasing number of environmental courses is now being introduced at many universities.
The Credit system in Europe is allowing a much more intensive student exchange programme and Summer Schools are effective tools for getting students together from different cultural and social surroundings.

The UN Summer School Program will provide short topic - centred lectures on environmentally relevant areas. This will reflect the fact that students will approach their subject matter from a great variety of different disciplinary backgrounds; not just within social sciences and humanities, but from physical and natural sciences too. And for those students who may not be familiar with the background to some of the topics, they will be intensively co-opted in the workshop program, which will be guided by lecturers. To achieve the right mix of flexibility, depth and breadth, and volume, as with most modular courses, the program is designed carefully to create maxi mum accessibility from a variety of backgrounds.

Each lecture leads into its topics by giving an adequate introduction, and each leads out by pointing towards complexities and areas for further development and study. Data, case studies, overview diagrams, summary charts and self-check questions and exercise are some of the pedagogical devices that will be found. We hope that UN Summer School will provide sufficient depth to maintain the interest of students with relevant backgrounds because programs will cover public policies, human resource management, environmental conflicts, environmental law, landscape architecture and environment, air quality and global changes, water management, land use and soil pollution, agriculture, food and society indicators and sustainability, sustainable energy management, spatial analysis and the use of GIS in environmental management etc.

We have to acknowledge that sustainable development must fulfil economic, social and environmental objectives. Because the survival of the natural environment is crucial for economic and social development in the long run, they have focused on the environmental dimension of sustainability.

The aims of the summer school are:

- How to develop a comprehensive environment for a European programme addressing in particular trans boundary environmental problems
- To provide a sound basis for effective measures strategies and policies to address environmental problems nationally and regionally; and
- To inform the participants and raise awareness about our common responsibility for the environment.

2007 UTRECHT NETWORK INTERNATIONAL SUMMER SCHOOL

UL		**UNIVERSITY OF LJUBLJANA, Environmental and Resource Management 8th July – 22th July 2007, LJUBLJANA, Slovenija**
SI		http//:www.uni-lj .si katja.cerjak@uni-lj .si; intern.office@uni-lj .si franc.lobnik@bf.uni-lj .si
July 09 Monday	10:00 - 10:15	**WELCOME,** *A. Kocijančič,* **Rector of the University of Ljubljana**
	10:15 – 11:00	**Introduction into the school, how to organize workshops and tests for credits recognition** *F. Lobnik, K. Cerjak*
	11:00 – 12:30	**Europe's Environment – opening lecture** *F. Evers, European Environmental and Sustainable Development Councils (EEAC)*
	12:30 - 13:00	**Environmental Protection – Ljubljana University Post-graduate Study Programme** *President of Programme Council* *Prof. Dr. Mitja Brilly, University of Ljubljana*
	13:00	**Cold buffet**
	Workshop I.	**Environmental policy, governance and ethics**
July 10 Tuesday	**09:00 - 9:45**	**Environmental management: Tools for sustainability in theory and practice** *G. Steiner, Karl-Franzens-University of Graz (Austria)*
	9:45 – 10.45	*G. Steiner:* **Case studies for workshop**
	10:45 - 11:00	**Break**
	11:00 - 11:45	**Political and Ethical Theory and Sustainable development** *J. Barry, Queen's University Belfast (Northern Ireland)*
	11:45 – 12.45	*J. Barry:* **Case studies for workshop**
	12:45 - 14:00	**Lunch**
	14:00 - 14:45	**European environmental law** *A. Aragão, University of Coimbra (Portugal)*

	14:45 – 15:45	*A. Aragăo:* **Case studies for workshop**
	15:45 - 16:30	**Europe`s Environment** *D. Osborn, Sustainable Development Commission*
	16:30 – 17:30	*D. Osborn:* **Case studies for workshop**
	Workshop II.	**Quality life dependence to natural resources**
July 11 Wednesday	**09:00 - 9:45**	**Making tourism more sustainable** *L. Bruzzi, University of Bologna (Italy)*
	09:45 – 10:45	*L. Bruzzi:* **Case studies for workshop**
	10:45 - 11:00	**Break**
	11:00 - 11:45	**Air quality and global changes** *J. Rakovec, University of Ljubljana (Slovenia)*
	11:45 – 12:45	*J. Rakovec:* **Case studies for workshop**
	12:45 - 14:00	**Lunch**
	14:00 - 14:45	**Natural hazards, mitigation strategies and policies related to regional sustainable development** *B. Gunnarson, University of Akureyri (Iceland)*
	14:45 - 15:45	*B. Gunnarson:* **Case studies for workshop**
	15:45 - 16:30	**Energy for sustainable development** *P. Novak, University of Ljubljana, (Slovenia)*
	16:30 – 17:30	*P. Novak:* **Case studies for workshop**
July 12 Thursday	**09:00 - 10:45**	*I. (G. Steiner, J. Barry, A. Aragăo, J. Mencinger, F. Lobnik)* *II. (L. Bruzzi, J. Rakovec, B. Gunnarson, P. Novak, F. Lobnik)* **Instructions to participants of workshop I. and II.**
	10:45 - 11:00	**Break**
	11:00 - 12:45	*I. (G. Steiner, J. Barry, A. Aragăo, J. Mencinger, F. Lobnik)* *II. (L. Bruzzi, J. Rakovec, B. Gunnarson, P. Novak, F. Lobnik)* **Instructions to participants of workshop I. and II.**
	12:45 - 14:00	**Lunch**

	14:00 – 17:30	*I. (G. Steiner, J. Barry, A. Aragăo, J. Mencinger, F. Lobnik)* *II. (L. Bruzzi, J. Rakovec, B. Gunnarson, P. Novak, F. Lobnik)*
		Instructions to participants of workshop I. and II.
July 13 Friday	09:00 - 11:00	**workshop I.** *Chairman: G. Steiner*
	11:00 - 11:15	**Break**
	11:15 - 13:15	**workshop II.** *Chairman: L. Bruzzi*
	13:15 - 14:30	**Lunch**
	14:30 - 16:30	workshop I. and II. Discussion
July 14 Saturday	**08:00 – 22:00**	**Field trip to Goriška brda:** **Large landscape experiment** *M. Pintar*
July 15 Sunday		**BREAK**

Workshop III. Sustainable Land Use, Global Change and Resource Management

July 16 Monday	**09:00 - 09:45**	**Indicators for multifunctional land use linking economic and environmental aspects** *H. Wiggering, ZALF (Germany)*
	09:45 – 10:45	*H. Wiggering:* **Case studies for workshop**
	10:45 - 11:00	**Break**
	11:00 - 11:45	**The conflicting interests and decision making process** *J. Marušič, University of Ljubljana (Slovenia)*
	11:45 – 12:45	*I. Marušič:* **Case studies for workshop**
	12:45 - 14:00	**Lunch**
	14:00 - 14:45	**Land-based natural capital:** **policy, management and scientific challenges** *M. Kibblewhite, Cranfield University (UK)*
	14:45 – 15:45	*M. Kibblewhite:* **Case studies for workshop**
	15:45 - 16:30	**Can economic growth be limitless** *J. Mencinger, University of Ljubljana (Slovenia)*

	16:30 – 17:30	*J. Mencinger:* **Case studies for workshop**
July 17 Tuesday	09:00 - 10:45	*III.(H. Wiggering, I. Marušič, M. Kibblewhite, F. Lobnik)* **Instructions to participants of workshop III.**
	10:45 - 11:00	**Break**
	11:00 - 12:45*I.*	*(H. Wiggering, I. Marušič, M. Kibblewhite, F. Lobnik)* **Instructions to participants of workshop III.**
	12:45 - 14:00	**Lunch**
	14:00 – 17:30*I.*	*(H. Wiggering, I. Marušič, M. Kibblewhite, F. Lobnik)* **Instructions to participants of workshop III.**
July 18 Wednesday	**09:00 - 11:00**	**workshop III.** *Chairman: H. Wiggering*
	11:00 - 11:15	**Break**
	11:15 - 13:00	**workshop III.** *Chairman: H. Wiggering* **Discussion**
	13:00 - 14:30	**Lunch**
July 19 Thursday	**09:00 - 13:00**	**TEST**
	13:00 - 14:30	**Lunch**
	19:00 - 21:30	**Farewell supper and granting of certificates**
July 20 ,21		**2 days field trip : Velenje coal mine, Thermo electrical plant Šoštanj, Fly ash remediation, Mežica lead mine, Impact of lead mining on environment** *M. Zupan*
July 22		**Departure**

- *Each lecturer shall provide written material (cases studies) and books necessary for students workshops presentations;*
- *Conference room will have available equipment for overhead projector and computer presentation, (Power point presentation) ;*
- *Separate room with computers connected to the internet, copy machine and printer will be available ;*
- *All activities will be video recorded*

How school is organized:

http://www.let-group.com

Other useful informations:

Flights: *http://www.amadeus.net/home/index.htm*

Tourist Information: *http://www.matkurja.com/eng/resources/entertainment/tourist/*

Train: *http://www.slo-zeleznice.si/Anglesko/meni_sz.htm,*

Pages primary purposed for Slovenian scouts who travel a lot.
http://prevozi.skavt.net/index-eng.html,

Welcome to Slovenia: *http://www.slovenia-tourism.si/*

Ljubljana Turist Information : *http://www.ljubljana-tourism.si/*

Map of Ljubljana : *http://www.euroave.com/maps/00mapx.php?xcity=ljubljana*

Summary

July 9, Monday

WELCOME:
Rector of Ljubljana University, A. Kocijančič
The aim of the 2007 summer school is to present and debate on a comprehensive European environmental program with effective measures/ strategies and policies to be implemented nationally and regionally.

OPENING LECTURE: SUSTAINABLE DEVELOPMENT
F. Evers, chair of European Environment and Sustainable Development Advisory Councils (EEAC)

INTRODUCTION TO ENVIRONMENTAL AND RESOURCE MANAGEMENT SUMMER SCHOOL
F. Lobnik:
We constantly interact with the environment. The objective is how to present the current scientific knowledge about Environmental and Resource Management, how tolerant the environment is to the different pollution sources and how environmental problems can be solved. Also important is the transfer of the results to the policy makers. Local authorities and engineering companies will also be debated to give an overview of the future of some techniques in the treatment of different pollution sources. The survival of nature is crucial for future, and the sustainable development must fulfil economic, social and environmental objectives.

July 10, Tuesday

ENVIRONMENTAL MA NA GEMENT: TOOLS FOR SUSTAINABILITY IN THEORY AND PRACTICE
G. Steiner, Karl-Franzens-University of Graz (Austria)
Sustainability is the principle of ensuring that our actions today do not limit the range of economic, social, and environmental options open to future generations'. The effective management of environmental impacts has become key goals for policy actions at global, local, and single business levels as well. You will explore whether organisations will need to fundamentally revaluate their philosophy and policies if they (and we) are to have any kind of sustainable future. You will examine sustainable development as a concept integrating global environmental and development agendas and how environmental concerns need to be integrated into the day-to-day management and functioning of organisations and the evaluation and monitoring of their ongoing performance. Sustainable Development provides a unique opportunity for the participants to study and develop skills relating to one of the most important principles for the development of single businesses and whole regions as well and needs consideration both on the local and the global level.
The framework of this course will be given by applied systems thinking, stakeholder considerations as a core element of transdisciplinarity and various tools as e.g. the sustainability balanced scorecard and networks, but also tools for creative problem solving. This course will be mainly based on group-work and case-study method, giving

the participants an opportunity to experience the application of various types of highly innovative tools of environmental management in practice. Therefore most recent experiences made in a joint project together with the ETH-Zürich will also be included in the working sessions.

POLITICAL AND ETHICAL THEORY AND SUSTAINABLE DEVELOPMENT
J. Barry, Queen's University Belfast (Northern Ireland)

Sustainable development is more than a 'technical' issue, although it is often presented as such. Sustainable development as a concept and policy orientation has normative, ethical and philosophical dimensions which need to be explored in order to understand it as well as to develop one's own sense of what it means.

These meanings of sustainable development can range from 'business as usual', 'weak' or 'narrowly environmental ' versions which seek to enhance resource productivity and lower pollution, but do not examine or challenge the underlying political and economic structures of capitalist development; to more radical versions which see sustainable development as a commitment to live in a different type of society which includes commitments to citizen empowerment, democratisation and decentralisation of the state, greater regulation of private enterprise and a commitment to lowering socio-economic inequalities and achieving global justice.

At the ethical level, sustainable development includes debates about obligations to new vulnerable groups, namely 1) future generations 2) non-nationals and 3) the non-human world, alongside commitments of justice to national communities and fellow citizens. In all three cases there are ethical and political issues to be discussed - not least the pressing issue of how we can develop policies and establish institutions to discharge obligations to these vulnerable communities. Other ethical dimensions of sustainable development involve the issue of technological change and the ethical and political regulation of such change. For example, if biotechnology and genetically engineered crops (and animals) can be environmentally sustainable, does this present any political or ethical problems in terms of sustainable development?

In summary, this lecture will outline the reasons why 'sustainable development' is not an 'ethical or political free zone', but that sustainable development (unlike narrow conceptions of 'resource efficiency and management) is a deeply ethical and political project, that is as much about philosophy as it is about the physical sciences, and that this interdisciplinarity is something that needs always to be made central to discussions of 'sustainable development'.

EUROPEAN ENVIRONMENTAL LAW
A. Aragao, University of Coimbra:

We will start with the history of environmental protection in Europe, explaining the context in which the environment was first considered to be an essential objective of the European Communities and concentrating specially on the role of the European Court of Justice. Then we will describe the emergence and development of the environmental policy in the Treaties, thus clarifying the so called the greening of the Treaties movement.

Next we will consider the main principles of Environmental Law. The precaution principle, the prevention principle, the polluter pays principle, the correction at the source principle and the integration principle will be developed and illustrated by examples. These principles will be confronted with some of the limits recognised to

the environmental protection measures taken by the Community Institutions. Finally, we will go through some remarking pieces of environmental legislation recently adopted: on eco-labeling, on control of major accident hazards, on environmental impact assessment, on integrated prevention pollution control and on nature conservation (the ecological network Natura 2000). We will conclude with an appraisal of the present importance, future trends and challenges posed by environmental protection at the European level.

July 11, Wednesday

MAKING TOURISM MORE SUSTAINABLE
L. Bruzzi, University of Bologna (Italy)

Ensuring the sustainability of tourism has become one of the main challenges of the modern society. Tourism is an essential element in the local economy for achieving the main objectives of social and economic growth, an adequate degree of occupation for citizens, a satisfactory regional development and a sound management of cultural and natural heritage. The tourism industry is a growing sector and produces social, economic, cultural and environmental impacts able to modify the physical aspect of a territory. The most important pressures exerted by tourism industry on the environment are an increased consumption of its natural resources, such as water, soil and energy, a great and uncontrolled use of territory, a large production of wastes and a diffuse atmospheric and water pollution. The growing consumption of natural resources represents an obstacle for the achievement of sustainable development, particularly in small and coastal areas with fragile ecological environment. The tourism development, without an appropriate planning and management, can create competition for the use of land; it can encourage an intensive exploitation of territory and can cause deforestation, soil erosion and loss of biological diversity, producing as a consequence an irreversible damage to the ecosystems. On the other hand, a quality tourism can contribute to sustainable development of coastal areas by improving the local economy through the meeting of social needs and preserving, at the same time, the cultural and natural environment.

AIR QUALITY AND GLOBAL CHANGES
J. Rakovec, University of Ljubljana:
Regional Climatic Resources

The resources and its limitations.
Weather and climate are natural resources, e.g. enabling specific economics, productions and life-styles, and at the same time are limiting factors. People have developed their way of life, culture, economy etc. according to the specific relief, weather and climate conditions of their region. Some examples will be given to illustrate both. What are the resources (e.g. food production, transport, tourism) and limitations (e.g. severe weather, degraded microclimate, pollution).

Global Climatic Changes

About terms 'natural 'and 'anthropogenic '.The 'greenhouse effects of the atmosphere is a natural phenomenon, producing the rather amicable environment of our planet. Water vapour has the main role, followed by carbon dioxide and other greenhouse gases. The revolution of the known early high developed civilisations (like Sumerian, Babylonian) followed the great increase of the amount of carbon dioxide in the atmosphere some 7.000 years ago. The increased greenhouse effect of those early historical times was therefore beneficial. Now we are in a period of another strong increase in the amount of carbon dioxide in the atmosphere. This time is of the anthropogenic origin. In this lecture mechanisms and consequences of the natural and anthropogenic greenhouse effect will be discussed. The causes for the ozone hole will be explained from similar perspective to stress the importance of the combination of the 'natural ' and 'anthropogenic ' on our planet.

NATURAL HAZARDS, MITIGATION STRATEGIES, AND POLICIES RELA TED TO REGIONAL SUSTAINABLE DEVELOPMENT

B. Gunnarsson, University of Akureyri, Iceland

Europe experiences all types of natural hazards, with the probability of these hazard events turning into disasters rapidly increasing - volcanic eruptions, earthquakes, severe storms and flooding, wild fires, avalanches, and landslides name only a few. The increasing risk and damages from natural hazards are directly related to population growth, uncontrolled urban expansion and growth of mega-cities, improperly located and/or constructed critical facilities, development in the coastal zone, poverty, and environmental degradation. Natural hazards are not by themselves, disasters. What class iffy these events as disasters are the subsequent impacts on the social, economic, and environmental dimensions of a society. Depending on the severity of the event, these impacts can reach catastrophic proportions, in terms of lives lost, economic losses, and environmental destruction, inhibiting progress toward sustainable development. The World Meteorological Organization and other independent organizations such as the Intergovernmental Panel on Climate Change have confirmed an increase in the frequency and severity of climate-related hazards. Although nothing can be done to prevent most natural hazards from occurring, this course examines how the consequences can be significantly minimized through the adoption of sustainable disaster mitigation strategies. The success of restoring a community after a disaster, in large part depends on the mitigation efforts and the training and preparedness that have occurred beforehand. Local residents of communities at risk have to be given access to the latest scientific and technological advances in monitoring and prediction; early warning and evacuation planning; hazard and risk mapping and assessments; and strategies for sustainable land-use practices which minimize risk and loss of life. A comprehensive understanding and implementation of hazard mitigation strategies, and associated management of natural resources, are essential in moving a society toward achieving a state of sustainable development.

ENERGY FOR SUSTAINABLE DEVELOPMENT

P. Novak, University of Ljubljana, (Slovenia)

Introduction:

- *Definitions of energy, exergy and anergy, power, energy transformation and use; forms of energy (mechanical, heat, electricity, solar, geothermal, planetary)*
- *Energy and quality of life, population growth and energy needs, consumer society and energy use, world distribution of energy use, development curve and energy use, environmental impact of energy use, role of electricity in society development*

Energy resources:

- *Fossil fuels reserves (coal, oil, gas, nuclear, methanhydrat)*
- *Renewable energy resources (solar-direct, hydro, wind, biomass, ocean, geothermal)*

Energy management:

- *Energy conversion technologies, time diffusion of fossil fuel technologies, technological uncertainties, energy efficiency,*
- *Fossil fuel replacement possibilities with renewable (buildings, traffic, industry)*
- *Building thermal quality and renewable energy use*
- *Wind energy conversion in electricity, environmental, economic and social impact*
- *Direct solar energy conversion in electricity: solar thermal power plants, PV*
- *Solar or nuclear hydrogen: production and use (conversion, chemical storage, fuel cells)*
- *Hydro power plants: small, big, tidal, waves, environmental impact and economics*
- *Biomass conversion (chemical stored solar energy) in to heat, gas, electricity*
- *Geothermal energy extraction and conversion*

Energy systems for sustainable development:

- *Conditions for change from fossil fuels to (nuclear??) renewable sources of energy, resources or technological constraints, economy, environmental impact*
- *Present world energy system*
- *World energy system for sustainable development*

Conclusions:

- *consumer society and energy use, energy efficiency*
- *finite life time of fossil fuels, nuclear for transition period*
- *renewable energy, economics and environment*
- *renewable energy as a way out of expected world energy crisis*

July 16, Monday

EX-ANTE IMPACT ASSESSMENT OF MULTIFUNCTIONAL LAND USE

H. Wiggering, ZALF (Germany)

European policy making is devoted to the European Sustainable Development Strategy (EC 2003), which puts forward ex-ante sustainability impact assessment as an important tool for policy decisions. Sustainable land use is considered to be intrinsically linked to the concept of multifuntionality (PR(99)88F1). Its underlying rationale is to address the interdependence of social, economic, and environmental effects of land use in a conclusive way, taking into account commodities and negative/positive externalities. As the term suggests, land use provide a variety of "functions" or "goods and services ", covering aspects of production, regulation, habitat and information. Multifunctionality can thus be seen as a key feature for impact assessment.

The Centre for Agricultural Landscape Research (ZALF) has initiated and is coordinating a European Integrated Project with the acronym SENSOR. This IP aims at delivering ex-ante Sustainability Impact Assessment Tools (SIAT) to support decision

making on policies related to multifunctional land use in European regions. The project is based on three key assessment streams: (1) European-wide, indicator-based driving force and impact analysis of land use policy scenarios; (2) region specific problem, risk and threshold assessment making use of spatial reference systems and participatory processes; and (3) case-study based sensitive area studies using detailed information on specific sustainability issues. In the introduction session key features of ex-ante impact assessment of multifunctional land use will be presented. Subsequently, the workshop will give deeper insights into the process of sustainability impact assessment.

THE CONFLICTING INTER ES TS AND DE CISION MA KING PROCESS

I. Marušič, University of Ljubljana

Nobel laureate H. Simon distinguishes two types of decision making processes: one that relies on pre-formulated solutions, H. Simon speaks of standardization, and one that relies on analysis and optimization. The same two types of decision making processes can be found also in environmental and physical planning. The first one, standardization, is based on environmental norms and standards. Inside technological planning, norms and standards are defined as the minimum of protection, still acceptable pressure on the environment that can be reached within certain societal situation, while in spatial planning, the norms and standards are represented by different types of protected areas. The second type of decision making process involves analytical procedures as well as evaluation of possible solutions.

History of environmental norms proves that the norms tend to be more and more severe with the passing of time. The same situation can be discovered by tracing the history of protected areas. They tend to expand territorially with the passing of time. Some argue that predefined solutions, e.g. use of norms and protected areas ensure the enforcement of at least some minimum of conservation requirements. Besides that, they are legally clear. Their enforcement can be defended in court. Their nature, i.e. the tendency to increase in rigorousness or, in case of protected areas, their territorial expansion, may lead to the conflicting situation. The Slovenian experience is very illustrative, in this respect.

The standardization in spatial planning started in the 70-ies of the last century with the protection of prime agricultural land. By the time, practically all agricultural land was directly protected. According to certain Slovenian planners much of the urban sprawl that took place after the 70-ies, was due to the severe protection of agricultural land (there were some exemptions that allowed development of agricultural land). The new era of conflicts will appear after 37 % of the national territory has been sent to Brussels as the Slovenian proposal for Nature 2000 network.

It is obvious that the problem of conflicting interests emerges when standardization becomes the predominant type of the decision making process, especially within the spatial context.

The optimization procedures are of two types: (1) analysis and evaluation of developmental/conservation possibilities, (2) the selection among alternative solutions. The two types of optimization methods are further discussed with some examples. Within this context, the reconciliation of different societal interest seems to be the main issue. It is important to stress that the analysis of developmental/conservation possibilities creates the most promising base for such a reconciliation. It represents even the most promising base that enables the general public to take part in the decision making process.

EUROPE`S ENVIRONMENT

D. Osborn, Sustainable Development Commission

Major issues confronting the world

Population growth
Loss of species, habitats and biodiversity
Pressures on water and other Natural Resources
Pollution
Climate Change
Poverty
Unemployment
Unfair distribution of resources
Security, Terrorism, Clash of civilisations

Key elements of strategies I. Principles

Rio Principles
EU Principles
UK Principles

Key elements II. Tools of analysis.

Indicators
Environmental impact analysis.
Sustainability Impact Analysis.

Key elements III. Changes needed.

Stabilisation of population
Protection of natural environment and biodiversity
Conservation of resources
Reduction in emissions of CO2 and other greenhouse gases
Eliminating poverty
Fairer distribution of resources
Conflict resolution

Key Elements IV. Government Measures. Sticks, carrots, levers and bells.

Regulation
Fiscal measures
Procurement
Education and awareness raising.

Other Actors.

Business.
Executive agencies.
Schools and colleges
NGOs
Individuals.

CAN ECONOMIC GROWTH BE LIMITLESS

J. Mencinger, University of Ljubljana (Slovenia)

Modern societies and governments are preoccupied with efficiency and growth; it is taken as limitless due to enhanced total factor productivity and prevalence of services over production of goods. EU had condensed this passion in the Lisbon strategy 2000 but admitted that it failed. In February 2005, the old strategy was thus replaced by "Partnership for Growth and Jobs". Its "scientific" pillar is production function; growth is to be attained by increasing total factor productivity. However, shifts in the distribution

of income in favor of profits does not guarantee higher expenditures for R&D, and they do not guarantee scientific discoveries and jobs. Technological changes are predominantly labor saving, they may but not need create new jobs in activities with high value added. Indeed, globalization swiftly turns these activities into activities with low value added jobs and EU is unable to compete with much more ruthless societies. High economic growth is not a lasting phenomenon assured by market fundamentalism and labor market liberalisation, what the societies, particularly the new EU countries need is a sustainable development based on social cohesion.
Key words: economic growth, production function, technological change, EU, globalization, aggregate demand;

LAND-BASED NATURAL CAPITAL: POLICY, MANAGEMENT AND SCIENTIFIC CHALLENGES

M. Kibblewhite, Cranfield University (UK)

Overview
Millennium goals
Natural capital
Asset valuation
Good news!
Worrying news!
Land resources are at or near the tipping point
The challenge
Walking on two legs
Policy - a complex agenda
Scientific priorities
Spatial information
Assessing capacity and use
Soil-services
Value illustration
Special considerations
Conclusions

- *Soil is the foundation of land-based natural capital*
- *Allocation and management of soil resources is critical to sustainable futures*
- *Spatial information about the capacity of soil to deliver services is essential*

QUALITY OF LIFE DEPENDENCE TO NATURAL RESOURCES: SOIL, LAND USE AND AGRICULTURE

F. Lobnik, University of Ljubljana:

Soil is a product of complex interactions between climate, vegetation, biological activity and the effect of time and land use. Soil is essentially a non-renewable resource with potentially rapid degradation rates and extremely slowly formation and regeneration processes. Only some of the disturbed functions in degraded soils can be renewed usually at a very high cost and with no guarantee of full recovery. Prevention and precaution should be at the core of soil protection policies. Soil has a considerable storage and buffering capacity, heavily depending on its organic matter content. This applies not only to water, minerals, and gasses, but also to a multitude of chemical substances. These include pollutants, which often build up in soil but whose subsequent release can follow very divergent patterns. Anticipatory policies based on monitoring and early warning

systems are therefore essential to prevent damage to the environment and threats to public health. Land use is changing under the influence of human activities. Research plays a crucial role to ensure that environmental information properly reflects findings, especially those concerned with mechanisms of land-use planning, their interactions with human induced pressures and natural diversity. Soils are a vital and largely non-renewable resource increasingly under pressure. The importance of soil protection is recognized both internationally and within EU.

1. FIELD TRIP – GORIŠKA BRDA REGION

Marina Pintar, University of Ljubljana

Goriška brda region is located in the most western part of Slovenia at the border to Italy. It covers 72 km² in total, among which is 28 km² extensive, and 20 km² intensive agricultural land, and 24 km² forest respectively. According to Corine Land Cover 2004 there is 60 % of area covered with trees and bush what is not in accordance with cadastral data of forest area and what does mean that there is a strong natural aforestation process on previous abandoned agricultural land. Small self-supply farms (subsistence) with some fields, orchards, vineyards and some husbandry production use to be typical for the area.

Due to appropriate climate (i.e. Mediterranean climate), fairly low elevation for Slovene conditions (more than one half of the area has elevation up to 400 m a.s.l.), mostly hilly area (more than one half of the area has slopes up to 15 %), and Eutric brown soil on Eocene flysch, which prevails as a soil type in the area, agricultural production has been changed to more intensive orchard production (peach as a dominating culture) and partly locally very intensive vineyards later on in last two decades. Less diversity in agriculture in this case means directly less biodiversity in the area as a whole.

During the last years, in Goriška brda region wine production has been pushed politically. This does mean that more and more vineyards cover this area, producing a good quality of wine and guaranteeing high economic incomes especially in the South-Western part of the area, and mostly declining agriculture with disappearing cultural landscape in the rest of the area. Recently, some new vineyards on very steep slopes have provoked intensive soil erosion processes what results in additional environmental problems related with loosing of fertile soil and decreasing of surface water quality, and in less economical income of farms.

One of the newer decisions of a local authority is to establish a casino with a spa and a wellness center in this area with intensive wine production. However, this still are agricultural surroundings and it is a question how this new intensive activity will impact local life and the local environment. The number of inhabitants did not change a lot in last 15 years, but looking onto a demographic index (more and more older people vs. number of younger ones) the area is close to a depopulation process.

The main question is, how to make and keep this rural area (as an example of complexity of such a problem) competitive and - by this - functioning by optimizing the use of landscapes. What are the strategies for optimizing land use in a sense of mulitifinctionality and sustainable development having in mind economic, social and environmental (and management) aspects in the right balance?

The aim of the field trip is that students will become familiar with a specific situation that will be partly discussed in the sense of multifunctional land use and sustainable development of agricultural areas. The theme will be picked up again broadly during later lectures and workshops of the Summer school.

Landscape of Goriška brda Region

2. FIELD TRIP – CELJE, VELENJE, MEŽICA

Marko ZUPAN, University of Ljubljana

Second field trip is two day tour to the areas where various negative impacts of human activities/technologies were caused environmental problems:

- *Celje municipality with soils polluted by Zn, Cd and Pb,*
- *Velenje in Šalek valley with lignite mine and thermo power plant,*
- *Mežica valley with closed lead-zinc mine and lead smelter.*

Celje is the third largest city in Slovenia (Municipality area 95km^2; 48.000 inhabitants). It lies in the middle of Slovenia in the basin surrounded by Alpine foothills. Pollution of air, water and soil were severe before 1970: metallurgy, brickwork, steel-works, enamel coating, traffic, etc. The main source of industrial pollution was zinc smelter; company was established in 1873 and operated near city centre more than 100 years. Majority of the problems are nowadays solved (air and water quality, waste disposal), except contaminated soils and abandoned industrial sites (brownfield). Soils are contaminated mostly with heavy metals Zn, Cd and Pb where Cd represents main threat to the humans and animals due to high bioavailability. Several issues are discussed on the site like extension of pollution, uptake of HM to plants, accumulation of Cd in edible parts of vegetables and crops, home gardening on polluted soils, remediation measures, eco-remediation projects, brownfield redevelopment, etc.

The Šalek valley with the centre Velenje is a young Pliocene basin situated in the Sub-alpine part of Slovenia near the Austrian border. Huge lignite-coal reserves are the crucial factor of human caused changes and pollution of the Šalek valley. The Velenje

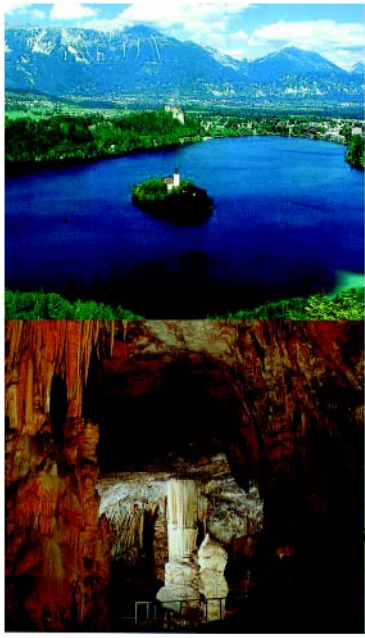
Colliery is the largest Coal-mine in Slovenija (4 million tons a year) and among the largest underground lignite coal-mines in the world. The thermal power plant located nearby in Šoštanj (ŠTPP) is the biggest power plant in Slovenia. Consequently, all that resulted in a large inhabitant concentration, intensive urbanisation and pollution of the small sub-alpine Šalek Valley. The most remarkable consequence of coal-mining is subsidence lakes. The surface of the Šalek valley has subsided for more than 110 million m^3 until now, approximately 6 km^2 of the valley surface, and the lakes surface is 2,1 km^2, and their volume is over 40 million m^3. In the last decade a lot of environment protection measures have been carried out. And the environment in the Šalek valley has been improved. The development of the subsided area is directed to a better environment. The lake shore is being restored and a lot of recreation and sport activities are already take place there.

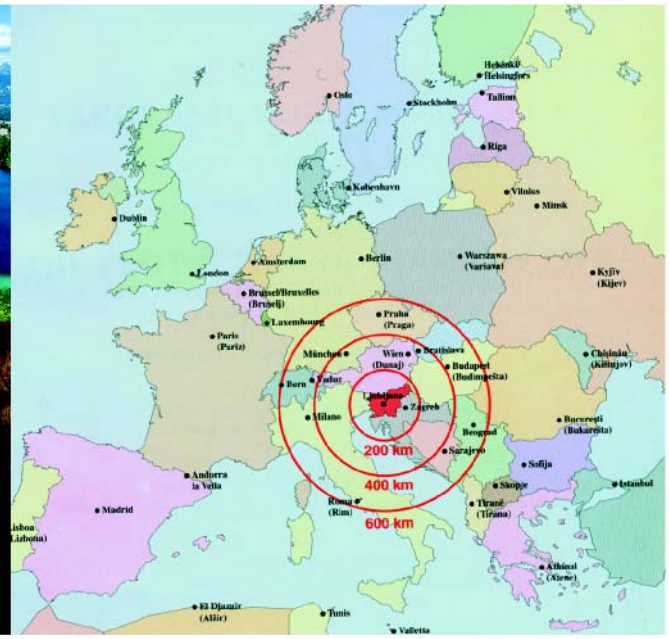
The Upper Meža area with settlements Mežica, Žerjav and Črna na Koroškem is a narrow valley in hilly area on border with Austria. More than three hundred years of active lead mining and smelting gives opportunity for economical development, however mining and smelting caused environmental damages due to poor technology in the past. Soils in the valley are highly polluted with heavy metals, especially with Pb, Cd and Zn, and sounding of smelter was without vegetation because of sulphur emissions – the area of Žerjav was know as 'death valley'. In 1990 lead mining in Mežica stopped, smelter in Žerjav is still work in purpose of recycling old car batteries. Although the lead smelting processing technology was changed in the last decades and lead and sulphur emissions drastically decline, meadow soil and forage in the Upper Meža valley are still polluted. An accidental fire at the landfill in Mežica in December 1995 caused additional pollution. However, people in this area try to find alternative way to survive with environmental limitations and low resources for industrial development.

Landfill in Šalek valley

SLOVENIA AS A NATURAL GARDEN AT THE CROSSROADS OF EUROPE

The Republic of Slovenia, a sovereign state since 1991 and a member of the United Nations from 1992, was founded in 1945 with the uniting of the continental part and the Slovene Coast (this was invaded and occupied from the end of the 1st world war until the end of the 2nd) and established as a national republic within the former federation of Yugoslavia. Slovenia has only short statesmanship from 1991 onwards, but a long national history.





Slovenians now live on the present territory, which was larger earlier, from the creation of the Western European states. It was at first also an independent principality, but from ancient times and the Middle Ages the Slovenian ancestors survived the old Roman Empire, Austro-Hungarian monarchy and other supremacies or occupations. Despite such historical, political and social pressures Slovenes have saved their arable land, forests and culture. Even the representatives of spiritual, cultural and intellectual life, poets, writers and other patriots were progressive rousers of liberation and movements of self management.

The capital of Slovenia is Ljubljana, a town with about 300.000 residents. It lies in the central part of the country, in Ljubljana valley with international junction. Slovenia is growing as a polycentric system: there are 12 administrative regions, but new formal regions are growing with democratic association of communities. Slovenia has three historical parts-central, west-ern and eastern, but other regional centers too. Ljubljana is the biggest

university, scientific and cultural centre in the country. The second region-al and university centre is Maribor. The coastal centre with a new university seat is Koper-Capodistria, but in the Mediterranean part you will also find a regional centre of Nova Gorica too. Then on top of these are region-al centres also in Kranj, Novo mesto, Celje, Velenje, Ravne, Ptuj, Murska Sobota.

Slovenia has a very interesting profile. On the borders of Slovenia are in close touch the Slavonic national group (and Slovenes belong to them) with Roman (westerly), German (northerly) and Ugro-Finnish (easterly) national groups. Our neighbouring states are Italy, Austria, Hungary and Croatia. The sense of this is also the cohabitation of different cultures, but the Slovenian culture is not behind them. An important factor is that the Adriatic Sea as a part of from the Mediterranean comes very deep into the continent of Europe, near the Alps and the Middle Europe, and Slovenia has a small coast line in the northern part of the sea. All over the Slovenian territory, from Trieste Bay and Port of Koper, the easiest way between the Alps and Dinaric Karst with roads and railways that elongate the ocean ways directly to Middle and Eastern Europe. Scenic and biotic diversity with all curiosities are characteristic too.

All of the present Slovenes number nearly 2,2 million, but in the Republic of Slovenia, which has a population of 2 million, there are 1,720.000 of them. Many of the older Slovenian emigrants are living in America (USA, Canada and Argentina), in some west European countries and new emigration group is living in Australia. Slovenia has minorities in border regions of neighbouring countries like Austria, Italy, Croatia and Hungary. There are associated factors for co-operation in all parts, sometimes still asking for more understanding and equality. Meanwhile Italian and Hungarian minorities live in Slovenia, with bilingual cultural and official rights, in-

cluding some Germans and newer settlers who want to find jobs and a home in this country. All citizens of Slovenia, minorities included, have equal official and democratic rights and institutions belonging to the nation and nationalities. New capital inflows are bringing new closer relations. Besides this, Slovenia is a very interesting country for foreign tourists.

The social and physical structure of Slovenia is similar to western European countries. As different and attractive the geographical and demographical pictures are, the varied the nature is too. This is caused by changeable climatic inflows from Atlantic, Mediterranean and continental sources from East Europe, and to very heterogeneous relief with naturally different regions. 60 % of the country is covered with forest. There is near to 44 % of the elementary karst, named by the original land of Karst in SW Slovenia. There are more than 6000 caves, from which 27 are accessible and open for tourist visits. Among them are the Řkocjan caves, which are included in the UNESCO register of World heritage.

Also the Postojna caves, the Vilenica cave as a cultural meeting place, periodic Cerknica lake and other curiosities are known worldwide. The lakes Bled and Bohinj are beauties as the remnants of the glacial period in the Alps. Furthermore, there are vineyards, hilly regions in Slovenia, skiing resorts, clean rivers for water sports and fishing etc.

Slovenia as a mountainous country has only 18 % of its territory composed of valleys and depressions, where you find the agricultural land, rivers and

Lake Bled

water resources, towns and where most of population is living, with factories and traffic systems crowded together in a really limited space. At pre-sent 29 % of rivers are over polluted, but by the republic environmental developing plan the sanitation of waters is a priority task and many cleaning systems are in construction. This plan could be achieved only with the second priority of eco-management of the waste and developing of local infra-structures. Many factories develop the ‘co-natural technologies’, bringing in to use environmentally acceptable non dangerous means, modernizing the production and services. The environmental legislation is compatible with that of the European Union. More has to be done in the development of monitoring, in the sector of logistics, in regional planning and with engagement of the public.

We are specially interested to protect the biotic diversity, because in the small part of 0,013 % of land of our planet Earth which belongs to Slovenia (20.2 73 km2) are at present to be found more than 1 % of all in world known species, among them these in carstic underground. Slovenia has some hundred endemic species, and has also the bear, wolf, lynx, salmon trout, thoroughbred lipica’s horses, Carniolan (Slovenian) bee, many birds and protected marshland for them etc.

Another valuable natural resource are the mineral and thermal waters. Slovenia has 18 health resorts and several well known climatic mountain resorts like Bled, Kranjska gora, Bovec and Sośa valley, Logarska and Savinja valley, Rogla etc. Different though are the hills with vineyards from

Mountains, forest, lakes - place for relaxation

Brda in the west side to Goričko. Slovenia has a part of coastal Istria too. Tourism is important too: in hotels and other tourist facilities Slovenia welcomes yearly more than two million guests (58 % of foreigners), nearly equally concentrated between health resorts, coastal, climatic and other tourist localities.
The economy is in transition from technological, environmental and economical points of view. At agriculture's disposal is 34 % of the land. Cattle breeding is prevailing and with quality meat, fruit and a range of wines, al-so some special products (e.g. air-dried ham) are known and esteemed on the world market. About 70 % of all primary and industrially produced goods are still exported to EU countries. The exchange with other countries is growing. There is steel, machine and car production, white technique, electrical, pharmaceuticals, chemicals, pneumatics, furniture, products of leather, typographic etc.
Two fifths of the GDP are contributed by industry and the associated services are prevailing. GDP per capita is still collated with some EU countries (more than 10.000 €).
Slovenia has the crossing of two transeuropean traffic corridors: the fifth in the south of the Alps between West and East Europe (from Italian Po to Pannonian valley), and the tenth between Middle Europe, Adriatic Sea and Southeast of Europe. Slovenian borders are crossed by some ten million cars and trucks yearly and total road cross-border entries by passengers are about 90 million with 60 million foreigners. The Port of Koper has nearly

Rafting exiting sport for youngsters

10 million tons of national and international harbour traffic and goods transported per year.
Traffic, industry and other productions centred around urbanization are causing serious environmental problems; traffic with vehicle fumes, noise and hazardous cargo. More of the road transport should be redirected to the railways.
It is interesting to know that country with a population of 2 million produces yearly 4000 book titles (750 of them in literature) publishes 6 daily journals and 1330 periodicals, has 3 universities with 80.000 students, 53 museums, 9 professional theatres with two operas and four orchestras, good radio and TV broadcasting, etc. There is 44 % of active population, which is similar to EU countries. Millions of foreign tourists visit famous health resorts, the seaside, mountain places, phenomena of Karst and historical places, all of which are a good reference to enlarge our co-operations.
Ljubljana is smaller than one would expect for a capital with a government and parliamentary building, all administrative services, foreign embassies, the head offices of banks and companies, university and many cultural institutions. But it is nice.
Legend relates that the Argonauts fled with the Golden Fleece from the Black Sea to the Adriatic along the river Ljubljanica. A history however speaks of the Romans and the town of Emona, which was established here at the turn of the 1st century A.D. and flourished until its destruction by the

Izola with marina

Huns. It was resurrected at the foot of the castle hill by the Slavs in the 6th century. The town was first recorded as Luwigana in 1144. From 1335 this town with a Slavic soul acquired Germanic administrative feature and life stile, because the Habsburgs ruled here until the First World War, except a few years as an Illyrian province and centre under Napoleon. Ljubljana entertained the third congress of Holly Alliance 1821, Ljubljana Congress 1870 and other significant meetings or events since its and Slovenian liberation in 1945 and attainment of independence in 1991.

Ljubljana has an important geographical position with heavy frequented road and railway crossing, linking the Mediterranean and inner of european continent. Traffic, commercial, administrative and cultural centre and life form a modern image of the town.

The streets under castle and along the river Ljubljanica were fostered by the Baroque style, while Romanic cultures were revered by the founders of the Academia Operosorum, the first intellectual club and precursor of the subsequent Academy of Arts and Science. In 1701, this was followed by the Academia Philharmonicorum, the predecessor of the present-day Slovene Philharmonic. The city is also seat of the Ljubljana archdiocese. A new middle European image got the town in renewal after earthquake in 1895. From 1918 up to present urban development Ljubljana increased fourfold in population and got many new buildings, institutions and curiosities, mainly in last decades of 20th and even in the beginning of the 21th century.

Ljubljana centre with the river Ljubljanica.

Univerza *v Ljubljani*

Utrecht **Network**

INTERNATIONAL SUMMER SCHOOL

ENVIRONMENTAL AND RESOURCE MANAGEMENT

Ljubljana July 8th to July 22th, 2007