NEWSLETTER
3/2005

ESSC EUROPEAN SOCIETY for SOIL CONSERVATION

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Photo: Studying crusting processes on volcanic soils, Gunnersholt, Iceland, September 2005. Photo by Sanneke van Asselen (Amsterdam).

E.S.S.C. NEWSLETTER 3/2005

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Contents

Liming of Acid Soils in Lithuania: Long-term Investigations 3

National Capacity Self-Assessment Related to Environmental Management of Global Conventions in Slovakia 8

Invitation to Join the 'World Association for Soil and Water Conservation' (WASWC) 10

Twenty-five Messages that People do not Like to Hear 12

New Ph.D. Thesis 14

Albino J. Tenge 2005. Impact Assessment of Soil and Water Conservation in West Usambara Highlands, Tanzania, Wageningen 14

Conference reports 16

- Review of the 1st International Conference on 'Eco-Engineering: The Use of Vegetation to Improve Slope Stability' in Thessaloniki, Greece (13 – 17 September 2004) 16
- 'International Workshop on Strategies, Science and Law for the Conservation of the World Soil Resources' Selfoss, Iceland 22
- The Selfoss Statement on Soil Conservation in Iceland 24
- The Seventh 'Czech-Italian Pedological Meeting', Sardinia, October 2005 25

Book reviews 26

- N. McKenzie, D. Jacquier, R. Isbell and K. Brown (2004). Australian Soils and Landscapes – An Illustrated Compendium: CSIRO Publishing, Canberra, 432 pp. 26
- M.A. Fullen and J.A. Catt (2004). Soil Management: Problems and Solutions: Arnold Publishers, London, 269 pp. 28
- Soil Atlas of Europe (2005). The European Union Joint Research Centre (JRC): Ispra, Italy. Web site: http://www.jrc.cec.eu.int/soil-atlas 29
- Visual Soil Assessment Manual (2005). Landcare Research Institute of New Zealand, 2005, 21 pp. Web site: http://www.smi.org.uk/publications/index.html 30
- The Government of The Netherlands Policy Statement 'The View of The Netherlands on a European Soil Protection Policy' (2005), 10 pp. Web site: http://international.vrom.nl 31

Book announcements 32

- I.L. Heuser (2005). Europäisches Bodenschutzrecht (European Soil Protection Law): Erich Schmidt Verlag GmbH & Co., Berlin, 664 pp. 32

Publications by ESSC Members 33

Available PhD Studentships 35

Announcement of New and ongoing PhD Student Research 37

Institutional Movements and Promotions of ESSC Members 37

ESSC Membership List and Contact Details 37

Announcements 38

Launch of University Master of Science Degree in 'Mountainous Basin Management and Soil Conservation' at The University of Palermo, Italy 38

Summer courses on Alpine Hydrology and Hydrogeology at the Free University of Amsterdam, The Netherlands 39

Forthcoming Dates for your Diary.... 40

First Announcements 40

- The International Scientific Conference 'BALWOIS 2006', in Ohrid, Macedonia, 23 – 26 May 2006 40
- Long-term Studies in Ecology: A Celebration of 150 Years of the Park Grass Experiment (22 – 24 May, 2006) at Rothamsted Experimental Station, U.K. 41

Second Announcements 42

- International Symposium on Water and Land Management for Sustainable Irrigated Agriculture, Adana, Turkey, 4 – 8 April 2006 42
- The XVIIIth Conference of the Romanian National Society of Soil Science '100 Years of Soil Science in Romania', XVIIIth National Soil Conference, Cluj, Romania, 21 – 26 August 2006 43
- International ESSC Conference on 'Soil and Water Conservation under Changing Land Use' Lleida, Spain, 12 – 15 September 2006 44
- Environmental Change, Geomorphic Processes, Land Degradation and Rehabilitation in Tropical and Subtropical Highlands, Mekelle University, Ethiopia, 19 – 25 September 2006 48

Third Announcements 51

- 5th International Congress of the European Society for Soil Conservation, Palermo, Italy, 25 – 30 June 2007 51
- The 14th Conference of ISCO (International Soil Conservation Organization), Marrakech, Morocco, 14 – 19 May 2006 52

Introduction

Soil is acidified slowly as a result of natural processes. This has been going on since the end of the Pleistocene Ice Age, but has been greatly accelerated by human activities through the emission of sulphur, nitrogen and others compounds from the combustion of fossil fuels, derived from industrial processes and from agricultural activity. Fertilizers, soil drainage and some legume crops may cause acidification. Acidification, combined with cations of aluminium, iron, calcium, magnesium and some heavy metals, decreases soil buffering capacity. In Western and Central Europe acidic deposition is the main cause of soil acidification. The most serious consequences of soil acidification can be summarized as:

1. Plant nutrients are leached out. Nutrients (mainly magnesium, potassium and calcium) are leached out by the added acid.
2. Toxic metals are freed. When soil is acidified it increases the concentration of free aluminium ions and soluble salts of iron and manganese in the soil water solution, which are potentially toxic to root systems and generative plant organs. The mobility of many heavy metals also increases when soil becomes more acidic. Mobilization of aluminium in soil by acid deposition was called 'a Chemical Time Bomb' by Blake et al., (1994).
3. Phosphates become bound. Increasing levels of dissolved aluminium also affect plants indirectly. The 'released' aluminium ions are able to bind the vital nutrient phosphorus (in the form of aluminium phosphate) and make it less accessible to plants. The shortage of phosphate is aggravated by the fact that decomposition in the soil slows down under acid conditions. In addition to phosphate, certain important micro-nutrients; such as molybdenum, boron and selenium, also become less accessible to plants when soil is acidified.
4. Biological activity is suppressed, because the optimal acidity for biological nitrogen fixation is pH_{KCl} 6.1 – 7.0. Increasing levels of dissolved aluminium also suppress the activity of major soil bacterium and enzymes.

Soil acidification occurs in areas with high rainfall (>500 mm) and permeable soils, allowing leaching of nutrients into the subsoil. The rate of acidification depends on soil type, initial pH and soil buffering capacity (buffering capacity refers to systems within the soil that maintain constant pH levels despite the addition of acids or alkalis). Extreme acidification can result in poorly structured or hard-setting topsoils that do not support sufficient vegetation to prevent soil erosion. The acidification process can be countered by liming. This raises the pH level and tops up reserves of exchangeable cations (increases base saturation), while also decreasing the concentration of free aluminium ions. Lime acts like a filter in the upper soil layer, where it can capture and neutralize future acid deposition before it has time to leach out basic cations

and/or dissolve toxic aluminium and others heavy metals. The effect of the added lime penetrates slowly into the soil, at roughly 1 cm per year, but persists for a long time in the future. The liming of soil can therefore help counter the acidification of soil and surface water in the long-term.

Conditions for soil acidification in Lithuania. In assessing the quality of agricultural soils in Lithuania, it is necessary to consider the different farming conditions that prevailed before and after the re-established of independence in 1990. During these periods use of fertilizers, pesticides and lime differed significantly. Approximately 160 – 200 (000) hectares of acid soils were limed annually between 1965 – 1990. However, from mid- 1990 liming was dramatically limited and since 1997 has virtually ceased. A decreased volume of liming has considerable effects on the agrochemical properties of Lithuanian soils.

Soil agrochemical investigations are in progress in 75 test areas of about 200 ha plots of agro-monitoring in 15 soil regions in Lithuania. Results show that previously intensively limed arable lands are becoming acidic and their pH gradually returning to levels before intensive liming. The area of conditionally acidic ($pH_{KCl} \leq 5.5$) soils increased by 6.3% for the whole of Lithuania, and of this: in Western Lithuania by 14.4, Eastern Lithuania by 4.9 and Central Lithuania by 1.6%. Most often the soils become acidic in Western Lithuania, where there was the greatest amount of high and medium acidity soils before liming and where intensive leaching processes are still occurring. Soil monitoring in test areas with most acidity suggests that the extent of acidic soils ($pH_{KCl} \leq 5.5$) in the central part of the Žemaičiai Uplands increased by 20.6%, in the coastal lowland plain of the Nemunas Delta by 17.3%, and in the West Plateau of the Žemaičiai Uplands by 14.9% (Mažvila et al., 2004) (Figure 1).

Figure 1. Map of Lithuania

Review of long-term field investigations. The oldest current field experiment in Lithuania had been in progress since 1948 at the former Samališkė Research Station, currently named the Vėžaičiai Branch of the Lithuanian Institute of Agriculture (LIA). Studies are in progress on the duration efficiency of different kinds of lime on the acid strongly podzolized light loam Dystric Albeluvisol. The primary goal of the investigation is to study the duration efficiency of four types of lime (hydrated lime, sugar lime, tuffaceous limestone and calcareous loam), and their influence on crop yield and soil chemical properties. A long-term field experiment was performed in the seven course crop rotation: 1: fodder beets, 2: spring barley, 3 – 4: perennial grasses of the first and second years of use, 5: winter wheat, 6: mixture of barley-peas for grain, and 7: oats. The crop rotation was repeated seven times during 49 years. The soil of the first treatment was unlimed.

The soil of the others treatments was limed in autumn 1948 by one rate of $CaCO_3$ according to the hydrolytic soil acidity, using: 8.6 t ha^{-1} of hydrated lime (second treatment), 28.8 t ha^{-1} of sugar lime from the sugar factory (third treatment), 26.6 t ha^{-1} of tuffaceous limestone (fourth treatment) and 72 t ha^{-1} of calcareous loam (marl) (fifth treatment).

The slowest acidification of soil (pH_{KCl} in Figure 2 and exchangeable Al in Figure 3) was under liming by tuffaceous limestone and calcareous loam. The acidification was more intensive in soil limed with sugar lime and most intensive in soil limed with hydrated lime.

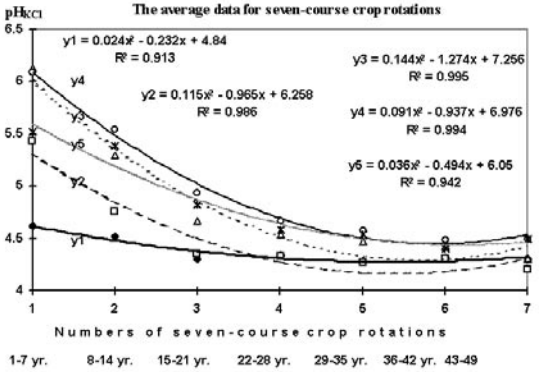

Figure 2. Influence of single use different kinds of lime to soil pH_{KCl} on acid Albeluvisol (prepared using the data of A. Plesevičienė, 2000)

y1: no lime, y2: hydrated lime, y3: sugar lime, y4: tuffaceous limestone, y5: calcareous loam (marl).

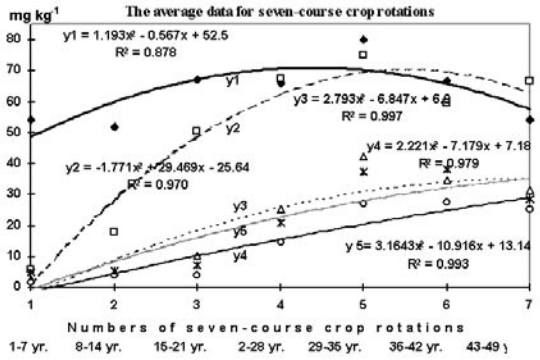

Figure 3. Influence of single use of different kinds of lime on the amount of exchangeable aluminium in acid Albeluvisols (prepared using the data of A. Plesevičienė, 2000)

y1: lime omitted, y2: hydrated lime, y3: sugar lime, y4: tuffaceous limestone, y5: calcareous loam (marl).

Hydrated lime during the first two rotations (14 years) achieved 72% of its efficiency, sugar lime 52% and tuffaceous limestone and calcareous loam 37%. An essential positive influence of hydrated lime on crop yield was evident during two crop rotations of sugar; lime was effective during six crop rotations and other limes during all seven crop rotations. One tonne of calcium carbonate ($CaCO_3$) increased crop yield during all the duration of lime effect in the sequence: hydrated lime by 1909, sugar lime by 2169, tuffaceous limestone by 3233 and calcareous loam by 4286 feed units (f.u.).

The strong relationship between the index pH_{KCl} (y) and years after liming (x) of soil by hydrated lime and carbonate limes can be described, respectively, by the following equations:

$y_1 = 0.0012x^2 - 0.0827x + 5.634$; $r = 0.867$; $n = 196$; $P < 0.001$.

$y_2 = 0.0013x^2 - 0.0976x + 6.288$; $r = 0.911$; $n = 196$; $P < 0.001$.

These equations may be used for prognosis of acidification of strongly podzolized Dystric Albeluvisols (Plesevičienė, 2000).

The second longest field experiment had been conducted since 1949. Investigations included the effects of different rates (0, 0.25, 0.5, 1 and 2 according to hydrolytic acidity) of hydrated lime on the acid light loam Dystric Albeluvisol during 1949 – 1963. The one full rate of lime had increased crop productivity of the first seven-course crop rotation by 980 f.u per ha every year, which is a mean increase of 26%. The extra yield was 774 f.u. ha^{-1} or yield increased by 23.4% during the second crop rotation after liming. There were recommendations to use one full rate of lime according to hydrolytic acidity for initial liming of acid loamy Dystric Albeluvisols, on the basis of these and other field experiments (Kalvaitis and Kalvaitienė, 1967). A repeated liming was carried out on the soil, which 15 years before (1949) was limed at the rates mentioned above. The rates of the repeated liming (0.25 and 0.5) were determined in every background of the initial liming, before the repeated liming in spring 1964. When comparing the net profit, gained from the use of initial (15 years) and repeated (21 year, i.e. 3 seven-course crop rotations) liming, 0.5 rate of lime according to hydrolytic acidity was recommended for repeated liming (Plesevičius, 1990). The design of the field experiment changed once more in 1986. The effect of periodical liming by pulverized limestone applied at different intensities (at rates 0.5 and 2.5 every 7 years, as well as at the rates 1 and 2 every 3 – 4 years) was investigated in relation to changes in soil physico-chemical properties and crop productivity (Ožeraitienė, 2000, 2001). These have formed a unique resource for different investigations, including: activity of enzymes, micro- and macro- soil organisms, migration of nutrients and changes in the amount and toxicity of heavy metals.

The summary of fundamental and conceptual research in East Lithuania (Vokė Branch of the LIA) during 1972 – 1991 demonstrated a long-term influence of pulverized limestone on soil chemical properties. These soils are automorphic slightly podzolized soddy-podzolic, or hapli-dystric Cambisol loamy sands according to the FAO Classification. The influence of this lime on soil properties persisted for over 20 years. The estimated optimal rate of lime was 1 rate according to hydrolytic acidity (Tripolskaja and Ignotas, 1997).

Soil of these field experiments had been conserved during 1993 – 1996. New field experiments were carried out in 1996, because climatic and soil formation peculiarities significantly influence liming efficiency and the duration of its effect. The findings of this experiment confirm that effects of liming included not only arable (Ap) topsoil horizons, but also subsoil. Changes of soil chemical properties in EB and B-horizons were the result of long-term intensive liming. Even the effect of 1 rate of pulverized limestone was noticeable on the whole soil profile properties during 24 years. Liming neutralized acidity in genetically acid EB-horizons at 20 – 40 cm depth. The most intensive decrease of soil acidity under the application of 1 – 2 rates occurred to 40 – 60 cm layers. Previous periodical liming with 1.0 – 3.5 rates decreased exchange acidity in the whole soil profile (Marcinkonis and Tripolskaja, 2001).

Conclusions. Liming is an effective and essential part of good land management. A conclusion supported by Goulding and Annis (1998), based on long-term investigations at Rothamsted Experimental Station, U.K. Therefore, there is an urgent need to solve problems of dramatically increased soil acidification in Lithuania. Addressing this need will avoid drastic increases in toxic heavy metal availability, decreased soil biological activity, and associated biological effects of decreased plant productivity and biodiversity and thus food quality.

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National Capacity Self-Assessment Related to Environmental Management of Global Conventions in Slovakia

In May 2001, at the Conference of the Global Environmental Facility Council (GEF), a framework strategy was approved. This strategy supports national projects aimed at capacity assessment to meet commitments of three international conventions formulated during the 'UN Conference on the Environment and Development' (UNCED) held in Rio de Janeiro in 1992. The strategy is known as the 'National Capacity Self-Assessment Project' (NCSA). At present, there are over 20 such projects in progress in Central and Eastern Europe and Central Asia. The Project 'Priority Identification and Capacity Development to meet Slovak Republic Commitments Resulting from Global Environment Conventions' is one of them, developed from February 2004 to June 2005. It was the first opportunity to research practical acceptance and realization of the commitments at the national level.

The objectives of the NCSA Project included:

- To map requirements for capacities to fulfil the three UN global conventions, the so-called Rio conventions (Convention on Climate Change, Convention on Biological Diversity, Convention to Combat Desertification in Those Countries Experiencing Serious Droughts and/or Desertification).
- To identify priorities and needs of capacity development to enable fulfilment of the commitments resulting from these conventions.
- To identify common and cross-cutting problems of the Rio Conventions.
- To propose measures to enforce or create new capacities for each research area.
- To propose measures to enforce or create new capacities to solve cross-cutting issues, that is to adopt an integrated approach.
- To propose strategies to enforce capacities, which will secure an integrated approach to Rio Conventions.

More than 70 experts were incorporated into the Project, representing scientific institutions, universities, non-governmental organizations (NGOs) and the private sector. They were working in three thematic and one cross-cutting working groups.

The first step was to define the meaning of capacity development building. The term 'capacity building' is used in many contexts. It is widely understood as human resources development and the existence of effective institutions. According to 'Capacity Development Initiative (2000)', the framework to develop capacities focuses on three levels: individual, institutional and system. On the individual level, capacity development is a process of change in approach and individual behaviour. This is secured by sufficient education and knowledge exchange during conferences, seminars and research missions. In the same way, a space for personal involvement in plans and

decisions, motivation to professional development and responsibility for decisions is created. Building of capacities at the institutional level includes transparency in institution's activities, financing and its competencies. The system level of capacity building is the most important. It includes creation of 'favourable' political, regulatory and financial frameworks for individuals and institutions.

The important outcome of the Project was three Thematic Assessment Reports on the status of the Slovak Republic to carry out results from the Rio Conventions as well as one cross-cutting Report. The reports state that the political support for global environmental protection is high. However, in Slovakia, the Rio Conventions were accepted as a political obligation in various time periods, isolated and ignoring relations between the particular conventions. The result is inconsistent implementation and little integration of responsible authorities and institutions at the national level. Besides, the conventions have very little publicity. Only highly specialized institutions or centralized state administration are involved. Regional and local level institutions, as well as public, are only marginally informed. Objective control of possible duplication in the commitments provision and the tasks from the individual conventions, as well as effective control of existing limited sources (financial, human, informational and material) is missing.

The working groups had the greatest problems with financing analysis. Neither Slovak government, nor competent ministries, defined the financial requirements related to fulfilment of Rio Conventions. No analyses had been carried out before the conventions were ratified. Thus, practical provision of the commitments from the conventions was underestimated.

On the whole, Slovakia has an excellent existing base for the implementation of the Rio Conventions. Nevertheless, there is the need of more co-ordinated and focused actions to ensure the effective use of research, improve the knowledge of managers and decision makers, and to provide more information and opportunities for the public to participate in the implementation process.

The Thematic Assessment Reports are accessible on:

www.vupu.sk.

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Invitation to Join the 'World Association for Soil and Water Conservation' (WASWC)

Dear Member of the ESSC,

If you are not yet a member we would like to invite you to be a Guest member of the 'World Association of Soil and Water Conservation' (WASWC) from now until mid-March 2006 and you may decide to join us as a paid member later.

Being a guest member you will have the same rights as paid members in all categories, i.e. **Individual** members, **Life** members and **Organization** members. Benefits that you may receive include:

- Access to our online publications, i.e. WASWC Newsletter and Journal of the WASWC (JWASWC) posted on the websites:

  www.waswc.org
  http://waswc.ait.ac.th.

You may type **waswc** and **waswc8641** for username and password, respectively, when asked. Our quarterly newsletter is a comprehensive publication that keeps you abreast of all important news about soil, land, forest, water, conservation, management and participation from all over the world, presented in five languages. These are **English, Spanish, French, Chinese** and **Portuguese,** and will be soon followed by **Bahasa Indonesian, Russian** and **Arabic.** You may contribute short articles and have interaction with all other contributors – normally achieved via e-mail.

- You are welcome to publish your research and development work in the peer-reviewed JWASWC at no cost. We have academic and language specialists to help in the editing process for your papers.
- You will receive a copy of our Special Publication (SP, a booklet). The first issue (2003) is 'Pioneering Soil Erosion Prediction: the USLE Story', the second (2004) is 'Carbon Trading, Agriculture and Poverty' and the third (2005) is 'No-Tillage Agriculture'. You need to indicate which one you want and let us know your physical address. Allow a few weeks for postage.
- You will be among thousands of specialists in various fields. Presently, the WASWC has around 5,000 members living in 120 countries where over 100 officers (Councillors, Vice Presidents and National Representatives) will gladly assist you in the matters that you may request.
- You will also have access to several thousands of digital photos concerning all aspects of soil and water conservation, posted on the websites:

  http://community.webshots.com/user/waswc
  http://community.webshots.com/user/waswc1

These can be freely downloaded for your use. We have photograph competitions, which for each quarter three winners will receive one good book each from our publishing partner, Science Publishers Inc. USA:

www.scipub.net.

So please enjoy your Guest membership in WASWC from now until March 2006 when the password of the website will change for the next year. By that time you may decide to sign up as a paid member, the rate of which is very affordable, i.e. $5 a year in developing countries and $10 a year in developed countries and international organizations. Alternatively, you may suggest your organization to sign up as an Organization member, the rate of which is less than 1 dollar/person/year – and all staff members and students will get full benefits from that.

Apart from the password-protected pages for the Newsletter and JWASWC, there are many other features in our website that you and your colleagues may enjoy browsing and downloading for your use without any restriction. A newly established page on 'Law and Policy' is also of much interest.

Thanks and with my best wishes,

Dr Samran Sombatpanit
President of the WASWC
Bangkok, **Thailand**

1. The Application Form, with information about the categories and rates of membership, is available from the websites:

   www.waswc.org
   http://waswc.ait.ac.th.
2. The WASWC Newsletter issue 21(3) has just been recently posted. Translation into other languages is being carried out. Subsequent issues will be posted at an interval of every 3 months. Issues older than one year are freely accessible from our Beijing website:

   www.swcc.cn/waswc.
3. To help encourage membership we ask you to please kindly forward this mail to your friends, colleagues, as well as to send it through e-mail networks that you know or are responsible for, so they will get to know and benefit from our service. Many thanks for that.

Twenty-five Messages that People do not Like to Hear

The evidence seems overwhelming that man's invasive actions with nature have disrupted the patterns and processes of most of the world's ecosystems. Even as society faces more uncertainties about the conditions and trends of resources and uncertainties about the application of wisdom to mediate the changes that are occurring, there is still hope that the ingenuity of humankind will somehow begin the process of healing the wounds of an endangered planet.

I believe that part of the solution is embracing the art of story-telling and reviving our interest in finding the real values that guide human behaviour. But what is so great about story-telling? It is the oldest known form of transferring technology, and beliefs, and values from generation to generation. It brings with it the realization that to hear a spoken message and look into the eyes of the storyteller is far more powerful than to read the written word, no matter how erudite or cleverly worded it may be. Stories have the power to go straight into people's hearts.

What if we had a storehouse of stories that could help people address the issues that confront us today? What if we honed our ability to assist others as they struggle to understand and to take positive actions to create a better world? What if we could bring empathy and genuine concern to the messages that people generally do not like to hear? What messages? Here is my list.

1. The challenge for civilization is to reconcile the demands of human development with the tolerances of nature.
2. The impact of so many people for rather long periods of time has been the creation of anthropic landscapes.
3. Any form of land use by humans is at the expense of natural systems that undergo structural and functional changes as a result.
4. Many anthropic environments have lost the balance of natural soil functions that once sustained them.
5. Soil degradation is the result of excessive loads on an ecosystem and crossing of critical thresholds.
6. Soil degradation restricts the functions of soils.
7. Anthropogenic influences on soils operate primarily at the local and regional levels; the problems are closer at hand than you may expect.
8. Modern civilization is dependent on the managed exploitation of terrestrial ecosystems.
9. An understanding of soil and ecosystem resilience is crucial to achieving environmental integrity.
10. The regenerative capacity of soils under natural conditions is less and slower than needed by modern society.
11. The tolerances of nature are not anthropogenic; they are not subject to debate or interpretation. Nature only records the flow of energy – it makes no judgments.

12. Moderating the flow of energy and water and nutrients to maintain the health of an ecosystem is limited by the quality of soils, climatic conditions and the land management strategies that are employed.
13. Environmental stewardship is like a global Earth ethic – it is only a vision on the far horizon.
14. Stewardship is the social acceptance of sustainability.
15. A sustainable future needs citizens who understand the interconnections among the environmental, economic and social disciplines.
16. Management of natural resources must rest solidly upon ecological principles and processes.
17. The primary function of science is to help man adjust to nature and to help social groups adjust to nature.
18. Look at how we do business and science: fragmented, splintered and dispersed; goals are money or power or both; and they are driven by profit not empathy and love for each other.
19. Human values are moving away from wanting harmony with nature.
20. Education is our passport to the future.
21. Good teachers teach you how to think, not what to think.
22. Water scarcity is the most under-rated resource issue facing the world.
23. The flow of waste products (garbage, sewage, industrial) is absolutely staggering.
24. Options and alternatives are important because all information carries with it uncertainty.
25. We cannot transfer technology without institutional change that can socialize and implement that technology.

Story-telling is the most valuable skill you can develop to help you influence others. You need as many stories as possible in your tool-kit if you want to influence the values of others effectively enough to change their behaviour.

Many of the following ideas have been taken from an excerpt of Annette Simmons' book, 'The Story Factor: Inspiration, Influence, and Persuasion Through Story-telling' that is provided on-line by the International Story-telling Centre at:

http//:www.storytellingfoundation.net (accessed 30/11/05).

Those you wish to influence begin with two major questions: "Who are you?" and "Why are you here?" Until these questions are answered they don't trust what you say. Their trust in "who you are" becomes the connection that serves as a conduit for your message.

How can we expect people to trust us, to be influenced by us, when we don't let them know who we are? When we separate our attempts to influence from who we are personally, we neglect the most important criteria most people use to decide whether to listen to us or not.

People don't want more information – they are up to their eyeballs in information. They want faith – faith in you, your goals, your success, in the story you tell. Genuine influence goes deeper than getting people to do what you want them to do. It means people pick up where you left off because they believe.

Even if a listener decides you are a trustworthy human being, they still wonder what's in it for you to get their co-operation. Before you tell someone what's in it for him or her, they want to know what's in it for you. If your listeners are comfortable with whom you are and why you are here, then they are ready to listen to what you think is in it for them. To live in this world with purpose and meaning we must tell ourselves some stories of vision that gives our struggle meaning. A vision story is the antidote to meaningless frustration.

Telling a meaningful story means inspiring your listeners to reach the same conclusions you have reached and decide for themselves to believe what you say and do what you want them to do. People value their own conclusions more highly than yours. Once people make your story, their story, you have tapped into the powerful force of faith.

Persuasion, bribery and charismatic appeal as means of influence are push strategies. Storytelling is a pull strategy. Ever try to push a wet noodle?

When you design a story about messages people don't like to hear, keep in mind that: a world without stories is fundamentally inhuman- it has no imagination, only a starving person eats the seeds for the next years crop, and Nature always bats last.

Be proud to exclaim, "I touch the future. I teach".

Richard W. Arnold (retired),
USDA-NRCS
Washington DC, **USA.**

NEW Ph.D. THESIS

One new Ph.D. thesis is reported in this issue:

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Impact assessment of soil and water conservation in West Usambara highlands, Tanzania (2005)

Abstract

Soil and water conservation (SWC) measures are needed to control soil erosion and sustain agricultural production on steep slopes of Usambara Mountains. The need

for SWC has resulted in the development and promotion of several SWC measures by both governmental and non-governmental programmes. However, there is limited information on their physical effectiveness and financial efficiency to convince farmers to invest in SWC. Farmer's preferences and social economic factors that influence the adoption of SWC measures have also not been adequately considered. As a result, the adoption of many recommended SWC measures is minimal and soil erosion continues to be a problem. This research was conducted in order; (i) to determine the social and economic factors that influence adoption of SWC measures, (ii) to assess the physical effectiveness of bench terraces, grass strips and fanya juu[1)], being the major SWC measures used in West Usambara Highlands and (iv) to assess the costs and benefits of bench terraces, grass strips and fanya juu.

For this research a household survey, group discussions and transect walks were undertaken. Gerlach troughs and runoff plots were used to assess the physical effectiveness. And a simple tool for Financial Cost Benefit Analysis (FCBA) was developed and used to assess the financial efficiency of SWC measures to different groups of farmers.

Results indicate that fanya juu is the most effective measure in reducing soil and water losses followed by bench terraces and grass strips. However, bench terraces retained more soil moisture and increased maize and bean yields more than fanya juu and grass strips. FCBA results showed that labour is the major cost item in implementing SWC measures and it is higher for bench terraces than for fanya juu and grass strips. The results also show that the costs of establishing SWC measures exceed the returns in the first two years. However, over a period of 15 years the Net Present Value is up to US$ 608 ha^{-1} for bench terraces, US$ 309 ha^{-1} for fanya juu and US$ 184 ha^{-1} for grass strips. It was also found that SWC measures are not financially attractive to the majority of farmers with off-farm activities and other sources of income.

Involvement in off-farm activities, insecure land tenure, location of fields and a lack of short-term benefits from SWC are among the major factors that negatively influence adoption of SWC measures. Membership in farmer groups, level of education, contacts with extension agents and SWC programs were found to be positively influencing the adoption of SWC measures. Recommendations to facilitate adoption of different soil and water conservation measures include: integration of social and economic factors into SWC plans, the creation of more awareness among farmers on soil erosion effects and long-term benefits of SWC, the development of flexible soil and water conservation measures to cater for different farm patterns and a participatory approach to soil and water conservation at catchment level rather than at individual farmers' fields.

[1)] Hillside ditches made by throwing excavated soil on the upper part of the ditch

1st International Conference on 'Eco-Engineering: The Use of Vegetation to Improve Slope Stability', 13 – 17 September 2004, Thessaloniki, Greece

September 2004 saw several interesting issues devoted to the use of eco-engineering with regards to slope stability and soil erosion problems. These were the subjects of the '1st International Conference on Eco-Engineering' held in the City of Thessaloniki (Greece). The Conference was organized by a contract of the EC Research Programme 'Quality of Life Programme, Thematic Priorities 5.3.1. QLK5-2001-00289/ECOSLOPES' and supported by the National Agricultural Research Foundation (NAGREF), the Institute de la Recherche Agronomique (INRA), the International Union of Forest Research Organization (IUFRO), the World Association of Soil and Water Conservation (WASWC), the Global Mountain Biodiversity Assessments (GMBA), The International Geosynthetics Society (IGS) and the European Society for Soil Conservation (ESSC). The organizing committee comprized of Ioannis Spanos (NAGREF, Greece), Alexia Stokes (INRA-LRBB, France) and Joanne Norris (Nottingham Trent University, UK), who gave participants the opportunity to discuss the latest advances in all aspects of eco-engineering research with special emphasis on slope stability and erosion problems in an enjoyable atmosphere.

Over 100 participants representing 22 countries attended the meeting, with 55 oral presentations and 90 posters. The Conference was split into eight sessions, an afternoon of workshops, including a visit to the Forest Park of Thessaloniki, and one field trip to Mount Olympus. The sessions dealt with the mechanics of root reinforcement, soil erosion and conservation, root-soil interactions, land restoration and earth stabilizing technology, slope degradation and hydrology, vegetation eco-engineering and ecology and risk management and decision support systems.

After a warm welcome from Ioannis Spanos and Alexia Stokes and the opening ceremony with contributions and welcome speeches from representatives of some local authorities, the morning of the first day was devoted to oral presentations dealing with the Mechanics of root reinforcement. This session began with the keynote presentation by Tien H. Wu (University of Illinois, USA) with a review of the simple and advanced analytical models of root reinforcement and their associated requirements and limitations. This was followed by seven presentations related to that topic. J. Norris (UK) presented results on the root anchorage of Crateugus monogyna on a motorway cutting describing the different root-soil bonds and the slope stability that it confers. Then, van Beek (University of Amsterdam, NL) talked about the root reinforcement on abandoned Mediterranean slopes and G.B. Bischetti (Italy) presented results on root tensile strength and root area ratio of several forest species in different locations of the Alps and Pre-Alps of Lombardy. The reinforcing effect of roots on soil shear strength in laboratory conditions was presented by A. Faisal (Malaysia). A

study of the radial increment and volume growth during the development of Quercus pubescens root system in response to the mechanical stress induced by slope (A. Di Iorio, Italy) was next on the agenda, followed by an example of the application of geotechnical engineering to plant biomechanical behaviour (M.F. Bransby, UK). The final presentation before a break for lunch discussed the root characteristics of the New Zealand cabbage tree to stabilize riverbanks as well as to enhance the indigenous biodiversity of these areas (C. Phillips, New Zealand).

The afternoon session (Soil erosion and conservation) began with the keynote presentation of R.P.C. Morgan (NSRI, Cranfield University, UK). This focused on the key engineering and ecological properties of vegetation to be considered in the vegetative-based technologies for erosion control by water on slopes. This was followed by two presentations related to the incidence of forest fires in Mediterranean areas; one showed the effects of repeated fires on post-fire plant community recovery in the first 15 months after fire (G. Goudelis, Greece) and the other focused on the comparison of soil response to water erosion during the first year after experimental fires and eight years later, related to the influence that shrub recovery exerted on the erosive response (E. Gimeno-García, Spain). Finally, S. Gousgounis (Greece) presented the results of applying hydroseeding and organic geotextiles on erosion control in embankment slopes and cuttings along the Egnatia-Odos road.

After that, it was time for the first of the 'one-minute' poster presentations. It was pleasing to find that time had been set aside for those responsible for the posters to present their work. Then, we moved to the poster room and ice-breaker party, where we had the opportunity to talk with the poster authors and to partake of Greek food and drink. I would like to apologize to the authors for not mentioning each poster subject, but there is a long list! However, let me make a special mention to the winners of the best posters 'award' that went jointly to P. Lorenzo (University of Vigo, Spain), and H. Khuder (INRA-LRBB, France). P. Lorenzo made a quantitative assessment of ecological interactions and plant cover and density changes through time following revegetation of a cutslope with two native turf-grasses; and H. Khuder presented work relating to the root growth and morphology of Pinus pinaster and Robinia pseudoacacia seedlings depending on slope angle.

Day 2 of the Congress, under the theme Root-soil interaction, started with the keynote address of T. Fourcaud (INRA, France) on the review of numerical models of root-soil interaction that can serve in answering fundamental and practical questions on both biomechanics of tree anchorage and soil reinforcement by roots. Continuing with this subject, A. Stokes (France) presented the main results of the mechanical resistance of trees (fir, beech and Norway spruce) to failure by rockfall by means of bending tests in situ, and T. Lundström (Switzerland) examined the stability of single trees of Norway spruce against rock falls. Other presentations within this topic had a distinctly individual flavour: from the study of root architecture on steep slopes with the influence of a prevailing wind (B. Nicoll, UK); to the influence of container type on the root morphology, growth and field survival of two evergreen oak species (M. Tsakaldimi, Greece); to the advantages of asexual regeneration, like the use of tree suckering and tip-layering in African tropical regions to stabilize slopes (R. Bellefontaine, France); to the work of D. Chiatante (Italy) to test the hypothesis that

adaptation of root architecture to slope is a dynamic process that may depend also upon the onset of a new mechanism of lateral root emission; and finally, M. Marden (New Zealand) who talked about the advantages of restoration of riparian areas by planting indigenous woody species rather than exotic species.

After a break for lunch, we had the opportunity to visit the Forest Park of Thessaloniki in a short trip that helped stretch our legs after the morning session! The Park, which was burned in 1997, is an urban forest close to Thessaloniki City, where several vegetation restoration and erosion control techniques have been applied, together with water-flow control works, to prevent soil and slope degradation. Then, we moved to the NAGREF building where six different workshops awaited us.

Workshop sessions demonstrated to participants several field techniques and equipment used in eco-engineering, such as the root architecture measurements using the 3D Polhemus digitizer and the drip-plate rainfall simulator. Other workshops focused on numerical techniques for modelling root anchorage and analysing the effects of vegetation on slope stability (SLIP4EX). The software recently developed to apply in eco-engineering (Slope Decision Support System-SDSS and the ForestGALES) was also shown, allowing delegates to discuss together in an informal atmosphere. After the end of a stimulating day we had an informal dinner near NAGREF.


Two general views of the Forest Park, Thessaloniki


Erik Cammeraat showing the portable rainfall simulator of the Amsterdam design (left) and Kiki Gouskou explaining the 3D root digitizer (right) in the workshops afternoon at NAGREF

Conference participants in front of NAGREF, Thessaloniki

The morning of Day 3 was devoted to the session Land restoration and earth stabilizing technology. E. Cammeraat (IBED, University of Amsterdam, NL) gave the keynote address and reflected on the possibilities and difficulties of eco-engineering in landscape restoration, using examples of reforestation and natural vegetation succession on slopes. The session continued with the talk of I. Spanos (Greece) on the effects of different post-fire management activities on vegetation recovery in Pinus halepensis forests. W. Lammeraner (Austria) presented work carried out in the Middle Mountains of Nepal, shifting the bioengineering plantations from the pre-monsoon period to winter. Next, P. Raymond (Canada) showed a case study of biotechnical slope stabilization of landslides on a road in British Columbia and A.L. Kidd (UK) dealt with the usefulness of willow poles for stabilizing highway slopes. A. Corneo and E. Crippa (Italy) described the works for erosion control and slope stabilization in the surrounding area of a thermoelectrical centre. J. Heumader (Austria) showed the advantages of the re-vegetation of humus-deficient soils with biennial cover plants in the Austrian Tyrol. M. Fabius (Canada) described the 20-year history of successful risk management of landslide hazards on a river. The last talk in the morning showed an ecological engineering design for shoreline stabilization, beach preservation and maintenance of the coastal ecosystem (K.D. Jones, USA).

The afternoon started with the theme Slope degradation and hydrology (I). The session began with the keynote presentation of H. Nakamura (Tokyo University of Agriculture and Technology, Japan) presenting the stabilization and reinforcement of unstable forested slopes by the application of external loads. The session continued with the presentation of T. Bogaard (The Netherlands) on the current possibilities and limitations of hydrological and geomechanical modelling to study the hydrological effects of vegetation on slope stabilization. M.C. Andrenelli (Italy) presented results on the short-term hydrological balance in a beech coppice by means of rainfall simulation, and S. Stanchi (Italy) investigated the relationship between water stable aggregates and vegetation cover in the Alps. After the coffee break, the second part of the afternoon was devoted to poster sessions.

At the end of another stimulating day, the evening was nicely rounded off with the Conference dinner, a buffet meal that included some Greek gastronomic delights and … dances! 'Tall Yannis' (Y. Raftoyannis) was declared the best dancer!

At the end of the conference dinner participants learnt some Greek dances guided by 'Tall Yannis.'

The last day was devoted to oral presentations dealing with Vegetation, Eco-engineering and Ecology. The session began with the keynote talk of C. Körner (University of Basel, Switzerland) presenting case studies from the European Alps and the Central Caucasus to illustrate the significance of biodiversity and plant cover type for the integrity of alpine ecosystems. J.R. Greenwood (UK) reviewed the procedures applied and techniques used within the ECO-SLOPES Project to enable the effects of vegetation on slope stability to be quantified. Then, J. Montalvo (Spain) highlighted the importance of the ecological criteria for species selection to be successful in eco-engineering restoration to stabilize slopes. Next in the agenda was F. Rey (Cemagref, France) who was awarded with the prize for the best young person's oral presentation. He presented results on the effects of vegetation dynamics on sediment deposits upstream of bioengineering works in marly gullies. Other presentations within the 'eco-engineering and ecology' issue were about the restoration of slopes disturbed by a motorway construction with native flora (M. Katridzidakis, Greece); the grass and legume species selection for cutslope re-vegetation (J.K.W. Lau, China); the impact of management practices on soil properties in cork oak woodlands (T. Panagopoulos, Portugal); the case study of the land restoration for the Olympic Games (J. Georgi, Greece) and the long-term plant development that successfully stabilized slopes using biotechnical constructions (R. Stangl, Austria).

In the afternoon, participants were able to learn more about Slope degradation and hydrology (Session II), with the talk form L. Dorren (France) analysing the advantages and disadvantages of eco-engineering and civil engineering in the natural hazard of rock falls in forests. Then, F. Berger (France) presented the RockFor^{NET} as a tool for quantifying the protective role of a forest against rock fall. G. Mantakas (Greece) examined the effect of different vegetation techniques on a mining spoil slope. M. Frei (Switzerland) proposed a new slope stability model considering the effects of plant roots on soil shear strength. P.D. Hallet (UK) focused his presentation on the effects of removing vegetation on railway embankment stability, and T. Schmid

(Switzerland) presented the results of the re-vegetation with site-adapted seeds on steep slopes in high altitudes.

The afternoon continued with the last session of oral presentations: Risk management and decision support systems introduced by the keynote address of S. Mickovski (University of Dundee, UK) on the Slope Decision Support System (SDSS) that combines knowledge of hazard assessment and remedial measures for different slope instabilities. The work stemmed from field investigations carried out in the 'ECO-SLOPES Project' and from different field studies available in the literature. A. Achim (UK) presented the BRC model; an analytical model of tree anchorage on slopes, and A.J. Collins (UK) showed the decision support system (DSS) for waterway bank protection against erosion, which provides a framework for making objective decisions on control measures and to encourage the use of vegetative-based approaches. The final paper of the Conference was from F. Maris (Greece), who presented a computer system for the calculation of long-term torrential risk in mountainous catchments and the DSS for their classification.

The meeting closed with the conclusions presented by Alexia Stokes: "Not enough is known about root growth on slopes", but that the experimental and numerical aspects of root reinforcement on slopes were better understood. A better quantification of the beneficial and/or adverse effects of vegetation on slopes is needed not only with regards to root reinforcement and ecology, but also economical factors. More work on the screening of appropriate species on a given slope is necessary, especially concerning native species and biodiversity. Monitoring of sites should be longer, and in particular, climatic conditions and slope hydrology should be studied over the long-term. Finally, the training of eco-engineers is of utmost importance, not only at the researcher level, but also at the end-user and local stakeholder level.

Last day! A nice field trip to the highest Greek mountain and residence of the 12 ancient gods: Mount Olympus. In 1938, it was declared the first National Park in Greece and the conference participants had the opportunity to enjoy the different forest ecosystems ... on steep slopes!

The organizing committee: Ioannis Spanos (NAGREF, Greece), Alexia Stokes (INRA-LRBB, France) and Joanne Norris (Nottingham Trent University, UK), with the help of an excellent group of collaborators, must be congratulated by the great success of the Congress. Alexia Stokes is preparing the '2nd Eco-engineering Conference', to be held in Bejjing, China, in 2008.

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'International Workshop on Strategies, Science and Law for the Conservation of the World Soil Resources' Selfoss, Iceland

Experts from 20 countries met at a workshop at Selfoss in Iceland from14 – 18 September 2005 to discuss the integration of science, policy development and legal tools for the conservation of the precious soil resources of the world. This broad approach was quite fruitful; showcasing that solutions to soil conservation problems must integrate a wide range of disciplines and approaches.

This international workshop was organized by SCAPE; an EU-funded Concerted Action established as a platform to discuss strategies for soil conservation and protection in Europe, in conjunction with an international group of legal and scientific experts from around the world, and with the Soil Conservation Service of Iceland and the Agricultural University of Iceland. The other key institutions involved in the workshop with specific interests in legislative and scientific aspects of soil conservation included the 'World Conservation Union' (IUCN), the 'World Association of Soil and Water Conservation' (WASWC), the 'International Union of Soil Science' (IUSS), the 'European Confederation of Soil Science Societies' (ECSSS) and the 'European Society for Soil Conservation' (ESSC).

In addition to reviewing European and global soil conservation science and policies, an important feature of the workshop was to complete final stages in preparation of the outline of a new international law on soil. This draft law is being prepared by the Specialist Group for Sustainable Use of Soil and Desertification of the Commission of Environmental Law of the 'World Conservation Union' (IUCN).

The briefing papers for the workshop were published in a 270 page-long proceedings, which span an unusually broad range of topics, integrating fields such as basic soil protection, geo- and biodiversity, agricultural policies and subsidies, research issues, strategies and policies, legal management and solutions and the role of international agreements. This publication is available from:

www.SCAPE.org.

Four working group reports from this Iceland workshop are also available at the same website:

They are:

1) Soil Protection in Europe: Problems and Policy.
2) Desertification: the Road Forward.
3) An International Environment Law Instrument for the Sustainable Use of Soils, which is in the form of a draft protocol.
4) The Selfoss Statement on Soil Conservation in Iceland.

Iceland was chosen as the venue to host the workshop because it has unusually vivid examples of both the severity of land degradation and because of experience in mitigating these problems. One day-long and two shorter field excursions demonstrated to participants that Iceland has faced tremendous land degradation and desertification (see www.rala.is/desert), but has also gained long experience in many types of remedies, including law, subsidy-related solutions and a wide range of successful participatory approaches. It is especially noted that it is believed that the oldest operating soil conservation service of the world is based in Iceland, Landgrćđsla ríkisins (the Icelandic SCS; direct translation is 'healing the land institute'), which was established in 1907. A century of soil conservation will be celebrated with appropriate events in Iceland in 2007.

Welcome and opening presentation by Dr Sveinn Runolfsson (Director of Landgrćđsla ríkisins)

It is hoped that the Selfoss Workshop marks an important milestone towards an international agreement on soil protection and that further development of ideas and protocols presented at the Workshop will be put forward on international platforms in the future. The 100-year anniversary of soil conservation in Iceland to be celebrated in 2007 would be a highly appropriate opportunity to launch such milestones.

Field visits to study reclamation work in progress on volcanic soils, in the vicinity of Mount Hekla, southern Iceland

Dr Andres Arnalds
Gunnersholt, **Iceland**

The Selfoss Statement On Soil Conservation In Iceland

We, the scientific, legal and technical experts on soil conservation from 20 countries attending the International Workshop on 'Strategies, Science and the Law for the Conservation of the World's Soils' meeting at Selfoss in September 2005:

1. Recognize the power and scale of the natural processes, which cause extensive and severe soil erosion in Iceland. And note the views of Icelandic experts that, since The Settlement of Iceland in the Ninth Century, human activity has dramatically exacerbated the problem.
2. Commend the Government of Iceland on its longstanding commitment to promoting soil conservation.
3. Congratulate Landgræðsla ríkisins (the Icelandic Soil Conservation Service) for its work over almost a century to combat soil erosion. Welcome, in particular, its integrated programme of activity, embracing science and technology for soil stabilization and ecosystem management, and its work with local farmers to increase their knowledge and capacity as soil conservers.
4. Welcome the systematic efforts to gain understanding of degradation problems and restoration and the building of professional competence to deal with the problems, by the Soil Conservation Service, the Icelandic Forestry Service, the Agricultural University of Iceland, the University of Iceland, and other institutes.

In praising the progress made, we also note that there are large areas of severely eroded soil currently unstabilized, and there is the potential for significant natural events and human activity to increase or exacerbate soil erosion. We encourage, therefore, the Government of Iceland and the Parliament of Iceland, the Althingi, to:

1. Continue and broaden the commitment to soil conservation within the context of ecosystem management for the next century, as it has done for the last century.
2. Provide the human, technological and financial resources needed to work effectively with farmers and other landholders and all appropriate organizations throughout Iceland, and so intensify soil conservation activities in all parts of the country.
3. Develop a comprehensive new law on soil conservation modelled on the best international practice and adapted to suit the particular environmental, economic, political and social circumstances of Iceland.
4. Increase the institutional capacity and improve the effectiveness of soil conservation activities through greater co-ordination and co-operation between all relevant national and regional bodies; and
5. Recognize the high international standing of Icelandic soil conservation work and support the promotion of Icelandic knowledge and experience in soil conservation to other parts of the world.

Editor's Note: The 'Protocol for the Conservation and Sustainable Use of Soil' is currently in an advanced draft stage and includes 49 articles. We will keep readers fully informed as this important document progresses.

The Seventh 'Czech-Italian Pedological Meeting', Sardinia, October 2005

From 14 – 19 October 2005 the seventh 'Czech-Italian Pedological Meeting' was held, this time in Sardinia. The theme was: '**From North to South Sardinia: Soil and Water, Environment, Archaeology and Cultural Heritage**'.

The Meeting was organized by the Universities of Sassari, Milan-Bicocca, Palermo, Cagliari and the 'Ente Autonomo del Flumendosa' (Corporation for Water Management in South Sardinia) and was sponsored by the Italian Society for Soil Science (Fifth Commission) and the Italian Society of Pedology. The Meeting involved nearly 30 researchers from the Universities of Sassari, Milan-Bicocca, Palermo, Cagliari, Turin, Prague and from the 'Ente Autonomo del Flumendosa' and the 'Research Institute for Soil and Water Conservation' of Prague.

Participants of the meeting during the field trip to the 'Supramonte' area of north-east Sardinia

The programme was devoted to both aspects of soil science and environment (such as problems of soil classification, comparison between different nomenclatures, climate, geology and vegetation) and landscape, archaeology, cultural and social aspects (i.e. visits to areas of remarkable cultural interest, including sites promoted by UNESCO). Moreover, there were fruitful discussions on important problems of soil management and the relationship between soil, landscape and environment, particularly the environmental impacts of mining activities and site remediation.

One day was devoted to seminars concerned with the followings aspects: anthropogenic soils (Professor Dazzi); soil recovery in former military areas (Professor Novak); soil pollution from heavy metals (Professor Buondonno, Professor Vacca, Dr Capra); the impact of destructive floods on soil contamination (Dr Vacha); the Strategic Environmental Assessment (Dott.ssa Cabula, Dott.ssa Rosnati) and soils and landscapes of Chilean Patagonia (Professor Previtali and Professor Sefrna).

The 2006 Meeting will include the participation of researchers from the 'Nikola Poushkarov Institute of Soil Science' and The University of Sofia. Therefore, the eighth in the series of meetings will be held in Bulgaria in October 2006.

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Book Reviews

Australian Soils and Landscapes – An Illustrated Compendium: Neil McKenzie, David Jacquier, Ray Isbell, Katharine Brown, CSIRO Publishing, Canberra, 2004. 432 pp. ISBN 0-643- 06958-5. Cost: approx. A$150.

This publication can be sub-divided into two parts. A general introduction with five chapters, starting with 'Properties of soils', including soil morphology, mineralogy and the chemical, physical and biological properties of soils. A 2nd chapter, 'The evolution of Australian soils', shows dominant processes and a model for soil formation, highlighting environmental change in ancient landscapes. A 3rd chapter deals with 'characteristic Australian landscapes', distinguishing between ancient, deeply weathered landscapes, erosional landscapes, fluvial landscapes, aeolian landscapes, coastal landscapes, alpine and sub-alpine landscapes, with a concluding chapter highlighting contrasts to other continents. A 4th chapter explains soil functions within ecosystems, including cycles of matter and energy, water, vegetation, fire, and fauna, and concludes with lessons from natural landscapes. A 5th chapter in this introductory part of the book deals with 'Land use, soil change and future management', considering the impacts of land use, the management of Australian landscapes, and land and soil resources.

The second and more comprehensive part of this publication is a 'Compendium of Australian soils', starting with an introductory chapter dealing with the 'Rationale and format', explaining the structure of the subsequent chapter, entitled 'The representative soils'. In this Chapter different typical soils of Australia are shown, with colour pictures, sub-divided into Anthroposols, Calcarosols, Chromosols, Dermosols, Ferrosols, Hydrosols, Kandosols, Kurosols, Organosols, Podosols, Rudosols, Sodosols,

Tenosols and Vertosols. The Book concludes with endnotes, a chapter with references and an index, facilitating the search for specific soil issues.

The whole book is excellently illustrated with colour pictures, coloured figures and tables, which are easily understandable, not only for specialists, but also for readers generally interested in soil issues. The most important and most comprehensive part of the book, with 258 pages, is the 'Compendium of Australian soils', which shows and explains the main soil forms of Australia. This part is excellently structured, indicating the distribution of the soil types over Australia for each major soil class, the locations of the profiles, the climatic conditions of the locality, the soil morphology and soil chemical and physical properties, with further illustrations showing the key profile properties and the general qualities of the soil for different uses. Moreover, photographs illustrate the associated landscapes.

Although the introductory chapters deserve attention, because they are well structured and well illustrated by figures and pictures, helping to understand the evolution and the properties of soil as well as the relationship between soils and landscapes, the function of soils within ecosystems and the impact of humans on soil and land use. However, some amendments could be made: in Figure 1.9, e.g. 'aluminium' figures under 'soil nutrients'; Figure 1.10 mentions under 'soil organic matter' also the living organic matter, i.e. the biomass, which normally does not count as soil organic matter; and under 'clay minerals found in Australian soils', oxides and hydroxides are shown, using the term kaolines, which has not been introduced into the general literature on soil and soil properties. Such small errors, however, do not diminish the excellent general impression which this book provides and it can be agreed with the authors when they write in the introductory chapter that they prepared the book for interested individuals, students of environmental sciences, land managers and catchment management groups, as well as professionals in the fields of forestry, agronomy, hydrology and ecology in general.

The index is a very valuable help for readers. Nevertheless, the use of endnotes is a little cumbersome, because, instead of citing the authors directly, numbers are used, which have to be looked up in the endnotes, and then again under 'References', which makes the reading somewhat time consuming and impractical.

Generally, it can be said that this book is a comprehensive, richly illustrated compendium of Australian soils and landscapes. It deserves wide distribution, not only in Australia itself.

Professor Winfried Blum
Vienna, **Austria**

Soil Management: Problems and Solutions. Michael A. Fullen and John A. Catt, Arnold Publishers, London, 2004, 269 pp, ISBN: 0-340-80711-3. Cost: approx. U.K. Ł20.

As stated by the authors, this book provides an overview of frequently encountered problems of soil management as well as strategies for their solution. Although such a broad remit does not permit very detailed reviews, each chapter includes suggestions for further reading and hence allows one to access more detailed and advanced studies.

After an introductory chapter discussing the scale and nature of soil management problems, this book treats the following topics: i.e. soil erosion and conservation (Chapter 2), desertification, salinization and amelioration of arid soils (Chapter 3), soil water management (Chapter 4), chemical and microbiological pollution of soil and water (Chapter 5), soil acidification (Chapter 6), modification of soil structure (Chapter 7), soil organic matter and its conservation (Chapter 8), soils and climatic change (Chapter 9), and prospects for the twenty-first century (Chapter 10). For each topic, the authors provide information on the causes of the problem, practices to avoid it, ways of correcting the damage and a minimal theoretical background. I much enjoyed reading this book as it treats actual and essential aspects of each topic, provides a historical perspective on the issue and reviews important recent literature. The book also provides case studies from all over the world, but with an emphasis on the countries where both authors acquired their expertise: i.e. the UK (Rothamsted Experimental Station) and China. This book is very well written and the limited numbers of figures are very clear.

Soil Management: Problems and Prospects is timely, as many governments and bodies, such as the EU, are writing soil protection strategies. Hence, this book will be of great value: 1) to those involved in teaching soils and soil management at undergraduate and postgraduate level, 2) to students wanting to learn more about the use and management of soils, but also 3) to all those with a knowledge of soils and their functions, such as farmers, land managers, policymakers, planners and consultants. I would label this book as a must for all those with an interest in soils and soil conservation.

Professor Jean Poesen
Physical and Regional
Geography Research Group
K.U. Leuven, Leuven
Belgium

Soil Atlas of Europe. The European Union Joint Research Centre (JRC), Ispra, Italy, 2005.

The Atlas is available at:

http://www.jrc.cec.eu.int/soil-atlas

'The European Union Joint Research Centre (JRC) has opened a very informative web site, compiling a soil atlas of Europe. This is available at the same website:

(Above Editor's comment: ESSC Newsletter 2005/2, page 37).

I guess the above blurb[1)], which I was given to persuade me to look at the site worked, because I looked at the site. But although the site is informative I would quibble with the word 'very'. This is not because the site does not tell you anything about the Atlas, nor, in a crude way, what is in it, nor who has prepared it, but because it does not give you enough information. It is a teasing web site, rather than an informative one. In other words you want to look at the Atlas because the site suggests it looks interesting and it whets your appetite for more. In advertising terms the web site works, therefore.

The Atlas, produced by the EU's Joint Research Centre in co-operation with the European Soil Bureau, is aimed at EU citizens and policy makers, as well as soil scientists. A major, and important aim, is, excuse the pun, to raise the profile of soils. Why soils are important is well and succinctly put. As are the threats to them. The pictures of the landscapes and the soils which are found in them are good, often very good, but not many of the soil reference groups are illustrated on the web site. In fact, only four of 24. The soil reference groups, although their names will not be easily understood by the layman at whom this Atlas is partly aimed, are well explained. The maps of soil types, nominally at a scale of 1:1,000,000, look pretty, but to get them to a scale to relate to where you live is not possible without the image pixels becoming too apparent. This is less of a problem when the distribution of only one soil type is portrayed as the pixel size appears smaller. Areas at risk of landslides and potential flood hazards are also portrayed on the web site.

To an old fogey[2)] like me, who dislikes messing about getting pages or pictures to fit the screen and then readjusting settings to make the text readable, the site just made me want to look at the Atlas itself, the web site was not satisfying. But it was when I clicked the 'Register your order' button, from then I was hooked. For instead of finding that a high quality Atlas, such as this appears to be, is going to be very expensive to buy, I found it costs €25. Which seems an amazing bargain. I ordered one. Depending on which bit of the web site you look at, the Atlas should start to be printed in Autumn 2005.

Dr Bob Evans
Anglia Polytechnic
University,
Cambridge, **U.K**

Visual Soil Assessment Manual. Landcare Research Institute of New Zealand, 2005, 21 pp. Free access via the WWW:

http://www.smi.org.uk/publications/index.html.

You need an Adobe Acrobat Reader to read this pdf file.

Review of the 'Visual Soil Assessment' (VSA) method:

The booklet is published under the Väderstad Company of Sweden and the UK Soil Management Initiative. The VSA Method is based on the concept that many physical, biological and, to a lesser degree, chemical soil properties show up as visual characteristics and many of the visual indicators are closely related to key quantitative (measurement-based) indicators of soil condition.

The VSA method is based on the visual assessment of key soil 'condition' and plant 'performance' indicators of soil condition, presented on a scorecard. Soil condition is ranked by assessment of the soil indicators alone, namely: soil structure and consistency, soil porosity, soil colour, number of soil mottles, earthworms counts, presence of a cultivation pan, degree of clod development, susceptibility to wind and water erosion and surface ponding. Furthermore, it does not require knowledge of field history.

Each indicator is given a visual score (VS) from 0 (poor), 1 (moderate), or 2 (good), based on the soil condition observed when comparing the field sample with three photographs in the field guide manual. The scoring is flexible, so an intermediate score can be given, for example 0.5 or 1.5. However, due to some soil factors or indicators being relatively more important for soil condition than others, VSA provides a weighting factor of 1, 2 or 3. For example, soil structure is more important (a factor of 3) than clod development (a factor of 1). The score given to each indicator is multiplied by the weighting factor to give a VS ranking. Finally, the total of the VS rankings provides the overall ranking score for the sample being assessed.

Plant indicators such as crop emergency, crop height at maturity, size and development of the crop root system, crop yield, root diseases, however, require knowledge of immediate crop and field history. The plant indicators are scored and ranked in the same way as soil indicators: a weighting factor is used to indicate the relative importance of each indicator, and the contribution of each to the final determination of soil condition.

The main advantages of this simple approach are as follows:

- The VSA method has been developed to help land managers assess soil condition easily, quickly, reliably and cheaply on a field scale. It requires little and inexpensive equipment (one spade, one small plastic basin, one small hard square board, one heavy-duty plastic bag, a VSA field guide and a pad of scorecards), training or technical skills.

Editor's Note, Definitions in 'The Oxford English Dictionary':

[1)] Blurb = publisher's commendation of book.

[2)] Fogey = old fashioned person.

- Visual assessment provides an immediate, effective diagnostic tool to assess soil condition and the results are easy to interpret and understand.
- Assessing and monitoring soil condition on a farm with VSA, and following guidelines for prevention or recovery of soil degradation, can help to develop and implement best land management practices.
- The VSA can promote a better understanding of soil condition and its fundamental importance to sustainable resource and environmental management. In particular, VSA can develop a greater awareness of the importance of soil physical properties in governing soil condition and on-farm production.

There are also some disadvantages, such as:

- It refers mainly to the physical properties of the first 20 cm of topsoil.
- Identifying and selecting the reference sites in areas subjected to significant land degradation is rather difficult.

Therefore, all points considered, the VSA method could be efficiently used in combination with conventional methods, which involve physical and chemical analyses.

Professor Dr Ion Ionita
The University of Iasi,
Romania

The Government of The Netherlands states its policy on Soil Protection

The Government of The Netherlands has stated its views on the European Soil Protection Policy. The 10-page policy statement 'The view of The Netherlands on a European Soil Protection Policy' (2005) is available as a 'pdf' file on the international web site of 'The Netherlands Ministry of Housing, Spatial Planning and The Environment' (VROM):

http://international.vrom.nl

Editor's note:
We have asked VROM for permission to print the statement in the Newsletter and will do so if permission is granted. Thanks to Bernard Vanheusen (Hasselt, Belgium) for bringing this important document to our attention.

Europäisches Bodenschutzrecht (European Soil Protection Law): Dr Irene L. Heuser, Erich Schmidt Verlag GmbH & Co., Berlin, 2005, 664 pp, ISBN: 3-503-087-001. Cost €149.

Volume 80 of the Institute of Environmental and Technical Law

Editors: Professor Dr Reinhard Hendler, Professor Dr Peter Marburger, Professor Dr Michael Reinhardt, LL.M., and Professor Dr Meinhard Schröder

Since the early 1970s, European environmental policy increasingly committed itself to cleaning air and water. Only in recent years has the protection of soils against biological, chemical and physical endangerments attained more awareness. At EU level, protecting our soils does so far not take place in a systematic way. A turning point was marked by the '6th Environmental Action Programme', with the intention to develop a specific EU strategy for soil protection.

This book on European soil protection law carefully analyses the efficiencies of existing EU legislation, especially in the EC Treaty and the secondary legislation in the fields of agricultural, environmental and research policy. In order to develop a future European soil protection law, possibilities for a soil protection directive are created by a problem-orientated comparative legal study. According to these reflections de lege ferenda, principles and instruments of EU soil protection law are developed with regard to existing legislation of EU Member States and international organizations. The focus lies on the instruments of planning, responsibilities, legal standards and economic solutions of soil protection. These general considerations are evaluated in the context of EU competences and the principle of subsidiarity. Finally, modules for a future soil protection law are presented.

Contents:

- Aspects of endangerments and protection of the soils.
- EU soil protection law and its development de lege lata.
- Reflections de lege ferenda on the creation of an EU soil protection law.
- Modules for a future EU soil protection law.

The book is only available in German. It can be ordered directly from the publisher: Erich Schmidt Verlag GmbH & Co., Genthiner Strasse 30G, 10785 Berlin, Germany.

Fax: +49 30 250085 275.
www.ESV.info
www.UMWELTonline.de
E-mail: ESV@ESVmedien.de

Recent Publications by ESSC Members

We are including the citation details of papers and books produced by ESSC members. This will provide a growing resource for exchange of valuable information to both research and teaching. The cumulative citation list is being added to and updated on the ESSC web site. Please e-mail the citation details of papers in international refereed journals since and including the year 2000 to any member of the Editorial team.

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Available PhD Studentships

The '**Environmental and Sustainability Group**' of the 'Research Institute in Advanced Technologies' (RIATec) at The University of Wolverhampton (UK) invites applications for two funded Ph.D. studentships in Environmental science / Soil conservation.

Studentship 1: **Environmental contribution of palm geotextiles to sustainable development and soil conservation.**

Despite recent improvements in soil conservation technology, relatively little research have been conducted at the interface between soil technology and socio-economic issues, such as sustainable development, poverty alleviation and rural employment. Over the last three decades, significant advances have been made in our understanding of various soil erosion mechanisms and rates under different environmental conditions. Despite this achievement, there have been few advances in developing innovative soil erosion control techniques. Palm-mat geotextiles have the potential to advance soil erosion control on, for instance, building and road construction sites and in coastal defence. However, available studies do not allow quantification of the effectiveness of palm-mat geotextiles in reducing rates of soil erosion by wind and water.

Palm geotextiles offer considerable potential to contribute to global sustainable development and soil conservation. The Project will test geotextile mats made from the leaf of 'Borassus aethiopum' and structurally similar species in field and laboratory conditions, to evaluate their long-term effectiveness in controlling soil erosion and to assess their sustainable viability.

Supervisory team: **Professor Michael Fullen, Dr Colin Booth and Professor Bob Sarsby.**

Studentship 2: **Pedogenic processes of the coastal dunes, Sefton, north-west England.**

The British coastline is a vital national heritage. It is imperative we have a greater understanding of the complexity of the coastal system, as it is subject to rapid environmental change. Pressures are induced by recreation, coastal erosion, rising sea levels and climatic change. The soil system is an essential component of the coastal environment. However, since coastal soils have relatively little agricultural potential, they do not attract detailed mapping and evaluation. For instance, on the 1:250,000 Soil Survey of England and Wales map, the Sefton coast is simply represented as the Sandwich Association (Soil sub-group 361) and is not further differentiated. The soil system is a fundamental substrate to understanding a complex range of environmental, ecological and hydrological processes. Understanding the soil system is essential, both for contributing to the understanding of these processes and for efficient and effective environmental management. Therefore, this soil study on the Sefton coastal dunes will meet a number of strategic objectives: (i) Provide fundamental information to aid understanding of the complex array of environmental processes active on the coast; (ii) Contribute to effective management strategies; and (iii) Actively inform the public of the value of the soil resource as an integral component of the coastal system.

The research will have three integrated and complimentary components:

- Environmental reconstruction using dune soil profiles.
- Hydrological monitoring of the dunes.
- Evaluation of the dynamics of dune landscapes.

Supervisory team: **Professor Michael Fullen, Dr Colin Booth, Professor Ian Trueman, Dr Annie Worsley, Dr Nigel Richardson.**

Candidates who wish to apply for either or both of these positions should send a letter of application and a copy of their current curriculum-vitae (CV), which should include two academic referees. These should be sent to:

Professor M.A. Fullen
Research Institute in Advanced Technologies (RIATec)
The University of Wolverhampton
Wulfruna Street
Wolverhampton
West Midlands WV1 1SB
UK.
Tel. +00 44 1902 322410.
E-mail: m.fullen@wlv.ac.uk

Informal enquiries are welcome.

Announcement of New and Ongoing PhD Student Research

Title: Holocene sediment budgets for soil erosion in the meso-scale Frankenforst system near Bonn (Germany).

Research student: Frank Lippert

Supervisor: Professor Richard Dikau

Further details are available from frank.lippert@giub.uni-bonn.de at the:

Universität Bonn, Geographisches Institut.

Institutional Movements and Promotions of ESSC Members

None reported.

ESSC Membership List and Contact Details

As is usual practice after an ESSC Congress, we have published the full membership details (see ESSC Newsletter 2005/1). These details are also held on the ESSC web site. Under 'members' you can get a full listing. Also under 'members' you can click on any member country and find a listing of members in the selected country.

We are trying to keep the membership list on the web site up-to-date. Please check your details and let us know if there are any necessary correction(s). If your details change, also please let us know. Please send updated information to Zuzana Tekelová at:

tekelova@vupu.sk

Launch of University Master of Science Degree in **'Mountainous Basin Management and Soil Conservation'** at The University of Palermo, Italy

The Agricultural Faculty of the University of Palermo (Italy) has organized a Master of Science Degree in 'Mountainous Basin Management and Soil Conservation'. The Master's degree aims to mould professionals able to design stream restoration works, to apply flood models for estimating peak flows of given return period, to apply soil erosion and sediment transport models at the basin scale, to use sediment yield distributed models, to using remote sensing images and geographical information systems and to design soil conservation works.

The teaching method of the Master's Degree foresee the following five modules for a total of 1500 hours:

- Surveying and topographical measurements in mountainous environments.
- Elements of Hydraulics and Hydrology.
- River Engineering.
- Soil conservation design.
- Assessment of river restoration and soil conservation projects.

The Lessons will be delivered in the Italian language. A Board of Examiners will screen 30 candidates each year. The M.Sc. is sponsored by the ESSC (European Society for Soil Conservation); AIDI (Italian Association for River Restoration); ARPA (Regional Agency for Environmental Protection) and AIPIN (Italian Association of Naturalistic Engineering).

More information can be obtained by contacting Professor Vito Ferro (e-mail: vferro@unipa.it) or by visiting the web page:

http://www.agrariaunipa.it/it/didattica/docmaster.jsp.

Carmelo Dazzi and Vito Ferro
University of Palermo

HYDRO-COURSES

Available Course Dates: 11 – 22 June 2006; 9 – 20 July 2006; 23 July – 3 August 2006

These intensive 10-day summer courses cover a variety of hydrological and hydrogeological aspects, typical of mountainous environments. The course is an extract of the most interesting elements of a long-term (research and instruction) summer field campaign conducted annually since 1981 for M.Sc. students of Hydrology and Hydrogeology at the Free University of Amsterdam. With emphasis on actual fieldwork and working-excursions, the course includes in-depth study of analytical techniques, from runoff hydrology to geo-electrical exploration, in order to understand the hydrology and hydrogeology of alpine environments.

For detailed information:

Web site: www.hydrocourses.nl

Secretariat FCMH
Guido Gezellelaan 38
3705 AT Zeist
The Netherlands
E- mail: info@hydrocourses.nl

First Announcements

Dear Colleague,

I have the pleasure to inform you that, following the great success of BALWOIS 2004 – more than 300 participants, 249 papers available on www.balwois.net – we are planning to organize the **International Scientific Conference BALWOIS 2006,** in Ohrid (located on the shores of the lake shared by Macedonia and Albania), Macedonia from 23 – 26 May 2006.

The main objectives of BALWOIS 2006 will be to provide at international and Balkan levels:

- A meeting that will further the progress of knowledge in the fields of scientific research, education, policy and development activities and on all the water related issues related to climate changes, hazards mitigation and water resources assessment, management and protection.
- An atmosphere to enhance the links between the providers and the end users of water related knowledge.
- A forum for free discussion of new ideas, research, development and applications, including techniques and methods to stimulate future works.
- Opportunities for students and young researchers and engineers to meet their experienced peers and to stimulate them to join BALWOIS activities.
- An exhibition of current hardware and/or software in the field of water science.
- New knowledge through the publishing of high quality papers in www.balwois.net and through DVD bundles and book editions.

The main topics of BALWOIS 2006 are:

1. Climate and environment.
2. Hydrological regimes and water balances.
3. Droughts and floods.
4. Integrated water resources management.
5. Water bodies protection and ecohydrology.
6. Lakes.
7. Hydrological modelling.
8. Information systems for decision support.

Participants willing to present a paper, a poster, a software or a multimedia presentation are requested to send an abstract not exceeding one-page in early November 2005. Exhibitors are requested to contact the Conference Secretary.

All proceedings will be published on the BALWOIS Web site and on DVD.

Deadlines:

- Receipt of abstracts: First week of November 2005.
- Notification to the authors: 15 November 2005.
- Receipt of full papers: 15 February 2006.

Instructions and all information will be available on:
www.balwois.net

Hoping to see you in Ohrid in May 2006!

With my best regards,

Marc Morell
BALWOIS Coordinator
secretariat@balwois.net

Note:
No registration fees will be charged for participants from Balkan non-EU member countries and some financial support will be available to accommodate them.

Long-term Studies in Ecology: A Celebration of 150 Years of the Park Grass Experiment (22 – 24 May, 2006) at Rothamsted, U.K.

Rothamsted is the largest agricultural research centre in the United Kingdom and almost certainly the oldest agricultural research station in the world.

2006 sees the 150th anniversary of the world-famous Park Grass Experiment based at Rothamsted Research. It is the longest standing ecological experiment of its kind. The Experiment continues to exemplify the value of long-term studies to investigate effects of biotic and abiotic factors on population dynamics, above- and below-ground community composition and micro-evolutionary change. To commemorate this milestone, Rothamsted will host an international symposium exploring the role and applications of long-term ecological research, and the exploitation of resulting datasets. The Symposium will highlight experiments already underway but will also review opportunities for establishing new experiments as an investment for future generations of ecologists and society as a whole.

The Symposium, which commences after registration and lunch on Monday 22 May 2006 and concludes in the afternoon of Wednesday 24 May, will include three sessions of invited oral presentations, covering a range of perspectives and scales.

Session 1 will review results from the Park Grass Experiment itself, with particular emphasis on recent studies of soils and plants and include contributions from Mick Crawley (Imperial College), Jonathan Silvertown (Open University), Keith Goulding,

David Powlson, Paul Poulton, Ian Woiwod and Richard Harrington (all from Rothamsted Research).

Session 2 will widen the picture geographically with presentations from five of the world's foremost plant ecologists: Dave Tilman (University of Minnesota), Steve Hubbell (Smithsonian Tropical Research Institute), Bernhard Schmid (University of Zurich), David Wardle (Swedish University of Agricultural Sciences) and Phil Grime (University of Sheffield) are all scheduled to contribute.

Session 3 will examine classic long-term studies of other trophic levels, including Darwin's finches and red deer on Rhum, and include contributions from Peter Grant (Princeton University), Ilkka Hanski (University of Helsinki), Jane Lubchenco (Oregon State University), Charles Godfray (Imperial College, London) and Tim Coulson (Imperial College, London).

The delegate fee for this landmark event, to include the workshop and the celebratory banquet but excluding accommodation, is Ł250. To book your place, go to:

http://www.rothamsted.bbsrc.ac.uk/Research/ParkGrass.html

Second Announcements

International Symposium on 'Water and Land Management for Sustainable Irrigated Agriculture' Adana, Turkey, April 4 – 8 2006

Dear Colleagues

The International Symposium on Water and Land Management for Sustainable Irrigated Agriculture will take place from 4 – 8 April 2006 in Adana, Turkey. The Symposium is organized by Cukurova University and co-sponsored by CIHEAM/ Mediterranean Agronomic Institute of Bari and Kahramanmaras University, along with CIGR, The Turkish Scientific Research Council, Turkish Society of Agricultural Engineers and RIHN (Research Institute for Humanity and Nature), Kyoto, Japan.

You are herewith invited to participate in the Symposium and submit abstracts. For further details, please consult the Symposium web site:

http://symp2006.cu.edu.tr

Information can also be obtained from the Symposium Secretariat:

yazarat@cu.edu.tr
symp2006@cu.edu.tr

We are looking forward to seeing you at this meeting!

Yours sincerely,

Professor Dr Attila YAZAR
On the behalf of the Organizing Committee

Cukurova University
Irrigation and Agricultural Structures Department
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Turkey
e-mail: yazarat@cu.edu.tr
Fax: 090 322 3386386
Tel: 090 322 3386516

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The XVIII[th] Conference of the Romanian National Society of Soil Science **'100 years of Soil Science in Romania':** Complex management and multipurpose use of soil resources, environment protection and rural development in the north-north western part of Transylvania, Romania.

FIRST CIRCULAR

The National Romanian Society of Soil Science has the pleasure of inviting you to attend our XVIII[th] National Soil Conference to be held in Cluj, Romania from 21 – 26 August 2006.

The contact persons are:

Executive President SNRSS: Professor Dr Guş Petrul: petru.gus@email.ro
Tel: 00 40 264 596384/206; 204
Fax: 00 40 264 443467

Dr Rusu Teodor E-mail: rusuteodor@yahoo.com
Tel: 00 40 264 596384/204

Conference Secretary: Dr Valentina Coteţ E-mail: snrss2000@yahoo.com
Fax: 00 40 21 2225979

Dr dr h. c. Ioan Munteanu
President of the Romanian National Society of Soil Science.

International ESSC Conference on

'Soil and Water Conservation under Changing Land Use'
Lleida (Catalonia, Spain)

September 12 – 15, 2006

(http://www.udl.es/serveis/sedai/sigtel/ESSC2006.html)

Department of Environmental and Soil Sciences
University of Lleida
Lleida, Spain

Background

Land degradation is affecting directly or indirectly all the vital processes on the earth's surface, which mainly depend on the conservation of soil and water in adequate places, amounts and qualities. Economic and social problems, associated with changes in population, markets and the costs of products and technology may induce drastic and sudden changes in land use and management, which may increase the hazard of land degradation and environmental side-effects. Global climate changes may increase negative influences of these changes. This is especially true in the South European countries, where the recent abrupt and widespread changes in land use and management, involving in some cases abandonment of previous agricultural lands, and in others intensification of agricultural land use or utilization of land for other purposes, is leading to different environmental impacts, with immediate or future negative effects. These effects include problems of loss of biodiversity, decreased supply and quality of available water and increases in surface erosion, landslides and flooding. All these have strong social and economic effects in both the short and long-term. In arid and semi-arid regions these effects may lead to irreversible land desertification.

Objectives and topics of the Conference

The objectives of the Conference are to analyse and discuss the most recent cases and results of studies and research in relation to soil and water conservation problems associated with changes in land use and management.

The main topics will be related to the evaluation, prediction, diagnosis and prevention of the environmental impacts derived from specific cases of changes in land use and management.

General Programme (to be detailed in the 2nd announcement)

Monday 12 September

— Registration

— Inauguration Ceremony

— Keynote Inaugural Presentation

— Session Topic I (oral and poster presentations):

'Land use changes affecting soil and water conservation. Case studies'

— ESSC Council meeting

Tuesday 13 September

— Sessions Topic II (oral and poster presentations):

'Processes of soil and water degradation under changing land use and management'

— Conference Dinner

Wednesday 14 September

— Field tour to close by areas with vineyards, where recent drastic changes in land use and management have lead to different environmental impacts. Places of touristic interest will also be visited during the tour.

Thursday 15 September

— Session Topic III (oral and poster presentations):

'Soil and water conservation practices under changing land use and management'

— ESSC Council meeting

— Closing ceremony.

The presentations in each session will include: Keynote presentation (45 minutes); Oral presentations (20 minutes); Poster exhibitions (the whole day) and presentations (one hour)

Key dates

September 30, 2005: Intention to participate

December 31, 2005: 2nd Announcement. Deadline for reception of abstracts and Pre-registration form

February 28, 2006: Notice of acceptation of abstracts

March 31, 2006: Deadline for registration with reduced fee

May 31, 2006: Deadline for reception of extended abstracts and registration fee for accepted participations

June 30, 2006: Publication of the preliminary programme.

Registration fees

	Before March 31 2006	**After March 31 2006**
Participant	€ 300	€ 350
Members ESSC	€ 270	€ 320
Students (ID required)	€ 150	€ 200

(Registration fee includes: Welcome cocktail, coffee breaks, conference book of abstracts, proceedings in CD, access to all sessions, conference dinner and field tour)

Abstracts

- Should not exceed one A4 page (2.5 cm margins)
- Title: Centred, Times New Roman 14 point font, capital letters, bold font
- Authors name: Centred, Times New Roman 12 point bold fonts
- Affiliation (Institution, City, Country): Centred, TNR 12 point Italic fonts
- E-mail (main author): Centred, TNR 10 point font
- Text: Justified, Times New Roman 12 point font.

(Instructions for extended abstracts and details about field tour and lodging will be included in the 2nd Announcement).

Universitat de Lleida

ESSC EUROPEAN SOCIETY for SOIL CONSERVATION

International ESSC Conference on
'Soil and Water Conservation under Changing Land Use'
Lleida (Catalonia, Spain)

September 12 – 15, 2006

Department of Environmental and Soil Sciences
University of Lleida
Lleida, Spain

PRE REGISTRATION FORM

Name . . . . . .

Institution . . . . . .

Mail address . . . . . .

. . . . . .

Fax . . . . . **E-mail** . . . . . .

Intention to make a presentation: **Oral** ☐ **Poster** ☐

Preliminary title of presentation: . . . . . .

. . . . . .

. . . . . .

(To be sent by email to: <fundacio@700.udl.es>)
using the http://www.udl.es/serveis/sedai/sigtel/ESSC2006.html

highLAND2006

Second Announcement

Environmental change, geomorphic processes, land degradation and rehabilitation in tropical and subtropical highlands

19 – 25 September 2006

Mekelle University, Mekelle, Ethiopia

Symposium organized by

Professor J. Poesen
Physical and Regional Geography Research Group
E-mail: jean.poesen@geo.kuleuven.ac.be

Professor Mitiku Haile
Mekelle University
E-mail: mekelle.university@ethionet.et

Professor J. Deckers
Laboratory for Soil and Water Management
E-mail: seppe.deckers@biw.kuleuven.be

Themes to be discussed

1. Changing environments and geomorphic process intensities in tropical and subtropical mountains since late Pleistocene times; changes in vegetation cover, climate, hydrology, hillslope and fluvial processes, tufa dam development and landsliding.
2. Land degradation in tropical and subtropical mountains: natural and anthropogenic controls; on-site and off-site consequences (soil erosion, landsliding, degradation of vegetation cover, hydrological processes and reservoir siltation).
3. Soil and water conservation in tropical and subtropical mountains; effectiveness and efficiency of traditional and recently introduced techniques and their implementation in rural societies.

Aims

This **scientific congress** aims to show to the international science community the excellent research that has been conducted at Mekelle University and in the Tigray hinterland in the field of land degradation and rehabilitation. Much of this research has already alerted the international community through peer-reviewed publications and congress presentations. By hosting this international congress on the theme at Mekelle we aim to exchange views with international experts in the farmers' field and to provide international scientists an opportunity to discuss in the field with Ethiopian farmers themes which have been published in formal journal papers.

The stakeholders' forum brings under one roof all actors (scientists, stakeholders and beneficiaries) with the following aims:

- To discuss project and conference findings with stakeholders.
- To bring stakeholders in contact with international scientists for mutual benefit.
- To formulate recommendations from stakeholders towards future research.

Invited participants are international scientists, leading farmers and experts from governmental and non-government organizations. Scientists, representatives of donor organizations and decision-makers are particularly invited to have an exchange of views with the farmers and experts.

Objectives

- Evaluate past research efforts in land degradation and rehabilitation in Northern Ethiopia.
- Streamline future scientific efforts in support of sustainable livelihood in the Tigray Region.
- Draw recommendations for capacity building in land management throughout the Tigray Region.

Questions to be addressed

1. How have changing environments impacted the type and intensity of geomorphic processes in tropical and subtropical mountains since late Pleistocene times?
2. Which factors control land degradation, its on-site and off-site impacts in tropuical mountains?
3. What is the effectiveness and efficiency of traditionally and recently introduced soil and water conservation techniques?

Submission of abstracts

An abstract should not be more than 250 words and must include objectives, materials and methods, results and conclusions. The abstract could be for a paper or poster presentation.

Accepted abstracts will be published in the Book of Abstracts, which will serve as conference proceedings.

Accepted papers will be peer-reviewed and submitted to a refereed journal as a special issue.

- Deadline: submission of titles: 15 September 2005
- Deadline submission of abstracts: 15 December 2005.

Feedback

Please inform Mrs. Sofie Bruneel, by e-mail or fax,

(sofie.bruneel@biw.kuleuven.be / 00 32 16 329760), your intention to participate in the Symposium and the tentative title of your paper or poster as soon as possible. Based on replies, the organizing committee will try to secure travel grants for African researchers.

More information:

http://www.kuleuven.ac.be/geografie/frg/

http://www.agr.kuleuven.ac.be/lbh/

The total number of participants will be limited to 50; persons will be admitted on a first come first served basis.

Dear Colleague,

I am pleased to announce that the **'5th International Congress of the EUROPEAN SOCIETY for SOIL CONSERVATION'** will be held in Palermo (Italy), 25 – 30 June 2007.

The general subject of the congress will be: 'Changing Soils in a Changing World: the Soils of Tomorrow'. The objective is to promote exchange and discussion about the problems that affect the soils due to the pressure of Man on Soils and the Landscape, that year after year is becoming increasingly evident and to stimulate soil awareness in civil society. The Congress is open for soil scientists, educators and policymakers. It will consist of invited lectures, scientific sessions with oral and poster presentations and field excursions and will attempt to advocate interest in soil awareness at all societal levels.

The main topics of the Congress are indicated below. However, we welcome suggestions from prospective participants that may be of general interest: Soil erosion; Soil contamination; Soil sealing by construction activities; Soil compaction; Soil biodiversity; Soil salinization; Soil consumption; Soil policy; Anthropogenic soils.

The Congress will take place in Palermo, at the University Campus. Palermo, whose history dates back to the Phoenicians, is located on the north coast of Sicily and is one of the main cities of Italy. It has a beautiful beach area (Mondello) and can be reached by air, rail and bus from the major cities of Europe. The region has a Mediterranean climate with hot and dry summers and mild and rainy winters and shows many unique historical and tourist attractions with artistic and natural beauties. As a result of these, Sicily receives many tourists.

Take note, A WEB PAGE WITH THE FIRST CIRCULAR AND ALL THE INFORMATION REGARDING THE CONGRESS is being circulated.

In the meantime all correspondence should be sent to:

Professor Carmelo Dazzi
Dipartimento di Agronomia Ambientale e Territoriale
Facoltà di Agraria
Università di Palermo
Viale delle Scienze
90128 Palermo
Italy

Tel.: 00 39 091 6650247
Fax: 00 39 091 6650229
E-mail: dazzi@unipa.it

We look forward to seeing you in Palermo!

Professor Carmelo Dazzi
ESSC Vice-President

Under the auspices of:
The High Commissioner for Water, Forestry and Desertification Control

The Moroccan Network of Soil and Water Conservation
The Moroccan Association of Soil Sciences
The Moroccan Association of Geomorphology

Organize

The 14th Conference of ISCO

INTERNATIONAL SOIL CONSERVATION ORGANISATION MARRAKECH

14 to 19 May 2006

In partnership with

The Ministry of Agriculture, Rural Development and Fisheries;
The Secretariat of State in Charge of Water;
The Secretariat of State in Charge of the Environment;
The National School of Forestry Engineers, Salé;
Hassan II Institute of Agronomy and Veterinary Sciences, Rabat;
The National School of Agriculture, Meknès;
The National Institute for Agronomic Research, Rabat;
The UNESCO Chair in Sustainable Development,
Mohamed V University, Rabat;
Faculty of Sciences Semlalia, Marrakech;
Faculty of Sciences and Techniques, Marrakech;
The Cadi Ayad University, Marrakech.

Information

The Organizing Committee of the 14th Conference of the International Soil Conservation Organization (ISCO) takes great pleasure to invite you to participate in ISCO 2006, which will take place in Marrakech, Morocco, on 14 – 19 May 2006.

This Conference will be a common global forum for experts in various disciplines related to sustainable management of soil and water, particularly in semi-arid environments. Researchers, professors, developers, decision-makers and stakeholders representing public and private institutions and non-governmental organizations (NGOs) will meet to exchange their experience and ideas on soil and water conservation and sustainable development.

The 'sustainable management of soil and water in semi-arid environments' subject matter of the Conference engenders many challenges in terms of sustainable management of natural resources for the planet and adequate food production for a perpetually growing population. The substantial disturbance of natural habitats, which occurred during the 20th Century, reveals the extent of the challenge humanity will face during the new Millennium.

Research works, development actions and collaborative activities in relation to sustainable management of soil and water in semi-arid environment will come upon a common ambition to share experiences and thoughts during one week in Marrakech.

We count on you and on your active participation in the 14th ISCO Conference.

We hope to see you in Marrakech, Morocco, in May 2006.

The Organizing Committee of ISCO 2006

Suggested Topics of the Conference:

Topic 1. Water Management in semi-arid environments:

- Quantification and modelling of the hydrological balance: estimation of resources in semi-arid environments.
- New technologies for water use rationalization.
- Traditional strategies for water management and future evolution.
- Harvesting and management of runoff waters in semi-arid and arid areas.
- Effectiveness of water storage.

Topic 2. Desertification

- Factors and processes of desertification.
- Consequences of desertification.
- Control of desertification.

Topic 3. Agro-pastoral transformations and land degradation:

- Changes in soil cover and land use and their effects.
- Land use and hydrological soil behaviour.

Topic 4. Indicators, measurements and modelling of the various erosion processes in semi-arid environments:

- Measurement techniques of erosion.
- Modelling of the ground and soil fertility losses.
- Follow-up of the processes and the impacts.

Topic 5. Specific erosion processes and anti-erosion control:

- Ravine erosion and stabilization of ravines and wadis.
- Mass movements in semi-arid mountains and watershed stabilization.
- Wind erosion, sanding and desertification.

Topic 6. Management, preservation and rehabilitation of soils:

- Rehabilitation of degraded soils.
- Organic and mineral fertilization.
- Farming techniques and land productivity.
- Agroforestery and soil rehabilitation.

Topic 7. Economic evaluation of land degradation, efficiency and cost of anti-erosive structures:

- Socio-economic repercussions of land degradation.
- Evaluation of the LAE techniques, cost/efficiency.

Topic 8. Environmental effects of soil degradation:

- Safeguarding of resources, landscapes and biodiversity.
- Safeguarding of water quality.
- Erosion and silting of storage dams.
- Relationship between soil erosion and global changes.
- Desertification.

Topic 9. Institutional, legislative and socio-economic aspects of soil and water conservation:

- Institutional organization of water and soil conservation.
- Social, economic and legal problems of soil and water conservation.
- Management and farming systems and soil and water conservation.
- Watershed agencies and upstream-downstream solidarity.
- Training, research and the GCES.

SCIENTIFIC COMITEE

M. SABIR and M. QARRO, ENFI, Morocco; M. BADRAOUI and F. BENCHAKROUN, IAV Hassan II, Morocco; R. BOUABID, ENA Meknès, Morocco; A. LAOUINA, Université Mohamed V, Rabat, Morocco; R. MRABET, INRA, Morocco; Ouafae CHERIFI, Un Cady Ayad, Marrakech, Morocco; J. ALBERGEL and G. DENONI, IRD, Montpellier, France; J. Dumanski, President and CEO, Canada; S.A. EL-SWAIFY, ISCO Board of Directors, University of Hawaii, USA; J.L. RUBIO, ISCO Board of Directors, Spain, President of ESSC; E. ROOSE, Réseau Erosion et GCES, AUF, France; M.A. NEARING, ISCO Board of Directors, Purdue University, USA; M. GRUNDY, ISCO Board of Directors, Australia; Bob STEWART, ISCO Board of Directors, USA; H. HURNI, ISCO Board of Directors, Switzerland; He WENYUAN, ISCO Board of Directors, P.R. China; R. CASAS, ISCO Board of Directors, Argentina; M.G. COOK, ISCO Board of Directors, USA;

S.C.F. DECHEN, ISCO Board of Directors, Brazil, IUSS; F. HOLZWARTH, ISCO Board of Directors, Germany; I. Pla SENTIS, ISCO Board of Directors, Spain; E. REINZI, ISCO Board of Directors, Argentina; D.W. SANDERS, ISCO Board of Directors, UK, WASWC. Max SCHNEPF, ISCO Board of Directors, USA, USDA, NRCS; S. SOMBATPANIT, ISCO Board of Directors, Thailand, WASWC; K.G. TEJWANI, Board of Directors, India.

Language: The languages during the Conference will be both English and French.

Key Dates:

- Date for receipt of the intention to participate: 28 February 2005,
- Deadline for receipt of abstracts and registration bulletin: 30 June 2005,
- Notice of acceptance of abstracts: 30 September 2005,
- Deadline for registration at reduced fee: 30 November 2005,
- Deadline for receipt of accepted articles: 31 December 2005,
- Publication of preliminary programme: 28 February 2006.

Registration Fees:

- Northern countries:
  - Early registration: € 455
  - Late registration: € 545
- Southern countries: € 270
- Northern country students: € 200
- Southern country students: € 100.

The Fees Cover:

- Welcome cocktail,
- Conference proceedings (Abstracts of papers),
- Proceedings on CD-Rom medium,
- Access to different sessions of the Conference,
- Four lunches (on-site buffet),
- Coffee breaks,
- Mid-conference excursion (bus, meal, documentation),
- Translation (English/French/English).

The payment terms and conditions will be specified afterwards.

Excursions:

- A mid-conference excursion, included in the programme will be arranged on 17 May 2006. This excursion will address aspects related to water, soil fertility and watershed management and desertification in semi-arid environments.

- Ante and post-conference excursions, payable by the participants will be organized during 8 – 12 May and 22 – 26 May 2006. The ante-conference excursion (Marrakech-Taroudant-Agadir-Massa through Tizi N'Test) will tackle the conservation of nature in the High Atlas and Souss regions. The post-conference excursion (Marrakech-Ouarzazate-Zagora-Mhamid through Tizi N'Tichka) will concentrate on water management and desertification in arid environments (valleys of southern flanks of the High Atlas).

ASSOCIATIONS SUPPORTING ISCO 2006 include:

European Society for Soil Conservation (ESSC);
Réseau Erosion et GCES, AUF, Paris.

CONTACT ADDRESS:

The organizing committee:
isco2006@wanadoo.net.ma
Telephone and Fax: 00 212 37861149;

Information about Marrakech:
cherifi@ucam.ac.ma

Web site:
http://enaweb.enameknes.ac.ma/~isco-06/

REMINDER FOR THE NEXT ISSUE

Do not forget to send in your details of the following information:

(i) Reviews of recent conferences.
(ii) Recent grant awards.
(iii) Newly enrolled Ph.D. research students, title of their research topic and names of research supervisors.
(iv) Recent staff institutional movements/promotions.
(v) A reference list of your 'new' international refereed scientific journal papers, which you have recently published (since and including the year 2000).

Send these details to either:

Professor Mike Fullen: m.fullen@wlv.ac.uk

or

Dr Colin Booth: c.booth@wlv.ac.uk

and they will include this information in the next issue.

NOTE: The deadline for material for the next Issue is 10 January 2006

AIMS OF THE SOCIETY

The ESSC is an interdisciplinary, non-political association, which is dedicated to investigating and realizing soil conservation in Europe. The ESSC pursues its aims in the scientific, educational and applied sectors by:

Supporting investigations on soil degradation, soil erosion and soil conservation in Europe,

Informing the public about major questions of soil conservation in Europe,

Collaborating with institutions and persons involved in practical conservation work in Europe.

The ESSC aims at co-ordinating the efforts of all parties involved in the above cited subjects: research institutions; teachers and students of geosciences, agriculture and ecology; farmers; agricultural planning and advisory boards; industries and government institutions.

ZWECK DER VEREINIGUNG

Die ESSC ist einer interdisziplinäre, nicht politische Vereinigung. Ihr Ziel ist die Erforschung und Durchführung des Schutzes der Böden in Europa. Die ESSC verfolgt dieses Ziel auf wissenschaftlichem, erzieherischen und angewandtem Gebiet:

durch Unterstützung der Forschung auf den Gebieten der Boden-Degradierung, der Bodenerosion und des Bodenschutzes in Europa,

durch Information der Öffenlichkeit über wichtige Fragen des Bodenschutzes in Europa,

durch Zusammenarbeit mit Institutionen und Personen, die an der Praxis des Bodenschutzes in Europa beteiligt sind.

Die ESSC will alle Personen und Institutionen zusammenführen, die sich für die genannten Ziele einsetzen: Forschungsinstitutionen, Lehrer und Studenten der Geowissenschaften, der Landwirtschaftswissenschaften und der Ökologie, Bauern, landwirtschaftliche Planungs- und Beratungsstellen, Industrieunternehmen und Einrichtungen der öffentlichen Hand.

BUTS DE L'ASSOCIATION

L'ESSC est une association interdisciplinaire et non politique. Le but de l'association est la recherche et les réalisations concernant la conservation du sol en Europe. L'ESSC poursuit cette finalité dans les domaines de la recherche scientifique, de l'éducation et de l'application:

en encourageant la recherche sur la dégradation, l'érosion et la conservation du sol en Europe,

en informant le public des problemes majeurs de la conservation du sol en Europe,

par la collaboration avec des institutions et des personnes impliquées dans la pratique de la conservation du sol en Europe.

L'ESSC souhaite favoriser la collaboration de toutes les personnes et institutions poursuivant les buts définis cidessus, en particulier: institutions de recherche, professeurs et étudiants en géosciences, des agriculteurs, des institutions de planification et des conseil agricole, de l'industrie, et des institutions gouvernementales.

OBJECTIVOS DE LA SOCIEDAD

La ESSC es una asociación interdisciplinar, no-politica, dedicada a la investigación y a la realización de acciones orientadas a la conservación del suelo en Europa. La ESSC persigue sus objectivos en los sectores cientificos, educacionales y aplicados, en al ámbito europeo:

promocionando la investigación sobre degradación, erosión y conservación de suelos,

informanto al público sobre los principales aspectos de conservación de suelos,

colaborando con instituciones y personas implicadas en la práctica de la conservación de suelos.

La ESSC aspira a coordinar los esfuerzos, en los temas arriba mencionados, de todas las partes implicadas: centros de investigación, profesores y estudiantes de geo-ciencias, agricultura, selvicultura y ecología, agricultores, servicios de extensión agraria, industrias e instituciones gubernamentales.

Visit the ESSC Website: http://www.essc.sk

MEMBERSHIP FEES

I wish to (please mark appropriate box):

- Join the ESSC
- Renew my membership of the ESSC
- Know whether I have outstanding membership contributions to pay

Membership rates:

Standard Rates:

- One year € 25.00
- Three years € 70.00

Members in Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia and Ukraine:

- One year € 10.00
- Three years € 25.00

Students:

50 % reduction on above rates for three years
Your supervisor must provide written confirmation of student status

I wish to pay my membership contribution by (please mark appropriate box):

- Eurocard / Mastercard
- Visa Card
- American Express Card
- Bank Transfer

Branch address: Fortis Bank, Zonnestraat 2, B-9000 Gent, Belgium;
International transaction codes:
IBAN - BE29 0014 5139 8064 and BIC - GEBABEBB;
Account name: European Society for Soil Conservation;
Account number 001-4513980-64

CARD NO. ..... EXPIRY .....

Amount: € ..... Date: ..... Signature: .....

NAME: .....

ADDRESS: .....

.....

E-MAIL: .....

MEMBERSHIP NUMBER (if known): M0 .....

Please send this form to: ESSC Treasurer, Dr Wim Cornelis, Department of Soil Management and Soil Care, Coupure links 653, B-9000 Gent, BELGIUM.

wim.cornelis@UGent.be