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Dear ESSC members,

Many things have happened since our last Newsletter. Some events are related to internal ESSC matters and others are connected with soil aspects in the wider European context. Starting with internal aspects, we had our successful 4th Congress in Budapest (25 – 28 May) including the election of a new Council.

In a process that started in Budapest, our Society faced important changes on its ruling bodies as the change of the Editor-in-Chief, Secretary and Treasurer. The two first changes were easily made in a cordial and efficient way. We have now Mike Fullen substituting for Roy Morgan in the important responsibility of editing the Newsletter and Pavol Bielek substituting for Gerard Govers, in charge of the Secretariat and also the new ESSC web page (<http://www.essc.sk>).

I would like to express my gratitude to both our past Editor and Secretary for their contribution to the goals and aims of the Society. Especially Roy Morgan, as one of the founders of the ESSC and its second President, possesses a long, fruitful and inspired record of crucial service to the ESSC. The change of the Treasurer is now under way and Wim Cornelis and Donald Gabriels will take responsibility of the economic and financial aspects of ESSC, substituting for Katharina Helming. My sincere gratitude also to Katharina, for her remarkable dedication and contribution to the excellent functioning of the ESSC.

During the Budapest Congress, and also during the Eurosoil 2004 Conference in Freiburg, we had important and open discussions related to the mission, objectives, activities and vision of the Society (you can see these in this Newsletter: the minutes of the Council meetings and also the conclusions-discussions of the 4th ESSC Congress). I would like to say in this context that suggestions, comments and proposals are always welcome and I invite you as an ESSC member to utilize both the Newsletter and the web site to express your views and opinions.

Just to mention one of the discussed aspects, the re-orientation of the Task Forces with the inclusion of new ones and the establishment of new general rules for their functioning. We agree that the work and outputs of every Task Force should attempt to obtain concrete and valuable information suitable for publication. We need to increase the communication between the members and integrate them into every Task, to achieve better results and outcomes. The organization of small workshops or symposia specifically designed to the objectives of the Task is the kind of action that clearly could contribute to obtain better exchanges. These could also be focus publications on the many important aspects related to soil degradation and soil conservation.

Between the new Task Forces we now have one dedicated to 'Traditional Soil and Water Conservation Systems', which will be co-ordinated by Marisa Tejedor (Tenerife, Canary Islands, Spain) and who is planning to prepare a meeting on the topic. Another is 'Farm Scale Management for Soil Conservation', co-ordinated by Katharina Helming. Just to mention another Task is the one oriented to the problems of 'Land Use Changes and Soil Conservation', which is also preparing a conference in Lleida (Spain), organized by its Co-ordinator Ildelfonso Pla.

In a more general framework we, as a scientific society focused on soil problems and as a European network, should be aware of the new soil scenarios, approaches and paradigms that are evolving, driven by societal changes and perceptions. We should be ready to contribute and even to guide the new roles, functions and uses of soil, mainly on European soil conservation aspects.

In the next months we will have better information of the new steps and scope of the 'EU Strategy on Soil Protection', in this sense the ESSC will contribute as in the case of the previous stages of the EU initiative. This will be an important exercise with enormous consequences for European soils in the future. The ESSC is open to receive your opinions and contributions for the best possible perception and consideration of European soil problems. I wait for your reactions.

Best personal regards,

José Luis Rubio, ESSC President

Dear Members

This is the first newsletter since the ESSC Congress in Budapest, May 2004. Since then, as you will have read in the President's letter, there have been several changes in the ESSC. Particularly, the Editorial team of the Newsletter has some new members and others who continue their duties.

We are all indebted to Professor Roy Morgan, who has served as Newsletter Editor-in-Chief for many years. His hard work and commitment is an example to us all. Although Roy has retired, he is continuing to give freely of his advice and experience. This has been invaluable as we learn our way into the editorial process. We are also indebted to Dr Katharina Helming, who rendered so much assistance in arranging the printing of the Newsletter. We are grateful to our new Secretary, Professor Pavol Bielek, who has now arranged for both the printing of the Newsletter and hosting of the web site to be conducted by his Institute of Soil Science and Conservation Research in Bratislava, Slovakia.

The Editorial team will attempt to achieve an interesting and balanced newsletter. This will include reports on conferences, future events, short articles, features and editorials. We hope to further strengthen links with organizations with similar interests in soil conservation (i.e. the 'World Association of Soil and Water Conservation' and the 'International Erosion Control Association'). We also would welcome more involvement from policy makers and government bodies, both international and national. Of course, we cannot take responsibility for writing the Newsletter and we welcome your contributions, comments and views. An item of discussion is to whether we should move to an electronic format and we would welcome views on such a development. We hope the newsletter will increasingly develop as a resource, providing useful information, lively debate and discussion.

On a similar note, starting in the next newsletter, we hope to introduce some new section headings, such as (i) recent grant awards; (ii) newly enrolled Ph.D. research students; (iii) staff institutional movements/promotions and (iv) a reference list of 'new' international refereed scientific journals papers that members have recently published. Hopefully, these new sections will permit ESSC members to inform colleagues about themselves and their work. This should encourage greater member involvement with the ESSC, assisting members to identify other workers for collaborative research and identify potential partners for research proposals and collaboration. Thus, the Newsletter and ESSC website will provide a resource for researchers to access, which, with time, will develop into a great database for both 'new' and 'old' researchers alike and, in doing so, will strength the association between the ESSC and its members.

The new web page is now hosted by the Soil Science and Conservation Research Institute in Bratislava, Slovakia at: <http://www.essc.sk>

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Please send any comments or suggestions on the web site to the colleagues at Bratislava. Our sincere thanks to ZALF, Müncheberg, for previously hosting the web site.

The Editorial team look forward to working with the ESSC Membership. Articles can be sent in the English, French, German or Spanish languages. Please send your contributions to any of the Editorial team:

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**OPEN LETTER FROM DR SAMRAN SOMBATPANIT, PRESIDENT OF THE WORLD
ASSOCIATION OF SOIL AND WATER CONSERVATION, TO DR JOSÉ RUBIO,
PRESIDENT OF THE ESSC**

Dear José,

I would like to heartily congratulate you for having been elected as the ESSC President for one more term, 2004 – 8. You therefore have another major task in front of you. But with all present Council members being of high academic standing, I am sure the work of the ESSC will proceed smoothly. I have good opportunities to have known quite a number of your councillors in recent years – notably Roy Morgan was my teacher when I attended a short Soil Conservation course at Silsoe, U.K. in the summer of 1986. Also I have met Adam Kertész at various venues since January 1999 when he attended the Land Degradation Conference in Thailand. Needless to say, I meet Mike Fullen, your Editor-in-Chief most often, both at home and abroad.

From the first time we met at the Bioengineering Conference in Manila in April 1999 and then at the 10th ISCO Conference at Purdue University in the USA in May of the same year, with subsequent signing up with you as an WASWC member, I knew at that instance that the ESSC was in good hands.

I see the ESSC as an organization put in a very good position, as it is being handled by well known scientists of the period and is surrounded by a large number of national and international institutions that deal with soil and water issues. At this time, more and more pedologic and edaphic information from former Soviet republics has become available more widely.

It is good that ESSC has touched on the subject matters more deeply than we do. This may then compliment with what we do very well. Since our establishment in 1983 we have been concentrating on the matter of practicality, such that small farmers worldwide will be able to take care of the land they till and to feed their family well enough. Therefore, we touched on the ideas of Land Husbandry more thoroughly during the 1980s and 1990s, which led to the production of the Land Husbandry Journal, which is now discontinued. Our major method is to exchange information and ideas among members from various countries worldwide. These members, on the other hand, may benefit greatly from the work of ESSC in the form of technical newsletters and congress proceedings that you have produced every four years. I will always remember the two huge volumes of the proceedings from the 2nd Congress that you had laboriously carried to give to me and other colleagues when attending the 12th ISCO Congress in Beijing!

I am also pleased to inform you that, for the period of January 2005 December 2007, we will have a new Council operating, led by Professor Martin Haigh of Oxford Brookes University (U.K.) as President, assisted by Professor Miodrag Zlatic of the

University of Belgrade, Serbia and Montenegro as Deputy President. I am sure that they will keep relationships with the ESSC even closer than now.

In creating synergy between our two organizations, I would like to propose that we have some kind of exchanges that may give more benefits to the members of our organizations, which can be discussed during the coming months. But what we would like to offer as a gesture to our always good relationship with the ESSC at this time is that, any present ESSC member who uses e-mail may request digital copies of the WASWC Newsletter and can enrol as a free complimentary member for one year. Our Newsletter is now available in English, French, Spanish, Portuguese and Chinese, and ESSC members may request it in any language. They may send their requests to our Secretariat in Beijing, China at: waswc@icrts.org, and if they like to continue after that period expires they may sign up by paying only a nominal fee. In another way, if you would like us to announce something for your organization we will always be willing to help.

Finally, we wish you and all ESSC councillors' good success in running the European Society up to the designated period and hope we can work together for the good cause of soil and water conservation in our and other regions of the world. Also hope for a good health for all, since many of us are probably in our 'senior' years of life!

Sincerely,

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1. Announcement of P. Sklodowski: J. Rubio was awarded the 'Golden Medal of the Polish Society of Soil Science', for which he expressed his gratitude.
2. A. Imeson presented the SCAPE initiative.

SCAPE is a three year concerted action of DG Research to support the soil policy of the EU. The designated end-user is DG environment. SCAPE was asked to write drafts of documents to be produced. Over 1 000 pages were presented at the Soil Advisory Forum. Therefore, we now need a clear vision on what is really important. The ESSC has actively participated in all the meetings of the Soil Advisory Forum and in different Working Groups. A. Imeson believes the ESSC should play a leading role in contributing to the formulation of a Soil Protection Policy.

How can SCAPE interact with the ESSC? This can be achieved by:

- Organizing meetings and inviting relevant speakers/participants.
- Establishing a compendium of people/organizations who are active in soil conservation (a soil conservation network should also incorporate non-scientists).
- Further collaboration with new COST action(s) is also envisaged.

J. Rubio welcomes the proposal: another concrete initiative could be to write a book on good practices in soil conservation. K. Helming suggested that some information on SCAPE should be published in the Newsletter. Urgent action is required, as SCAPE will only run for one and a half more years.

1. The 'Landscape Tomorrow' initiative: this network consists of 29 partners, in 21 countries, concentrating research on multifunctional land-use. The objective is to develop research projects in this field. To date, two projects have already been approved. However, membership is on a fee basis (2 500 Euros) and subject to approval.
2. ESSC awards:
 - a. There has not been a nomination for the Young Person's award.
 - b. Two propositions have been received for the ESSC award: A. Kertész and A. Imeson. It is decided that both nominees should receive an award.

3. Council elections: nominations have been received from most countries (see list attached). No delegates have been proposed for Russia, Moldova, The Ukraine, Austria or Bulgaria. The new Council will decide on the composition of the Executive Committee after the General Assembly.
4. The Council agrees with the invitation of W. Blum for the ESSC to support a member of the 'European Association of Soil Science Societies', although some concern has been formulated because the EASSS is strongly soil-oriented.
5. For information, the CIRCA Web-address is:
<http://forum.europa.eu.int/public/irc/env/home/main>
6. Discussions proceeded on the next ESSC Congress. There is a strong possibility of a joint congress with another international organization in Italy. C. Dazzi will explore this possibility.
7. E. Roose announced that in May 2006 an ISCO meeting will take place in Marakech. It was agreed that the ESSC could act as a co-organizer. One of the main themes will be water conservation in arid areas.
8. Recent and future activities:
 - a. K. Helming reported on past activities. In recent years, some (five-seven) meetings were organized in collaboration with the ESSC. This is a success, but we should make sure that the role and contribution of the ESSC is acknowledged.
 - b. N. Fohrer announced that ISTRO would convene in Kiel, in September 2006.
 - c. I. Pla Sentis announced a meeting on 'Environmental impacts of land use changes in Europe' in Lleida in 2005 or 2006.
 - d. Raimo Kolli intends to organize a meeting in Estonia on soil compaction.
9. Reflection on the future of the ESSC:
 - a. P. Schjonning stated that we needed to have a thorough discussion on our future. It is especially important that the ESSC finds a specific niche, which involves stakeholders, besides scientists.
 - b. P. Bielek asked for considered reflection on the themes, locations and timing of conferences.
 - c. There was agreement on the need to invest in young scientists.

General assembly

The following issues were discussed:

- Presentation of the new ESSC Council with delegates of different countries (see attached list).

- A discussion was held on gender equality and the geographical spread of new members.
- More general discussion was held on the general orientation of the ESSC, specifically:
 - a. There is too much emphasis on soil degradation and insufficient on conservation.
 - b. We need to be alert for what Europe wants.

Composition of the Executive Committee

President: J. Rubio; Vice-Presidents: A. Kertész and C. Dazzi, Newsletter Editor: M. Fullen, Secretary: P. Bielek, Position of Treasurer remains open: K. Helming will continue until the end of 2004. Other members: K. Helming, G. Govers, I. Pla Sentis, S. Tobias and P. Schjonning. A. Rodriguez, N. Fohrer and E. Roose are Co-editors for Spanish, German and French contributions, respectively.

Composition of the ESSC Council for the period 2004 – 2008

Austria: Peter Strauss; Belarus: <5 members; Belgium: Gerard Govers, Donald Gabriels, Jean Poesen; Bulgaria; Croatia: <5 members; Czech Republic; Denmark: P. Schjonning; Estonia: R. Kölli; France: E. Roose, to be followed by Olivier Cerdán; Georgia: <5 members; Germany: K. Helming, N. Fohrer, T. Scholten; Greece; Theodor Karyotis, Nicolas Yassaglou; Hungary: Adam Kertész; Italy: C. Dazzi, R. Constantini, Dino Torri; Lithuania: <5 members; Moldova; The Netherlands: L. Stroosnijder; Norway: L. Oygarden; Poland: A Safranek; Portugal: M. Coutinho; uRomania: Andrei Canarache, Mihail Dumitru; Russia: M. Kuznetsov; Serbia: <5 members; Slovakia: P. Bielek; Spain: J. Rubio, A. Rodriguez, I. Pla Sentis; Sweden: <5 members; Switzerland: S. Tobias; Ukraine; United Kingdom: M. Fullen, R. Morgan.

REVIEW OF THE 4TH INTERNATIONAL CONGRESS OF THE ESSC (25 – 29 MAY 2004, BUDAPEST)

The 4th ESSC Congress was held in Budapest from 25 – 29 May 2004, at the Headquarters of the Hungarian Academy of Sciences. Most participants arrived on the first day and the conference began with a Council Meeting, followed by a 'Welcome Reception'.

The first day started with an opening ceremony, which included a welcoming address by Attila Meskó, Deputy Secretary of the Hungarian Academy of Sciences, and by Ádám Kertész, ESSC Vice-President and President of the local Organizing Committee. Then, José Luis Rubio, who, as President of the ESSC, gave a speech on society activities. Then, György Várallyay, a member of the Hungarian Academy of Sciences, presented an introductory paper on 'Soil conservation strategies in the extended EU' before sessions on the following topics.

Topic 1: Land use and cover change

The session on land use and cover change started with a keynote speech on the necessity of an integrated vision on landscape, taking into account different landscape functions. Consecutive papers highlighted different effects of land use change, including effects on soil properties and flooding risks. The last papers presented methodologies to study and evaluate land use and land use change and provide decision-support information to different stakeholders. The session thereby covered many of the aspects of land use change relevant to soil erosion but, it is clear that, further research in this area is necessary at a regional scale. This is especially as land use changes are often as important as soil management in determining soil erosion risk.

Topic 2: Measurement and modelling of soil erosion

A wide range of papers was presented in this session. A noticeable shift in interest has occurred over recent years. Particularly, (i) stressing the need for understanding management and vegetation effects for erosion prediction and (ii) papers concentrated far more on measurement and modelling possible effects of erosion such as nutrient losses, carbon dynamics and soil pollution.

Topic 3: Pollution of soil and water resources

At the Congress we had a significant number of contributions on soil- and ground-water pollution, varying from detailed experimental studies on soil columns to landscape-wide assessments. It is clear that soil pollution is an important problem within both 'old' and 'new' EU countries: it might be worthwhile to take this into account when developing ESSC policy.

Topic 4: Soil conservation and water management

In the session on soil conservation and water management a large variety of conservation techniques were discussed ranging from the use of soil covers including the use of tephra and stones to conservation tillage and the use of biological cleaning approaches. However, presentations were not limited to the technical aspects of the methods. Some very interesting contributions discussed the relationship between scientists, their study object and wider societal values, while others took a more pragmatic approach interacting directly with farmers and decision-makers to test soil conservation measures

Topic 5: Socio-economic aspects of soil erosion

A limited number of papers concentrated on the socio-economic aspects of soil erosion. Potentially, this could be a problem, considering the implementation of soil conservation economics and social values and patterns of interaction are of tremendous importance. However, it noteworthy that some soil conservation projects presented at the conference do incorporate socio-economic aspects of erosion. An interesting point raised during the discussion of these papers was the importance of scale, as conclusions valid at the European scale are not necessarily relevant for the local farmer.

Topic 6: Tillage and erosion

In this session, we had a few papers concentrating on tillage erosion *per se*, which confirmed that the process is an important contributor to soil degradation in Europe. Most papers concentrated on the effect of different tillage techniques on runoff and erosion. These works invariably showed tillage techniques could have a dramatic effect on runoff and erosion. However, a full evaluation of alternative techniques requires an integrated assessment of the technique, taking into account all relevant environmental and economic effects. As yet, few studies cover all these effects.

Topic 7: Land degradation and desertification

In the wider context of land degradation, in this session presentations were oriented to degradation processes occurring in the Mediterranean zones, such as impacts of forest fires. Importantly, some papers illustrated degradation aspects that did not receive too much attention during the rest of the Congress, including wind erosion, forest fires, urban waste disposal and compaction (and its remediation) and salinization. The ESSC should perhaps take care to ensure these processes receive the attention they deserve.

A summary list of the topic discussions

- We need to take into account all geofactors (such as climate and vegetation) in developing a more integrated approach.
- Too much stress is placed on soil degradation, rather than conservation. We need to formulate what needs to be done to promote soil conservation.

- Prevention should be included, not only risk management.
- Relationships between soil and water needs to be incorporated into studies.
- We need concrete action plans: how are we going to implement what we consider to be important, e.g. through specific meetings? Need to keep the process dynamic and responsive, considering developments at the EU level.
- We need to open up the scope of our conference to all processes of soil degradation and include aspects of land use and socio-economics.
- Do we reach the people we need to reach, such as policy makers. We need activities specifically geared towards stimulating the discussion.
- Young scientists are not very well represented: how do we stimulate their increased involvement?
- Invite scientists with other competences as keynote speakers could be a first step in opening up.
- We also need to formulate the questions for other disciplines: what can other scientists offer us?
- We need a general harmonized framework for soil erosion and degradation monitoring at the European scale.
- Do we have a clear mission? Such a mission is necessary if we want to interact efficiently with others: what is our position compared to other organizations? We need a dialogue with them.
- The ESSC needs a way of working that is adapted to the 21st century (i.e. electronic newsletter, web registration).
- We need to precisely define our scope: soil conservation or wider?
- We need to give attention to the effect of policies on land use and soil degradation.
- How do we interact with the EASS? What is our position?
- A niche could be that we concentrate on applied rather than on pure science. We should be somewhat different from a purely scientific society.
- We give relatively little attention to urban soils and they deserve more attention.
- Spatial planning is of great importance: many high-potential soils are lost due to urban sprawl.

Fieldtrip excursion

Many participants opted to attend the all-day fieldtrip to the Lake Balaton Catchment, on Saturday 29th May. At the first stop in Balatonföldvár, Á. Kertész gave a presentation on the Lake Balaton Catchment. The second stop was at Szentgyörgyvár, near Keszthely, at the SOWAP field site, where the field plots and the Hungarian SOWAP team showed their methodology. After lunch, at Keszthely, the participants observed the operation of two rainfall simulators. The last stop was in Badacsony, at the Institute of Viticulture, where their soil conservation experiments were explained by J. Májer (Director). The noble art of wine-tasting then followed.

Acknowledgements

There were approximately 100 participants at the Congress. It is hoped all participants share the feeling of the organizing committee that the Congress was a success, including an enjoyable Congress Dinner at the Hotel Sofitel Atrium. We offer our sincere thanks for their hard work and dedication in organizing such an interesting Congress.

The Congress was generously sponsored by the SOWAP Project (Soil and Water Protection Project funded by EU-LIFE and Syngenta U.K.) and by the Hungarian Academy of Sciences. To whom, sincere gratitude is expressed.

Members Present:

J.L. Rubio, P. Bielek, E.A.C. Constantini, M.A. Coutinho, N. Fohrer, K. Helming, B. Jankauskas, R. Kolli, M. Kuznetsov, D. Mihail, I. Pla Sentis, A. Rodríguez Rodríguez, A. Schjonning, T. Scholten, A. Szafranek, S. Tobias.

Apologies received from:

A. Canarache, M. Fullen, A. Kertész, J. Poesen, E. Roose, L. Stroosnijder.

Agenda:

1. Welcome and introductory remarks.
2. Report of the Treasurer and discussion.
3. Report of the Secretary and discussion.
4. Report of the Editor-in-Chief.
5. Comments on the outputs from the 4th ESSC Congress in Budapest.
6. General discussion on the future mission and vision of the ESSC.
7. ESSC and other international soil organizations.
8. Review of task forces.
9. Future sponsored and co-sponsored activities.
10. Other items.

Point N^o. 1.

- a) At the beginning, Mr. President J.L. Rubio welcomed all members present at the Council meeting in Freiburg. He thanked the organizer of 'Eurosoil 2004' for the arrangements, which enabled the ESSC Council meeting to be held in Freiburg and he thanked Dr Katharina Helming for her special contribution to the organization of the meeting. Next, The President introduced the agenda to be discussed at the meeting and participants agreed with the contents. He made general comments on this being a special moment in the development of the ESSC, with three important changes affecting the Executive Committee. Specifically, these are: the change of the Editor-in-Chief, the Secretary and the Treasurer. The President particularly thanked the collaborative and positive attitude of the persons involved in these changes and the general co-operation from all Council members.
- b) Council accepted three new Council members:

- Michail S. Kuznetsov as a Russian representative
- Eduardo Constantini as an Italian representative
- Olivier Cerdán as a French representative.

Also, the definitive list of Council members was revised and updated. The list is appended to these minutes.

- c) The President informed the Council of the establishment of the ‘European Confederation of Soil Science Societies’ (ECSC) on 8th September 2004 in Freiburg. ESSC is in active contact with the newly established organization and is a supportive and collaborative body, but not a member.

Point Nº. 2.

Dr Katharina Helming (Treasurer) presented her intention to remain active as the ESSC Treasurer until 31st December 2004. Her announcement was followed by a short discussion in which the President explained the ongoing contacts and conversations to appoint a new Treasurer. However, for the moment, there are no definitive results. Dr Helming announced that she would ask all non-paying members to settle their financial obligations as soon as possible.

Point Nº. 3.

Dr Pavol Bielek (Secretary), presented the following items:

- A new ESSC information leaflet.
- A newly printed list of ESSC members.
- Offered the development of a new ESSC web site, hosted and prepared by the Soil Science and Conservation Research Institute in Bratislava.
- The Soil Science and Conservation Research Institute are prepared to arrange the printing of ESSC bulletins.

Dr José Luis Rubio, on behalf of the Council, congratulated the new Secretary and welcomed the presented initiatives.

Point Nº. 4.

The President informed the Council of the health problems of the Editor-in-Chief (M.A. Fullen) and wished him a speedy recovery.

During the discussion, The President informed his intention to ask Vice-President A. Kertész to prepare information about the Budapest Congress (May 2004), with the intention to publish in the IUSSS Bulletin and other international soil organization newsletters.

Dr Rubio and Dr Bielek presented the need for a more innovative and informative content of the ESSC bulletin. This has to be discussed with the Editor-in-Chief and other Council members willing to participate.

Point N^o. 5.

The President entered discussions concerning conclusions of the ESSC Budapest Congress, presenting the following summary of important points stemming from the Budapest Congress. These included:

- To attract more young people as members.
- To adopt a more integrated approach to soil conservation, including land use and socio-economic aspects.
- To recognize there was too much stress on soil degradation, rather than soil conservation.
- To place more emphasis on erosion prevention.
- To adapt the ESSC to new IT approaches (e.g. an electronic newsletter, webpage and web registration, electronic forum).
- To provide more attention to the effect of policies on land degradation.
- To place more attention to the application of solutions to soil conservation.

In general, The President stressed the need to implement a more holistic approach within the Society to soil problems, including economic and policy aspects.

Point N^o. 6.

The President introduced the main conclusions from the ‘*EU Soil Thematic Strategies*’ and the probable developments for the near future:

Dr A. Schjonning supported the necessity for greater ESSC visibility, including contributing to soil policy actions.

Dr Silvia Tobias suggested more frequent organization of specialized ESSC events.

Dr Nicola Fohrer recommended the Society should be more active in periods between ESSC congresses.

Dr Constantini emphasized the importance of targeting specific and significant topics in ESSC activities.

Dr Helming advocated the incorporation of new specialists into the Society’s activities.

Dr Scholten supported the Society's involvement with soil policy actions.

Dr Bielek advocated greater activity at national levels.

Dr Kuznetsov recommended the publication of a list of collaborating institutions, besides the list of members.

On the aspect of more visibility of the ESSC, Dr Rubio presented the idea of preparing '*Position Papers from the ESSC*', suggesting an '*ESSC Position Paper on the EU Soil Thematic Strategy*' and an '*ESSC Position Paper on Soil Conservation in a changing Europe*' as two examples of publications to be discussed.

Point Nº. 7.

The President introduced into the discussion the importance of reinforcing links between the ESSC and other soil and soil-related international organizations (e.g. WSWC, ISCO, WOCAT, ERC, UICN, IECA and ECSSS). He also informed of his intention to establish an '*Intergovernmental Panel on Soil and Land*' (IPSL). Dr Rubio also announced his plan to ask for membership of the '*European Research Council*' (ERC). All participants supported these proposals.

Point Nº. 8.

Several opinions on ESSC activities were presented. All Council members are asked to send their proposals on new Task Forces of the ESSC as soon as possible.

The provisional list and their co-ordinators are:

- Soil quality criteria (P. Schjonning).
- Databank on erosion plot studies (D. Gabriels).
- Rainfall erosivity map of Europe (D. Gabriels).
- Traditional soil and water conservation systems (M. Tejedor).
- Farm scale management for soil conservation (K. Helming).
- Land use changes and soil conservation (I. Pla Sentis).
- EU soil thematic strategy (co-ordinator to be identified).
- Desertification (co-ordinator to be identified).
- Tolerable soil losses (co-ordinator to be identified).
- Snowmelt erosion and soil conservation (co-ordinator to be identified).
- Soil erosion map of Europe (co-ordinator to be identified).

- The President proposed a new framework for task force activities insisting in the need to finish the work and discussions of every task force with a publishable document and also include the possibility of small workshops focused on the outcomes of each task force.

Point Nº. 9.

Proposals and information concerning the following events were discussed:

- September 2004

4th International Conference on Land Degradation (ICLD), Cartagena, Spain.

- May 2005

ESSC Soil Degradation Processes and Multifunctional Land Use Meeting (Landscape Tomorrow), Tartu, Estonia.

- 2006

Soil and Water Conservation in Changed Land Use, Lleida, Spain.

- May 2006

ISCO 2006, Marrakech, Morocco.

Point Nº. 10.

President Rubio informed participants about the planned publication of a leaflet celebrating the 15th Anniversary of the establishment of the ESSC.

Next Council meeting: Tartu, 2005 (provisional)

Authors: Pavol Bielek and José Luis Rubio

NATO EXECUTIVE SUMMARY ON DESERTIFICATION IN THE MEDITERRANEAN REGION: A SECURITY ISSUE*

William G. Kepner¹ and José L. Rubio²

¹ U.S. Environmental Protection Agency, Office of Research and Development, Las Vegas, Nevada, USA

² Centro de Investigaciones sobre Desertification (CIDE), Valencia, Spain

* NATO – CCMS and Science Committee Workshop on Desertification in the Mediterranean Region; A Security Issue (Valencia, Spain; 2 – 5 December 2003)

Security issues related to desertification in the Mediterranean Region were the subject of a special NATO workshop held on 2 – 5 December 2003 at the *'Museum of Sciences Principe Felipe'*, of the City of Art and Sciences, in Valencia, Spain.

This workshop was organized by the U.S. Environmental Protection Agency (Las Vegas, Nevada, USA), the Centre for Desertification Studies (Valencia, Spain) and the Desert Research Institute (Reno, Nevada, USA) on behalf of the NATO Science Committee and the NATO Committee on the Challenges of Modern Society (Public Diplomacy Division). Additionally, the European Society for Soil Conservation participated as a collaborating institution. Other participating institutions were: the Spanish Ministry of Environment, Generalitat Valenciana (Department of Territory and Housing) and the Secretariat of the UN Convention to Combat Desertification.

The Workshop focused on two basic concepts: security and environment and their linkages. Since the end of the Cold War, traditional security concepts based on national sovereignty and territorial security have increasingly been brought under review. Currently, a broader definition of security that would incorporate non-traditional threats and their causes, including environmental stress, has been advocated. Most current research indicates that global environmental change and its subsequent socio-economic effects are likely to continue and intensify in the future. The intensity as well as the interdependence of these problems will have affects not only at local scales, but also on an international scale and will begin to impact developing and industrialized countries more directly. These challenges call for mutual co-operation at the international level, which provides for multi-disciplinary integration of both technical and policy-making individuals involved in the areas of environment, development of natural resources, foreign relations and security.

Desertification is recognized as a process of land degradation in arid, semi-arid, and dry sub-humid areas that is the result of several factors, including human activities and climatic variation.

Desertification is a worldwide phenomenon estimated to affect 40 million km² or approximately one-third of the Earth's surface area and 1 billion people in over 100 countries (or about one-fifth of the global population).

At the global level, it is estimated the annual income lost in areas immediately affected by desertification amounts to approximately \$42 billion (USD) each year. However, there are enormous social costs as well. There is strong evidence that desertification exacerbates poverty and negatively affects social order and stability. It can contribute significantly to water scarcity, famine, internal displacement of people, migration and social breakdown and thus presents a recipe for political, social and economic instability, which can lead to tension between neighbouring countries and armed conflict. In summary, resource scarcity and environmental degradation create inequity in resource distribution often contributes to insecurity and conflict.

While arid, semi-arid and dry sub-humid ecosystems of the Mediterranean Region are vulnerable to numerous threats, including pollution from current or past anthropogenic activities, the overwhelming threat is from human population density and associated uncontrolled development, leading to depletion or degradation of natural resources (water, soil and biota). The predominant considerations in many parts of the world for environmental management decisions and ecosystem protection include understanding and establishing land and resource use priorities, establishing time frames for management, using comparative evaluation and assessment analyses and clarifying where decision-authority resides (i.e. at local, regional, national or international levels).

It is a challenge for both scientists and decision-makers to include all these considerations and communicate effectively among multiple user groups. As a direct result of increasing discussion and research about the potential for large, regional-scale environmental changes and the general acknowledgment of the relationship between environmental change and human social, economic and demographic issues, there is now more attention paid to the question of the relationship between environment and security. Thus, 'how environmental degradation in arid, semi-arid and dry sub-humid lands (i.e. desertification) in the Mediterranean Region is related to human security' became the central issue of the workshop.

For the purpose of this workshop the organizers turned to the Mediterranean countries that included six NATO Member countries, four NATO Partner countries, and seven countries that comprise the Mediterranean Dialogue in the Middle East and North Africa, for discussion of the issues. The region has a long historical record of political, economic and cultural division and subsequently a long period of human occupation and resource utilization. The central importance of the topic and its relation to security attracted a large and diverse participation; over 225 participants from 22 different countries registered for the workshop. The challenge before the workshop participants was to identify the linkages between the regional causes and physical processes of desertification and the consequences of past and future land use, especially as they relate to international security.

For the purposes of the workshop the following key factors were central to the discussion:

- A) Variable population growth in the northern versus southern Mediterranean;
- B) Impact of climate change due to increased temperatures and decreasing precipitation;
- C) Scarcity of water for potable consumption and irrigation;
- D) Decline in food production and the increased dependence on imported goods, e.g. cereals,
- E) Progressive desertification and subsequent soil erosion, salinization, and sodification;
- F) Increased urbanization and pollution in major metropolitan areas.

The workshop was organized into five sessions dealing with consequences of degradation on social, economic and political issues (especially food security and human migration); soil and vegetation monitoring techniques and programmes; water resources and management and forecasting techniques and advanced technologies. Desertification was not treated solely as an environmental problem but as an issue with cultural, political, social and economic importance.

Also four Special Sessions designed to facilitate and encourage the participation of attendants were organized: Is it possible to stop desertification? What are the main constraints and problems? Combating the inadequate societal perception of desertification threats. Improving communication: is international co-operation on sustainable development the key issue to stop human displacement from Africa to Europe? The role of new technologies and traditional knowledge to alleviate famine and poverty.

Thus the purpose of the NATO Desertification Workshop became eight-fold:

1. To provide a focus on land degradation in arid, semi-arid and dry sub-humid areas (i.e. desertification) within the Mediterranean Region;
2. To bring together interdisciplinary technical experts and decision/policy-makers throughout both the northern and southern Mediterranean States;
3. To recognize that there are remarkable demographic differences between the North and South Mediterranean and thus there are different socio-economic disturbance gradients as well as climatic gradients that affect environmental condition, sustainability of resources, employment, poverty, migration and ultimately, security.
4. To evaluate the consequences of desertification to security both in regard to the ability of the environment to provide important ecological goods and services and relative to social and political instability;

5. To open discussion on the issue of linking security to environmental conditions throughout the Mediterranean Region and to explore likely impacts on the social, economic and political dimensions of human society;
6. To increase the knowledge base and provide assistance in developing measures and policies that thwart social and environmental instability;
7. To encourage interdisciplinary research, especially in regard to integrating the social and natural sciences;
8. To promote better mutual understanding and friendly relations across the region.

The workshop has been made possible through the active co-operation and participation of experts from government, academia, private industry and non-governmental organizations from the NATO member and partner countries and the seven member countries of the Mediterranean Dialogue. The workshop provided a multi-lateral forum for co-operation, information exchange and dialogue among the environmental, development, foreign and security policy communities. Additionally, it provided an 'enabling environment' to facilitate joint work programmes, e.g. bridging the Regional Implementation Annexes for Africa and the Northern Mediterranean within the UN Convention to Combat Desertification. The organizers recognize the importance of understanding the linkages between the environment and security in the Mediterranean and the further importance of having open discussion, which is inclusive to all those who inhabit the region. It is our sincere hope that this small effort represents the beginning of a larger process intended to bring environmental and societal stabilization to the area and thus will help advance the cause of peace. We would like to acknowledge and thank all those who participated in the NATO Desertification Workshop. including those who not only provided expertise through the presentation of papers, but to all those who engaged in discussion and contributed their organizational support and planning assistance in making the workshop a success.

William G. Kepner

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U.S Environmental Protection Agency.
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Valencia, Spain.

REVIEW OF THE 6TH 'CZECH-ITALIAN PEDOLOGICAL MEETING'

The 6th in the series of 'Czech-Italian Pedological Meetings' were held in the Czech Republic from 4 – 9 October 2004, organized by the Department of Environmental Agronomy (University of Palermo), the Department of Environmental and Territorial Sciences (University of Milano-Bicocca), the Research Institute for Soil and Water Conservation of Zbraslav (Prague) and the Department of Physical Geography and Geoecology (Charles University, Prague), in collaboration with the Italian Society of Soil Science, the Italian Society of Pedology and the Czech Society of Soil Science.

Several Italian and Czech soil scientists attended the Meeting. One day was devoted to seminars ('Soils: a fragile resource prone to degradation', by C. Dazzi) and aspects linked to paleosols ('Paleosols. Genesis, properties and classification problems', by F. Previtoli) and four days to a field trip that was focused mainly on: i) aspects of land degradation and rehabilitation in mines areas; ii) aspects of land pollution in former military areas; iii) relationships between soil and landscape in meadows areas and iv) problems of correlations of soil classification.

The next 'Czech-Italian Pedological Meeting' will be in 2005 in Sardinia (Italy).

Author: Carmelo Dazzi (*Università di Palermo*)



Plate: Participants of the 6th 'Czech-Italian Pedological Meeting'

**REVIEW OF THE 13TH INTERNATIONAL SOIL CONSERVATION ORGANIZATION
CONFERENCE (ISCO 2004). POST-CONFERENCE TOUR B2 (TROPICAL
RAINFOREST AND OUTBACK) CAIRNS, NORTH QUEENSLAND, AUSTRALIA,
(10 – 12 JULY 2004)**

In the framework of the 13th International Soil Conservation Organization Conference (ISCO 2004), held in Brisbane, Queensland, Australia in July 2004, we had the opportunity to participate in this tour across the tropical rainforest, tropical savannah and volcanic regions of the far north of Queensland, where we were shown interesting facts and practices on nature conservation, sustainable planning and erosion and sedimentation control.

Under the superb leadership of the staff of the Department of Natural Resources, Mines and Energy, Centre for Tropical Agriculture at Mareeba (Principal Scientist Dr Lex Cogle, Scientist Ms. Louise Hateley and Senior Soil Scientist Dr John Armour), scientists from Australia, the Czech Republic, France, Italy, Spain and the USA joined the trip.

The expedition departed from Cairns, the colourful and sophisticated capital of the tropical far north of Queensland, the gateway to the Great Barrier Reef, wet tropical rainforest and northern outback, where we met our colleagues and the tour leaders having a friendly and relaxing dinner at a Greek restaurant.

On Saturday, 10th July, early in the morning, the tour left the Holiday Inn Hotel after the warm welcome from Lex, Louise and John to drive southbound across sugarcane farms to Gordonvale, where the annual rainfall is up to 1 910 mm and the main crops are sugarcane, banana and other miscellaneous horticultural plants. There we were kindly received and attended by Mr. Bruce Corcoran and his family, a sugarcane farmer and Co-ordinator for the Mulgrave Landcare and Catchment Group, two of whose main concerns were the re-vegetation of water courses and the adoption of sound and effective environmental practices within the Mulgrave River Catchment.

In the farm, some general features on sugarcane cropping and soil conservation were illustrated, with examples of riverbank re-vegetation and restoration. One of them was the contoured planning on slopes with short runs for runoff water to grassed waterways. The role of vegetation to reduce runoff speed and to trap nutrients and sediments was also discussed. Along a creek bank affected by erosion, examples of hard versus soft bank restoration engineering were shown.

During morning tea, Dr John Armour and Dr Ras Rasiah, explained the projects currently under development to improve soil management and fertilizer application, to minimize soil and groundwater pollution by P and N. The issue of soil sustainability as affected by subsoil acidity was also illustrated. Later on, the leader team (and particularly Louise), encouraged all of us to contribute to the re-vegetation of a beautiful part of the world! Just by planting a tree, everyone must visit again in 10 years, when it gets as high as its rainforest brother trees.

Then we left to Lake Barrine, a volcanic, clear water crater lake surrounded by lush tropical highland rainforest on the eastern side of the Atherton Tablelands. There we had a tasteful lunch in the restaurant, where many of us could appreciate the exquisite delicacy of kangaroo meat. Later, we cruised around the lake, admiring the magnificent rainforest, the beauty of bird flocks flying over the crystalline waters or the tree canopy and discovering (at a rather safe distance!) snakes snoozing on plant nests by the shore.

Then we met Dr Robyn Wilson, who kindly explained the impact of roads and power lines, as well as that of human visitors, on the delicate rainforest ecosystems. The fragmentation of the forest constitutes a first-magnitude handicap for populations of arboreal mammals, although several efforts were being carried out at the moment to mitigate the adverse effects. Among them, the creation of communication ways between isolated forest patches through reforested aisles.

On the way to Malanda, we went through a volcanic area spotted with cinder cones and highly weathered soils, showing both Andic and Oxic characteristics, as a consequence of the humid climate and the supply of fresh volcanic ash material.

After a short visit to the Malanda Wet Tropics Visitor Centre and a walk by the rainforest guided by Mr. Ernie Raymont, who is descended from the Australian aboriginal peoples, we arrived at Bromfield Swamp, a former volcanic lake (maar) that had been filled with erosion generated sediments, after its surroundings had been deforested. There Mr. Gary Wilson, Adjunct Lecturer at James Cook University, told us about the dynamics of these ecosystems and how the current anthropogenic changes in global climate were expected to affect the regional ecosystems in the wet tropics.

The chosen place for overnight accommodation was Malanda Lodge. It was time for entertaining conversations in the bar and a delightful dinner, after which Mr. Ray Byrnes, Mayor of the Eacham Shire Council and Landcare Co-ordinator, talked about natural resource management issues causing concern in the region: decline in water quality, fragmentation and loss of regional ecosystems, soil erosion leading to loss of productivity and sediment loads in runoff, disturbance of acid-sulphate soils, water supply and water use efficiency, to further explain the master lines of a Natural Resource Management Plan and Investment Strategy, for the community to gain awareness about the role everyone has to play to preserve biodiversity and to achieve truly sustainable natural resource management.

Day two (Sunday 11th July) early morning at Malanda Lodge. After breakfast, Mr. Michael Frankcombe (Environmental Manager) and Dr Miriam Goosem (Research Fellow at James Cook University), showed us the facts about an innovative road construction system, which allow animals (mammals and reptiles) to move across the roads, thus minimizing the possibilities of being run-over by vehicles and also to prevent soil loss by water erosion. There were some environmental constraints: the area receives a high rainfall and is located on acidic volcanic soils, located between two large areas of World Heritage rainforest which contain protected fauna species and has to be (as much as possible) hidden to minimize visual impact from local vistas.

The strategy to overcome these difficulties comprized: (i) no disturbance during the wet season; (ii) minimize potential for invasion by weeds and pests; (iii) protect the land against water erosion and (iv) minimize the discharge of sediments to water courses.

The targets were reached, at least partially, by providing underways for fauna, building structures against water erosion for all the disturbed areas, installing permanent sediment traps and performing rehabilitation tasks. However, some problems derived from the drainage design, erosion controls blankets, hydromulching and species selection still persisted and plans were being prepared for solving these problems. In any case, the technicians of the Department of Main Roads were aware of many lessons derived from the Project, among which it is worth mentioning the selection of environmentally-sensitive contractors, the need to listen to advice from erosion and sediment control experts, to take into account the wet season before doing any major disturbance, to undertake basic agronomic soil testing and to select the most appropriate plant species for re-vegetation purposes, considering both soil and climatic constraints.

After having morning tea at the Ravenshoe Visitor Centre, we moved towards the southwest, where rainfall decreases dramatically (from 1 400 mm/year to 770 mm/year) and extensive beef cattle ranges become the main agricultural activity. At Mount Garnet, we visited the Kagara Mine, to witness mining, processing and production of zinc, copper and lead from concentrates. There we also had lunch, whilst listening to a presentation by Mr. Kev Shaw (Senior Extension Officer of the Department of Primary Industries), dealing with aspects and factors related to grazing in the semi-arid tropics, including local soils and climate, cattle load, erosion problems, the impact of sediments generated on the Great Barrier Reef and the loss of biodiversity. Later on, these and other aspects on livestock market and pasture quality were detailed by Mr. Greg Brown, who had been producing beef cattle in the area since 1989.

Then we moved on to Undara Lodge, crossing Mount Surprise town. Once at Undara, and before the dinner, our guides invited us to a wonderful and exciting walk across the Granite Bluff, where we could appreciate the impressive landscape of eucalypt savannah, as well as the alignment of recent volcanic cones that had poured basaltic lava on the former granitic pavement. There we had the very first chance to observe wild kangaroos and wallabies. At night, and after dining in Undara Lodge, it was time for another short walk, to admire the breathtaking beauty of miriads of stars (among them the Southern Cross), and finally to rest in old train wagons, converted into comfortable bedrooms.

Third and final day: 12th July. After enjoying a typical outback breakfast among the eucalypts in a cool dawn, we moved again to visit the Undara Lava Tubes, under the skill and experience of our driver and guide, Mr. Tony Speedie. Tony illustrated the genesis and properties of lava tubes and showed us some aspects on the ancient use of these volcanic structures by the aborigines, as well as their current inhabitants (bats and invertebrates). So we took the route to go back to Cairns, driving along the Atherton Tablelands and the former military camp areas of World War II, up to reaching the Rocky Creek War Memorial Park. Before getting there, we were

entertained by a local singer, Mr. Grahame Steele, who eased the unavoidable pain of farewell with *Waltzing Matilda*.

To summarize, we were offered (and really enjoyed) a more than interesting and valuable trip, unforgettable to many of us, because of the fascination of knowing exotic and unique ecosystems, quite different from those we are used to studying, and also for the teachings where we learned much about soil and natural resources conservation and the sustainable management of activities. Some activities have negative environmental impacts, specifically agriculture, grazing, forestry and mining. Finally, the opportunity to meet such a variety of technicians, scientists, ecologists and environmental authorities all of them highly sensitive and concerned about conservation issues in those fragile ecosystems, part of the World Heritage, is in itself extremely remarkable.

But, above all, we will keep the memories of the days in the friendly company of colleagues from overseas and the unrewardable kindness, devotion and hospitality of our tour leaders. Thank you very *much* John, Lex and Louise.

Antonio Rodríguez Rodríguez
Jesús S. Notario del Pino
University of La Laguna

Carmen D. Arbelo Rodríguez
Soil Science Department
Tenerife, Canary Islands, Spain



Plate: Left to right – Brian Kgelder (USA), Lex Cogle (Tour Leader), Calochi Arbelo (Canary Islands, Spain), Louise Hatley (Tour Leader), Antonio Rodríguez (Canary Islands, Spain) and John Armour (Tour Leader), over Cairns Bay.

ASSESSMENT OF SOIL ORGANIC CARBON STOCKS AND CHANGE AT THE NATIONAL SCALE (THE GEFSOC PROJECT)

Over the past 2⁺ years, The Department of Soil Science, The University of Reading, U.K. has been co-ordinating a 'Global Environment Facility' co-financed project 'Assessment of soil organic carbon stocks and change at national scale'. Most studies of soil organic carbon stocks have been carried out in temperate regions and most models have been developed using temperate data sets. In addition, few studies have been carried out at the national or even regional scale. The aim of this project is to develop a generic system for assessing soil organic carbon (SOC) stocks and changes at the national and regional scale, applicable to a wide range of soil types and climates including those from tropical and arid regions. The project aim is being achieved by considering four case study areas, Jordan, The Brazilian Amazon, The Indogangetic Plains of India, and Kenya. A linked GIS/modelling approach is being taken using both the UK and US computer models (RothC and Century). Both models have been evaluated and refined using long-term experimental and chronosequence data sets from these case study countries. In addition, national and regional scale data sets of soils, climate and land use have been collated and formatted. The Project is now entering its final phase and the system is being used to estimate SOC stocks at the national and regional scale.

The Project has had six workshops to date, the most recent of which was held at The International Institute for Applied Systems Analysis, Laxenburg, Austria (September 2004). This workshop focused on the development of future land use change scenarios under which SOC stocks will be estimated. The event was the culmination of a month of work at IIASA, made possible by START Fellowships awarded to four of the case study scientists. The preceding Workshop was held in Amman, Jordan, in May 2004. During the Workshop, Project members were introduced to Prince El Hassan bin Talal, Chairman of the Jordanian Higher Council for Science and Technology. The Prince gave a very positive response to the work the Project is conducting and expressed continuing interest and support. The Jordanian case study is co-ordinated by 'The Badia Research and Development Programme' of which Prince El Hassan bin Talal is co-founder, along with HRH The Duke of Kent.

The final Project Workshop will be held in May 2005, at The United Nations Environment Programme offices in Nairobi where the following output will be presented:

- Comparable georeferenced data sets of soils climate and land-use.
- Comparable estimates of current SOC stocks.
- Land use change scenarios for 2000 – 2030.
- Comparable estimates of SOC change under these scenarios.
- A transferable system for estimating SOC stocks and changes in a range of soil and climatic conditions.

For further information please visit www.rdg.ac.uk/GEFSOC or contact The Project Co-ordinator Dr Eleanor Milne: e.milne@rdg.ac.uk



Plate: Prince El Hassan bin Talal of Jordan (left) meeting Dr D.K. Pal (right), The Indian Case study co-ordinator from 'The National Bureau of Soil Survey and Land-use Planning', Nagpur, India

**SOIL QUALITY IMPROVEMENT FOR CROP PRODUCTION
IN SEMI-ARID WEST AFRICA**

Elisée Ouédraogo

Ph.D. thesis, Wageningen Agricultural University, February 2003.

Abstract

Soil quality maintenance and crop production improvement in semi-arid West Africa require appropriate cropping technologies, which are ecologically sound and economically viable. Thus, on-farm and on-station experiments have been carried out on the central plateau and in the south of Burkina Faso. The results show that adoption of improved soil fertility technologies such as composting by farmers is determined by soil fertility status, access to the market and social reasons. Organic amendments increase crop production but its effects on soil carbon depend on its quality. Soil tillage improves crop performance as a result of enhanced crop nutrient uptake and water use efficiency, but decrease soil carbon with fertilisation. Combination of crop residues and urea may reverse this negative effect. Soil fauna accounted for 50% of crop production. Termites mediated the disappearance of low-quality organic amendments. Soil carbon build-up in the presence of soil fauna requires the use of easily decomposable organic material or combined low quality organic material with nitrogen fertilizer. Phosphate rock-derived phosphorus availability is four times higher in earthworm casts than in surrounding soil. Single use of nitrogen fertilizer leads to low use efficiency by crop and induces low to negative economic benefit. Combination of organic resource and fertilizer significantly increases crop performance and economic benefit of N fertilizers. Without both organic and mineral external inputs, soil quality maintenance and crop production improvement cannot be achieved at the same time in semi-arid West-Africa. Improving soil quality and crop performance in semi-arid West-Africa is best achieved with an integrated soil fertility management including external inputs (organic and mineral), the contribution of soil fauna and soil and water conservation measures and in some cases with tillage.

USING EUCALYPTUS FOR SOIL & WATER CONSERVATION ON THE HIGHLAND VERTISOLS OF ETHIOPIA

Selamyihun Kidanu

Ph.D. thesis, Wageningen Agricultural University, February 2004.

Abstract

Resource degradation is a critical problem in the highlands of Ethiopia. With agricultural productivity lingering behind population growth, the gap between the availability and the demand for agricultural land continues to grow. This results in severe land-use conflicts. Thus, high potential and more resilient soils need intensification to sustain human needs. This thesis discusses the opportunities of a short rotation (three years) eucalyptus-based agroforestry system to intensify annual sole cropping on the highland Vertisols. This soil type represents a major production resource in this agroecosystem, but is vastly underutilized due to severe waterlogging. A typical Vertisols-Nitosols toposequence in Ginchi Watershed in the central highlands of Ethiopia was selected for this study. The productive and protective functions, alternative resource utilization, the farm economics and the allelopathic potential of an *Eucalyptus globulus* based agroforestry system were investigated. The proposed agroforestry system increases land productivity, cuts down soil erosion rates to tolerable limits, reduces runoff, and increases the proportion of available water for biomass production without inducing significant nutrient depletion. Eucalyptus trees capture part of the runoff and soil which otherwise is lost for agricultural crops. This justifies their integration into sole cropping systems thereby compensating for the extra resource required for their growth. Therefore, the farmers' choice to plant *Eucalyptus* species on seasonally-waterlogged highland Vertisols must be acknowledged by policy makers. It is unthinkable to get other species, be it indigenous or exotic, that can substitute *Eucalyptus* in the full range of benefits it provides on highland Vertisols. A presumed allelopathic effect of eucalyptus has little ecological relevance and the role of *Eucalyptus* is far reaching when it is evaluated in its potential contribution to the substitution of dung. Under appropriate management practices dung is a renewable and sustainable soil improvement resource because of its role in the maintenance of soil physical and chemical properties. Eucalypt boundary plantings are also economically viable and wood and wood products from eucalypt boundaries help to reduce pressure on endogenous forests and biodiversity, which has global environmental implications.

MODELLING NUTRIENT LOSSES BY WIND AND WATER EROSION IN NORTHERN BURKINA FASO

Saskia Visser

Ph.D. thesis, Wageningen Agricultural University, 2004

Abstract

In the semi-arid environment of northern Burkina Faso the processes of wind and water erosion occur almost simultaneously and may cause severe soil degradation. Especially in the early rainy season when soils are bare and unprotected, violent winds preceding high intense rainfall events result in intense sediment transport by both wind and water. This Ph.D. project aimed at quantifying and modelling wind and water erosion processes, their interaction and related nutrient flows in a Sahelian environment.

The source codes of EUROSEM and the stand-alone erosion sub-model of WEPS are translated to the dynamic modelling language PCRaster, further adapted to be applicable to the Sahelian situation and extended with nutrient components. From field measurements and modelling results it is concluded that for water erosion, rain splash is the most important detaching agent at the scale of a field and that despite the large volumes of overland flow, erosion is transport capacity limited due to the general low slopes. The material detached by water erosion is available for wind-blown transport. Due to the absence of non-eroding boundaries, intense mass transport under influence of violent winds does not always result in erosion. Depending on wind direction, cover and crust type, net deposition may occur. Further, due the large spatial variation in wind erosion controlling parameters, areas with erosion and deposition can be identified within a field.

Based on model results it is concluded that wind erosion is responsible for the loss or deposition of large amounts of fine sediment and the nutrients attached to these sediments. Though compared to wind erosion, the nutrient losses under influence of water erosion are small, these losses should not be underestimated; these nutrients flow to the nearest stream and are forever lost from the catchment. Due to the interaction between wind and water, nutrient and soil erosion at a field scale may be large, but are limited at the village scale. Provided a good management of natural resources as tree and shrub cover and a good insight in the distribution of cultivated and fallow fields around the village, long-term productivity is not at risk in the southern Sahelian zone.

CONCEPT AND EFFECTS OF A MULTI-PURPOSE GRASSED WATERWAY: LONG-TERM MEASURING AND MATHEMATICAL MODELLING OF RUNOFF REDUCTION AND SEDIMENT TRAPPING

Peter Fiener

Ph.D. thesis, The Technical University of Munich, 2004

Technische Universität München and Munich Research Alliance on Agricultural Ecosystems (FAM)

Abstract

Grassed waterways (GWWs) are a common erosion control measure in Northern American agriculture to prevent linear erosion along the drainage ways. In Europe, where agricultural landscapes are often more small patterned, they are not widely used. To examine the benefits in European farming practice, two GWWs (290 and 370 m long, 25 and 15 m wide) were established in 1993 at the FAM research farm 40 km north of Munich and studied over an eight-year period.

The work focused on the runoff reduction and sediment trapping in the GWWs in combination with an intensive soil-conservation system established in the relatively small agricultural watersheds (~8 ha) draining into the GWWs. Moreover, the prevention of linear erosion was observed, and more general economic as well as ecological effects, e.g. on biodiversity, of establishing the GWWs in this landscape were analysed, using the extensive data and knowledge base collected by the FAM Research Alliance.

To evaluate the runoff reduction and sediment tapping in the GWWs three analysis tools were adopted: (i) In a landscape experiment (1994 to 2001) we compared the measured runoff and sediment delivery of neighbouring watersheds with and without GWW, (ii) in a controlled experiment, where concentrated runoff was pumped to the upper end of each GWW and outflow was measured, single runoff controlling parameters were analysed, and (iii) based on the controlled experiment a mathematical model of concentrated flow in GWWs was developed and used for a sensitivity analysis.

All three tools confirmed the high efficiency of GWWs in reducing runoff and sediment delivery if they are established under small patterned European farming conditions, especially if combined with an intensive soil-conservation system in the fields. For example, the more effective GWW reduced runoff by 90% and trapped 97% of sediment (1994 to 2001) compared to the neighbouring watershed. According to the sensitivity analysis carried out with the model, it was shown that for GWW characteristics its length, width and shape of its cross section (controlling concentrated flow) are the dominant parameters of runoff and sediment control. High hydraulic roughness by stiff, long and dense grasses is also important, so frequent

mowing should be prevented. Soil conditions were less prominent, hence assuming that similar colluvial soils can be found along the drainage ways of other fields, similar efficiencies in runoff reduction can be expected as long as inflow rates are similar to those measured at the test site. Generally, GWWs can be an effective measure in reducing runoff and sediment delivery from small agricultural watersheds typically found in many European regions.

BRIDGING THE GAP: COMPUTER MODEL ENHANCED LEARNING ABOUT NATURAL RESOURCE MANAGEMENT IN BURKINA FASO

Annemarie van Paassen

Ph.D. thesis, Wageningen Agricultural University, January 2004

Abstract

There is an increasing recognition that learning for Natural Resource Management (NRM) encompasses more than instrumental learning for a more productive and ecological sustainable agriculture. Agro-ecological problems emerge from human action and interaction vis-à-vis the natural environment, and solving them presupposes learning about technologies *and/or* human (inter) action. The question is whether and how computer-based land use models enhance learning about NRM. This study first elaborates upon the theoretical framework of the learning actor-network. It deals with the entanglement of the material and social world: both biophysical and human aspects influence an actor (-network)'s learning. There are two drivers for learning: Coherence (the need for a consistent and shared vision about the desired situation) and Correspondence (the need to act in correspondence with one's environment, to explore what action is best fit to attain the desired situation). The empirical study on the value of a Multiple Goal Linear Program (MGLP) model for agricultural extension in Burkina Faso showed that such models do not automatically lead to learning and change. There is little chance that existing models actually match with stakeholder views and cover emerging key-issues. Nevertheless, these models may be useful (a) to gain locality- and group specific knowledge and (b) to illustrate certain perspectives and preferred development strategies, which triggers critique and finally leads to more understanding and the identification of common goals. MGLP modelling is no panacea for learning about NRM, but it may help agricultural professionals to better understand diverging farm realities and livelihood strategies. This enables them to perform a crucial role: to enhance integrated learning or co-learning for NRM.

A GENERIC PROTOCOL FOR AN INTEGRATED LAND INFORMATION SYSTEM IN HUMID SUBTROPICAL HIGHLANDS: A CASE STUDY IN YUNNAN PROVINCE, CHINA

Li Yong Mei

Ph.D. thesis, The University of Wolverhampton, April 2004

Abstract

This study develops a basis for a land information system for the 40 ha subtropical highland Catchment of Wang Jia, Yunnan Province, China. Information, including meteorology, geology, geomorphology, biology, pedology and crop productivity, was integrated using a geomorphopedological approach and expressed as maps using GIS. The developed protocol is proposed as a generic system, applicable to agricultural land evaluation in subtropical highland catchments.

The results demonstrate that Wang Jia Catchment is relatively representative of the region, in terms of geomorphological features and land cover. Catchment soils, developed from residual, colluvial and alluvial materials of sandstone, shale and dolomite on different landscapes, were still young and strongly influenced by their geological parent material. Soils were normally slightly acidic to neutral. Soil fertility varied from poor to very fertile. Maize yield was significantly correlated with soil pH, total N, available N, P and K and thus the Soil Fertility Index. In 2002, maize yield was significantly correlated with manure and urea applications.

There was considerable potential to increase maize yield with modified and innovative cropping practices in the catchment. Adopted primarily as a soil conservation practice, contour cultivation did not increase maize yield compared to downslope cultivation. Polythene mulch tended to increase maize yield in most years. These results largely accord with the results from controlled research plots in the same catchment.

Analysis of intra-plot variations showed that soil samples from planting pits had higher total soil organic matter, total N, available N, available P and available K than inter-row samples, but with higher standard deviations. Most soil fertility parameters for inter-row samples were more similar to traditional random composite samples. These results suggest if composite samples were taken only from inter-rows, the results would have been similar, but the risk of sampling error would have been reduced.

The land information system established in this study is suitable for designing, evaluating and monitoring sustainable agricultural practices central to soil conservation and crop yield improvement and thus contributing to decision-making for sustainable agricultural land management in this region.

CONTROLLING THE LOSS OF SOIL TO WATER – GEOLOGICAL SOCIETY, LONDON. 21ST JANUARY 2004

Discussion session report

Introduction

The Conference dealt with one of the main environmental problems facing land managers, scientists and policy makers in the UK today; the accelerated movement of soil from land to water. While soil erosion has negative implications on-site for biodiversity and productivity, the off-site impacts, such as sedimentation in watercourses and the transfer of sediment-associated nutrients and contaminants, have far-ranging implications for water quality, infrastructure, fish stocks and biodiversity in both freshwater and marine environments. It is predicted that future changes in climate, land use and land management will exacerbate these problems, while threatening the success of initiatives to protect water quality, such as the EU Water Framework Directive.

By bringing researchers investigating accelerated soil loss together with those involved in the practical mitigation of erosion-associated problems, this meeting promoted discussion on the way forward to controlling the loss of soil to water. During the discussion session at the end of the meeting, four questions were considered. This document summarizes that discussion and will be widely disseminated to promote the thoughts of the meeting and highlight the key issues identified.

Overview

The most important issues identified were:

- The need to **raise public awareness** of soil as a non-renewable resource with all land managers, such as farmers, landscape architects, civil engineers, as well as school children, university students and the general public.
- Improvements in **soil science education**, including understanding soils in terms of their functional capability, are required in order to benefit future policy development.
- Increased focus, particularly through the media, is needed on the ecological, economical and social **benefits of good soil management**, rather than the negative impacts of poor management.
- The need for **increased communication** between policy-makers, researchers and all end-users (particularly the farming community and construction industries) is essential.

- The need for **meaningful legislation** and a **soil advisory scheme** to provide all land managers, including farmers, with coherent, impartial and useful advice on soil-related matters, relevant to current legislation and policy.
- **Relevant soils data** are required to support future legislation. Key data sets should be updated, improved in spatial coverage and detail and made more accessible.

Responses to Question 1: How significant is soil loss and to whom?

- On-site, soil loss is significant to farmers and other land managers including nature conservation managers, archaeologists, landscape architects and civil engineers. It also impacts on the public when affected sites are used for recreation.
- Off-site, soil loss affects water authorities, fisheries, riparian owners, highways and planning departments, coastal zone management groups and harbour authorities.
- Improved understanding of soil as an under-valued resource and the environmental functions it performs is required through improved coverage of soils within the National Curriculum, promotion of University degrees in soil science, promotion of science fairs and increased use of alternative resources for support, including the British Soil Science Society and The Royal Society.
- Increased public awareness is needed by emphasizing the links between soil erosion, sediment redistribution and negative environmental impacts.
- Representation of soils by the media must be increased (currently very little) and be more balanced to show positive issues as well as negative. The soil science community (in particular our national societies) should work more closely with the media to ensure this happens.

Responses to Question 2: What existing and emerging EU and UK policy is relevant to controlling soil loss?

- Water Framework Directive.
- EU Soil Thematic Strategy.
- Department of Environment, Farming and Rural Affairs (DEFRA) Soil Action Plan for England.
- Welsh Assembly Environment Strategy.
- Habitats Directive.
- UK Water Resources Act (1991).
- Salmon and Freshwater Fisheries Act (1985).
- Nitrate Directive.
- Bathing Waters Directive.

Responses to Question 3: How can we bridge the gap between research outcomes and both policy and end-user groups?

- Ensure input from the research community in identifying future research directions
- Improve allowances from DEFRA and the Environment Agency (EA) for research contracts to combine contractual work and academic needs.
- Re-instate an advisory service to improve contact with land managers.
- Target legislation to ensure it is meaningful to end-user groups.
- Encourage pilot schemes to showcase good practice and impacts.
- Use appropriate terminology to engage the public.
- Encourage researchers to connect with farmers and other land managers.

Responses to Question 4: What further research is required?

- Quantification of control and mitigation measures.
- Scaling up of R&D studies from laboratory-scale to the field and catchment scales.
- Greater spatial coverage to account for natural variability in field.
- Greater emphasis on field evaluation to counter a lack of ground skills (as opposed to new technologies) and over-reliance on remote sensing techniques.
- Improved techniques to identify and map the risk of soil erosion and sediment delivery.
- Provision of toolboxes for selection of site-specific management tools for local environment and conditions.
- Land capability maps including social and economic components to emphasize social and economic benefits of good soil management.
- Identification of different sediment sources and their relevant importance (i.e. sources are not purely from arable land).
- Updated soil data to provide relevant data to support legislation.
- A monitoring network which provides information on the degradation of our soils.

Conference organizers and contact details

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Forthcoming Dates for Your Diary

Dear colleagues,

I would like to inform you about the preparation of the special session on **Soil Water Erosion on Rural Areas** within the second General Assembly of the European Geosciences Union (EGU), to be held in Vienna, Austria, in April 25 – 29, 2005. More information is available at: <http://www.copernicus.org/EGU/>

The session will be convened by Artemi Cerdró: artemio.cerda@uv.es, Anton Imeson: a.c.imeson@science.uva.nl and Jean Poesen: jean.Poesen@geo.kuleuven.ac.be

Please do not hesitate to contact us if you have any questions.

Rural areas worldwide are affected by land use changes. Deforestation, wildfire, overgrazing, agriculture with intense ploughing and chemicals, road and railways construction, urbanization, climate change and global change are threatening the soil quality and functioning in developed and underdeveloped countries.

Soil is the most fundamental resource we have, due to its interaction with:

- (i) Adequate food supply.
- (ii) Water resources.
- (iii) Carbon sequestration.
- (iv) Natural vegetation and fauna depend on productive land.

Soil water erosion is threatening natural and cultural environments. The session on Soil Erosion on Rural Areas (SERA) will discuss topics on soil degradation, past and present erosion processes, experimental and laboratory studies, assessment, prediction and conservation policies of soil erosion. All papers on any aspects of soil erosion research on rural areas are welcome.

The deadline of receipt of abstracts is January 21, 2005.

Please inform other colleagues of the Soil Water Erosion in Rural Areas (SERA) session.

Sincerely,

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More information:

[http://www.cosis.net/members/meetings/
programme/view.php?p_id=120](http://www.cosis.net/members/meetings/programme/view.php?p_id=120)
or [http://www.copernicus.org/EGU/ga/
egu05/abstract_submission.htm](http://www.copernicus.org/EGU/ga/egu05/abstract_submission.htm)

ECOSUD 2005 FIFTH INTERNATIONAL CONFERENCE ON ECOSYSTEMS AND SUSTAINABLE DEVELOPMENT, 3 – 5 MAY 2005, CADIZ, SPAIN

Introduction

ECOSUD 2005 is the Fifth International Conference in the well-established series on Ecosystems and Sustainable Development. The meetings provide a unique forum for the presentation and discussion of recent work on aspects of ecosystems and sustainable development, including physical aspects and modelling. The aim of the Conference is to encourage and facilitate the interdisciplinary communication between scientists, engineers, economists and professionals working in ecological systems and sustainable development. Emphasis will be given to those areas that will most benefit from the application of scientific methods for sustainable development, including the conservation of natural systems around the world.

The Conference objectives have evolved over the years, seeking to integrate thermodynamics, ecology and economics into 'ecodynamics'.

This successful series first started in Peniscola, Spain (1997); and continued in Lemnos, Greece (1999); Alicante, Spain (2001) and Siena, Italy (2003).

Who should attend?

ECOSUD 2005 will be of interest to scientists, engineers, economists and professionals, working in the areas of ecological systems and sustainable development.

Benefits of attending

- Keep up-to-date on the latest advances in the field.
- Present your research within a unique forum.
- Collaborate with experts from around the world.
- Your conference paper will be reviewed by members of the International Scientific Committee and other colleagues, and once selected, will be rapidly published in book form by WIT Press.
- Your paper will also be permanently archived in the Transactions of the Wessex Institute on our e-Library site, where it will be available to the international scientific community.

Location

Cadiz was founded by the Phoenicians approximately 1,100 years BC and holds the distinction of being one of the oldest cities in Europe. Cadiz is surrounded by the sea on three sides and is only accessible by the 'Puerta de Tierra', a strip of land that was constructed in 1755 by Torcuato Cayon. Due to the rich history of Cadiz, including the monuments, buildings and museums are full of stories and depictions of the past. The old central quarters are famous for their picturesque charm, and many of the buildings reflect the city's overseas links.

Accommodation

Special accommodation rates have been negotiated at the 'Parador Hotel Atlantico' on behalf of our delegates. You should make your reservation as soon as possible in order to benefit from these rates.

Conference Venue

The 'Parador Hotel Atlantico' is a modern complex next to the Genoves Park. It is situated by the sea with impressive views of the bay of Cadiz. Located in a residential area surrounded by palm trees, it has exclusive access to a small beach. It is also a good starting point to discover the entire province (White Villages Route, Toro Route, Wine Route, etc.), plus the small villages of Cadiz. Boat trips and excursions are available as well as indoor entertainment such as games, live music and the hotel restaurant. Further details of special accommodation rates for our delegates will be announced closer to the time of the Conference.

Registration and Conference Fees

Click: <http://www.wessex.ac.uk/conferences/2005/eco05/index.html>

**ESSC WORKSHOP ON SOIL CONSERVATION ISSUES IN NORDIC
COUNTRIES, 24 – 28 MAY 2005, AT THE ESTONIAN AGRICULTURAL
UNIVERSITY, TARTU, ESTONIA**

Organizers

- Executive Committee, European Society of Soil Conservation (ESSC)
- Department of Soil Science and Agrochemistry, Estonian Agricultural University (EAU)
- Institute of Geography, University of Tartu (UT), Estonia

Objectives, scope and expected outcome

- Rationale: constraints and degradation features of soil cover, being characteristic and specific to rural areas of Nordic regions; concepts and socio-economic aspects of soil protection policy; different ways (measures, scenarios) for implementation of soil conservation in Nordic countries.
- Modes of work: offered presentations, volunteer posters, joint discussions and field trips together with participants of the 'Landscape Tomorrow' Workshop.
- Results and outcomes: Publication of offered papers on soil conservation in scientific journals; joint abstract book on the themes of soil conservation and multifunctional land use.

The Conference on soil conservation precedes directly to one of the series of workshops of the 'Landscape Tomorrow European Research Network' (LTERN). The succeeding workshop is entitled '**Multifunctional land use – Meeting future demands for good and services of the rural environment**', dealing with theory, concepts and implementation of multifunctional land use.

Joint discussion areas are: sustainable and pedoecologically sound use of soils; matching soil cover with plant cover or soilscape with landscape; multifunctional land use peculiarities of Nordic rural areas; discourses during the field trip on soil cover role in the formation of landscape multifunctionality.

For further information on the ESSC Conference (and its Council meeting) see: (<http://www.essc.sk>).

The proposals for oral and poster presentations concerned with soil conservation of rural areas and landscapes in northern regions and countries are highly welcomed. These proposals, offered by ESSC members (as well others, interested in these topics) should be presented to organizers in the pre-registration form.

Themes planned for the workshop

1. Theoretical concepts of soil conservation relevant in Nordic regions (soil quality; soil degradation types; soil constraints; environment protection ability of soils and its evaluation; multifunctional land use; soil conservation strategy according to regionally specific conditions).
2. Soil policy and socio-economic aspects of soil conservation (thematic strategy for soil protection; rural development and soil status; perspectives of soil policy; planning of land use and development of soil management technology in concordance with local ecologic and socio-economic conditions).
3. Pedoecological aspects and case studies on soil conservation and multifunctional land use (matching pedodiversity with biodiversity and soil cover with plant cover; good agricultural practice; prevention of soil compaction; soil type based land use and landscape planning).

Scientific Committee

Jose L. Rubio (CIDE, Valencia, Spain)

Katharina Helming (ZALF Müncheberg, Germany)

Ülo Mander (UT, Tartu, Estonia)

Raimo Kõlli (EAU, Tartu, Estonia)

Preliminary programme

Wednesday, May 25

Morning:

Arrival and Registration

Afternoon (14⁰⁰):

Opening ESSC Workshop on soil conservation

Afternoon session 1.

Theoretical concepts of soil conservation in Nordic regions

Four oral presentations (20 minutes each)

Coffee break 30 minutes

Afternoon session 2.

Soil policy and socio-economic aspects of soil conservation

Four oral presentations (20 minutes each)

Break

Evening:

ESSC Council Meeting (2 hours)

Dinner

Thursday, May 26

Morning session 3.

Pedoeological aspects and case studies of advanced experiments on soil conservation and multifunctional land use of Nordic rural areas

Four oral presentations (20 minutes each)

Lunch

Afternoon:

Field trip, together with participants of the 'Multifunctional land use Workshop' on 'Meeting future demands for good and services of the rural environment of Southern Estonia.'

Friday, May 27

Beginning of the LTERN Workshop

(Sessions 4, 5 and 6 – for details see programme)

Morning session 4.

Theory and concepts of multifunctional land use

Afternoon session 5.

Implementation of multifunctional land use

Evening:

Conference Dinner

(organized jointly for participants of ESSC and LTERN workshops).

Saturday, May 28

Morning session 6.

Case studies for implementation of multifunctional land use

Afternoon session 7.

Plenary Discussion

Reporting back of session discussions (both themes – multifunctional land use and soil conservation)

Future research items for multifunctional land use

Landscape Tomorrow General Assembly

Sunday, May 29

Departure

Pre-registration to the
ESSC AND LANDSCAPE TOMORROW WORKSHOPS

Soil Conservation Issues in Nordic Countries & Multifunctional Land Use

Tartu, Estonia, May 24 – 28, 2005

Family name:

First name: Title:

Institution:

Tel.: Fax:

E-mail:

Address:

.....

City:

Country:

- I am interested in attending the soil conservation workshop:
- I am interested in attending both the soil conservation and multifunctional land use workshops.
- I intend to give an oral/poster presentation on soil conservation workshop with the preliminary title:

.....

.....

My presentation is related to the topic:

- Theory and concepts of soil conservation
- Political and socio-economic aspects soil conservation
- Case studies of soil conservation in Nordic areas

Date: Signature:

Publications

It is intended to publish papers of the workshop in a special issue of the journal '*Archives of Agronomy and Soil Science*'. Manuscripts will be peer reviewed before considering for inclusion in this publication.

Registration fees

Registration fees will be sent to account:

Registration fee for ESSC Workshop	100 EUR
Registration fee for ESSC and LTERN Workshops together	170 EUR

Further Information

Further information on the ESSC Workshop, registration and field trip is available from the Department of Soil Science and Agrochemistry, EAU

Address: **Faculty of Agronomy, Kreutzwaldi Str. 64, 51014 Tartu,**

Tel./fax: **+372 7 313 539**

e-mail: **muld@eau.ee** or **raimo@eau.ee**

Please send your registration and abstract (1 page A4) **before 15th January 2005** via mail, fax or e-mail to the above address.

**SUSTAINABLE PLANNING 2005 SECOND INTERNATIONAL CONFERENCE ON
SUSTAINABLE PLANNING AND DEVELOPMENT, 12 – 14 SEPTEMBER 2005,
BOLOGNA, ITALY**

Introduction

Following the success of the First 'International Conference on Sustainable Planning and Development' held in Skiathos, Greece in 2003, the decision was made to reconvene the second conference in Bologna from 12 – 14 September 2005.

The Conference will address the subjects of sustainable planning and regional development in an integrated way, as well as in accordance with the principles of sustainability. It has become apparent that planners, environmentalists, architects, engineers, policy makers and economists have to work together in order to ensure that planning and development can meet our present needs without compromising the ability of future generations.

In recent years, there has been in many countries, an increase in spatial problems that has led to planning crises. Planning problems are often connected with uneven development, deterioration of the quality of urban life and destruction of the environment. The increasing urbanization of the world, coupled with the global issues of environmental pollution, resources shortage and economic restructuring demand that we make our cities places worth living in. On the other hand, problems of environmental management and planning are not restricted to urban areas. Environments such as rural areas, forests, coastal regions and mountains face their own problems that require urgent solutions in order to avoid irreversible damage. The use of modern technologies in planning, such as geographical information systems and remote sensing, give us new potential to monitor and prevent environmental degradation.

Effective strategies for management should consider planning and regional development, two closely related disciplines, and emphasize the demand to handle these matters in an integrated way. This Conference provides a common forum for all scientists, specializing in the range of subjects included within sustainable planning and development.

Who should attend?

The conference will be of interest to planners, environmentalists, engineers, architects, ecologists, economists, policy makers and other government officials, researchers and academics involved in the field of sustainability.

Benefits of attending:

- Keep up-to-date on the latest advances in the field.
- Present your research within a unique forum.
- Collaborate with experts from around the world.
- Your conference paper will be reviewed by members of the International Scientific Committee and other colleagues, and once selected, will be rapidly published in book form by WIT Press.
- Your paper will also be permanently archived in the Transactions of the Wessex Institute on our e-Library site, where it will be available to the international scientific community.

Location

Bologna is the capital city of Emilia-Romagna and houses over 400,000 inhabitants. Situated on the South-Eastern side of the Po Valley on the foothills of the Apennines, it is only one hour by train from Florence and two hours by train from Venice. The international airport is approximately 15 minutes from the hotel by car or taxi. Few European cities show such a contrast between picturesque medieval times and busy modern commercial life as vividly as Bologna. Characterized by long porticoes, mediaeval towers, XIII-XVII century palaces, monumental churches and the warm red colour of the brick buildings, this is interspersed with old arcade streets lined with busy shops, modern theatres and office buildings.

Accommodation

Special accommodation rates have been negotiated at the 'Royal Hotel Carlton' on behalf of our delegates. You should make your reservation as soon as possible in order to benefit from these rates.

Conference Venue

The Conference will be held at the 'Royal Hotel Carlton', located in the historic and commercial centre of Bologna. This superior first class hotel is surrounded by graceful gardens and is in a prime location 100 m from the Central Railway Station and just 5 km from Bologna International Airport. The Hotel boasts rooms with a range of luxury facilities. Further details regarding accommodation booking will be made available closer to the time of the Conference.

Registration and conference Fees

Click: <http://www.wessex.ac.uk/conferences/2005/spd05/index.html>

SMIA05: 2ND INTERNATIONAL CONGRESS WITH INNOVATION FAIR, SUSTAINABLE MANAGEMENT IN ACTION (SMIA), 19 – 20 SEPTEMBER 2005, UNIVERSITY OF GENEVA, SWITZERLAND

The 'Association of Sustainable Management in Action' (SMIA), Lausanne and the 'University Centre of Geneva for Human Ecology and Environmental Sciences' (CUEH) are pleased to invite you to attend the 2nd International Congress with Innovation Fair, Sustainable Management in Action (SMIA05). The event will take place from 19 – 20 September 2005 at the University of Geneva, Switzerland.

The benefits of sustainable management are becoming increasingly evident. In companies, it enhances competitiveness, human capital, innovating capacity and business strategies. In national economies and across the globe it sets up a sustainable framework for economic and social development.

During an intensive two days, SMIA05 will promote deeper understanding of sustainable management, while presenting promising actions and aspects:

Entrepreneurial development, stimulation of employees, economies of scale provided by Internet, SME-development, sustainable management systems; Win-Win Management in developing countries, innovative environmental technologies, sustainable financing, marketing and tourism.

It will provide a unique source of essential information and expertise, while stimulating constructive interaction between delegates. Please join our innovative event and meet change leaders from practice and science from all over the world. Attending SMIA05 will also be an opportunity to discover a city of unique charm with a rich cultural tradition and a long tradition as an international meeting-place in the field of sustainability.

Plenary Sessions

Concepts and strategies in sustainable management: Climate change, corporate governance, dialogue with NGOs, co-operation and development networks, market mechanisms, sustainability conscious shareholders and regulations.

Tools of sustainable management: Benchmarking, eco-design, eco-efficiency, eco-labels, life cycle assessment, management of biodiversity, risk minimization, sustainable procurement, sustainable reporting, sustainable management of personnel and of their health and sustainable management systems.

Technological innovations in sustainable management (clean production, energy- and material efficiency, renewable resources, protection of air and water, noise protection and recycling) in the various economic fields.

REMINDER FOR THE NEXT ISSUE

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

- (i) Recent grant awards.
- (ii) Newly enrolled Ph.D. research students and the title of their research topic.
- (iii) Recent staff institutional movements/promotions.
- (iv) A reference list of your recently published international refereed scientific journal papers. This list will also be hosted on the ESSC web-site and will become an increasingly valuable source of reference information.