

NEWSLETTER

2/2011

ESSC EUROPEAN
SOCIETY for
SOIL
CONSERVATION

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**Village vegetable garden on reclaimed semi-arid savannah grassland,
Kabakel, The Gambia, West Africa
(photo by Mike Fullen, Wolverhampton, UK).**

E.S.S.C. NEWSLETTER 2/2011

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Produced and composed by the Editor-in-Chief at The University of Wolverhampton (U.K.)
Printed by The Soil Science and Conservation Research Institute „Vyskumný ústav pôdoznactva a ochrany pôdy, Bratislava“ (Slovakia)

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**JOINT OPEN LETTER FROM PROFESSOR CARMELO DAZZI (ESSC PRESIDENT)
AND EDOARDO COSTANTINI (ESSC SECRETARY)**

The 6th ESSC International Congress, which took place in Thessaloniki (Greece) from 9–14 May 2011, was a major success in terms of participation and the overall quality of the presented scientific papers. There was the added bonus of the cultural excursion to one of the most interesting archaeological areas of Greece.

We, therefore, wish to express our appreciation to the Congress Organizing Committee, wonderfully led by Theodore Kariotis, his team and the ‘people with the orange T-shirts’ that have contributed to the success of the Congress. The Congress of Thessaloniki also served to renew the ESSC Council and the ESSC Executive Committee, in particular, a new President and a new Secretary were elected and new members were nominated (the respective composition of the new Committee is reported in this Newsletter).

After several years of active, dynamic and careful presidency, José Rubio no longer wished to run again. The Secretary Pavol Bielek, who spent much energy on behalf of the ESSC, was also no longer able to engage in this delicate and important function. To both José and Pavol we express the sincere gratitude of the ESSC Executive Committee and of the entire ESSC membership for the great contribution they have both made to our Society.

It will not be simple to pick up the baton left by José and Pavol, especially considering that Europe as a whole, as well as its constituent countries are, in varying degrees, experiencing a period of great difficulties, especially economic. As almost always happens in these cases, the fragile and taken-for-granted resources, like soil, are just the ones that have to support the burden!

We are mindful of our duties and we can assure the ESSC membership that we will do our utmost to serve the ESSC with all our efforts. During the Council and the ESSC General Assembly, issues for the next four years were discussed and analysed. We are going to face problems and priorities that are both old and new, resulting from scenarios involving soil conservation. To some extent, these challenges are a function of the perception that, in different social contexts, people have of soil.

In Europe, the perception of soil was traditionally linked to agriculture, ignoring that soil functions support virtually all human activity, in some way. In recent years we have experienced that our attempts to spread the culture of soil in our dear and old Europe is a difficult task, especially if the ‘insiders’ are the only ones who talk about soil and its conservation. It is, therefore, a priority to widen and raise awareness among European citizens and administrators on the importance of soil and its functions, involving different expertise. In this context, the ESSC can play an important role in bringing together experts from many disciplines (such as environmental engineers, environmental economists, epidemiologists and physicists) to be able to give both a social and economic added-value to soil, so that it can acquire enhanced consideration in all spheres of European society.

A great dream is to achieve a situation in which every state of Europe would consider in its national definition of GDP, the changes in economic value from its soilscapes, as a result

of soil degradation and reclamation processes. This would indeed represent a Copernican revolution if society could adopt proper and thorough considerations of the soil in all of its components. This would also be the fulfillment of Roosevelt's famous axiom: "the nation that destroys its soil destroys itself."

At the ESSC level we face long-standing problems related to the membership and the payment of membership fees. Then we have to add challenges involved in the printing of the ESSC Newsletter and website maintenance. We must all strive to both increase the number of members, for a long time stable at about 250 fee-paying members, and to find economic alternatives to help with the costs of printing the ESSC Newsletter.

Financially, the ESSC is based on membership fees, although we should explore possible sponsorship. Only if we succeed in increasing our budget can we develop initiatives for the printing of publications under the ESSC umbrella (besides the Newsletter), to fund grants for the participation of young researchers in ESSC activities (we remember the success of this scheme at the 5th ESSC Congress in Palermo) and, in general, to give more visibility to our Society.

Future events we wish to highlight are the celebration of the 25th Anniversary of the foundation of the ESSC, which will fall in 2013 and the 7th International Congress of the ESSC to be held in Iceland in 2015. We must begin to deploy all our forces to make them a success for our Society.

Carmelo Dazzi and **Edoardo Costantini**
ESSC President ESSC Secretary.

THE AWARD OF THE 'GEROLD RICHTER PRIZE' (2011) TO PROFESSOR JOSÈ LUIS RUBIO

The Council of the European Society for Soil Conservation, at its meeting held in Thessaloniki (Greece) during the 6th ESSC International Congress, conferred on Professor Dr Josè Luis Rubio the 'Gerold Richter Prize 2011' for his successful and eminent scientific contribution to soil conservation and to increased societal awareness of soil degradation problems.

Josè Luis Rubio was one of the founders of the ESSC and was our Society's President from 1998 to 2011 (Plate 1). He began his scientific career at the 'Institute of Agrochemistry and Food Technology' (IATA, Valencia, Spain) within the 'Consejo Superior de Investigaciones Cientificas' (CSIC), studying nutrient dynamics in soils. After receiving his Doctorate, Josè was awarded a Postdoctoral Scholarship from the World Bank for further studies in the USA on the use of stable nitrogen isotopes (¹⁵N) for analysing soil-plant systems. Later, his scientific activity was directed towards environmental topics, studying many aspects of Mediterranean terrestrial ecosystems. Josè was a pioneer in Spain in several scientific themes. These include the development of empirical models of water erosion, the use of

rainfall simulators, integrated mapping methodologies, the study of the impact of forest fires and the restoration of degraded ecosystems. Josè also made significant contributions through outreach scientific activities, scientific advice and through the organization of scientific meetings at both national and international levels. He has and is continuing to make a significant contribution to the emerging international awareness and concern over environmental issues. Under this perspective, Josè was the Spanish representative at one of the first environmental committees of the European Union: the Steering Group on Soil Erosion and Conservation (1984). At both European and Spanish level, he pioneered early studies and evaluations of the important and complex issue of desertification.

Josè was the scientific advisor of the Spanish Delegation in preparing the 'United Nations Convention to Combat Desertification' (UNCCD) and was one of the main actors and writers of the Annex to the Convention, which deals with the problems of desertification in Mediterranean Europe (1993–1995). Josè won the 'Jaime I Award for Environmental Protection' (1996) and was the founder and first Director of the Centre for Research on Desertification (CIDE) in 1996. He was also the first Project Leader at the European Topic Centre on Soil of the European Environment Agency of the EU (1996–1998).

Josè made an immense scientific contribution to many national and international organizations and institutions. These include CSIC, ANEP, MIMAM, the European Parliament, FAO, the European Commission, OSCE, OECD, UNEP and NATO. He was deeply involved in



Plate 1. Professor Dr Josè Luis Rubio.

the organization and direction of numerous meetings and conferences at both national and international levels. Josè has taken part in 23 Spanish and European research and development projects and was project leader in 11 of these projects. He is the author or co-author of 31 books and over 100 scientific articles.

José Luis Rubio is directly involved in the conceptual development of soil security in the context of environmental security in connection with NATO, OSCE, UNCCD and the Spanish Ministry of the Environment. At present he is very much involved in the development of the 'EU Strategy of Soil Protection' and the ongoing 'EU Soil Framework Directive.' José is also actively participating in the development of a global protocol on the legal and institutional frameworks for the sustainable use of soil under different initiatives. These include IUCN, the International Union of Soil Sciences (IUSS) and others, with the objective of creating a world soil mechanism to assist UN bodies, instruments and conventions. He belongs to numerous committees of organizations and associations dedicated to global environmental challenges. He has been the Director of the Environmental Observatory of the City of Arts and Sciences in Valencia and is the Secretary of the Experts Committee of the Prince Felipe Museum of Science in Valencia. In 2003 José received the Gold Medal of the Polish Academy of Soil Science. At present he is the Head of the Department of Soil Degradation and Soil Conservation at CIDE.

In recognition of such a distinguished record, the Council of the ESSC are delighted to confer the 'Gerold Richter Prize 2011' on Professor Dr José Luis Rubio and to congratulate him on his eminent contribution to soil conservation.

Carmelo Dazzi
Palermo, Italy.

This issue of the ESSC Newsletter presents the 17th of our 'Guest Editorials.' This is an opportunity for leading authorities in the soil science community to offer their perspectives on issues relating to soil conservation. This contribution is from Michael Hamell (Brussels, Belgium).

Catena Verlag has kindly agreed to publish a book based on Guest Editorials. This will be entitled '[Global Perspectives on Soil Conservation](#).' This will form part of the Catena 'Essays in GeoEcology' series. In principle, it is agreed that there will be future volumes, associated with the four year cycle of Congresses of the ESSC. Work has commenced on Volume 1.

EU SOIL PROTECTION: REFLECTIONS ON THE JOURNEY SO FAR

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It is over 12 years since the German Ministry of Environment together with the European Commission, represented by the Directorate General for Environment (DG ENV) and the Joint Research Centre (JRC), hosted an open meeting with interested European countries and scientists on soil protection in Bonn in November 1998. It was the beginning, perhaps more correctly the rebirth, of an interest in soil at the political and administrative level for, of course, soil had been so subjected before both in the 1972 Charter and the 1991 5th Environmental Action Programme. I remember the meeting vividly. What struck me was the enthusiasm of the scientists present and their urgings that soil now needed protection, the presentation of the recently agreed and far reaching German Soil legislation, the concentration on contamination by many administrators and the absence of a holistic approach by most, if not all, countries with respect to soil protection. I should hasten to add that back then there was no one in DG ENV, or indeed in the rest of the European Commission, who was responsible for soil protection. I participated in the meeting because, at that time, I was working on both the CAP and the Nitrates Directive, which was taken to be the closest call to soil protection we had in DG ENV. We were, therefore, quite cautious in our interventions during the meeting and certainly we did not go to Bonn with the idea to push for European legislation. I also recall the excellent ice wine provided by our German hosts at a dinner overlooking the Rhine, which seemed to me to bode well for the future!

At that meeting, the European Soil Forum was formed with its first meeting the following year in Berlin and a second two years later in Naples. The meeting in Berlin was really a canter through relevant EU and individual country policy and legislation, but it did show us that there were different perceptions about soil and that taking an holistic approach to protection was going to bring together strange bedfellows. These ranged from erosion specialists dealing with land productivity and water pollution, to soil carbon experts expressing fears

related to global warming, scientists concerned about land take of the best agricultural land for housing and infrastructure, planners and especially experts in soil contamination seeking a higher platform for their grinding work in tracking down Europe's unwished legacy of industrialization.

The Commission felt, in 2002, that the time was right, with sufficient accumulated background knowledge, to raise the issue through the presentation of a formal policy orientated paper (communication) setting out first reflections on soil and outlining a thematic approach to protection, as had been recently heralded in the 6th Environmental Action Programme. The approach taken was to describe the functions of soil, their importance, the (human induced) threats facing soil, and the tools available at both EU and national levels to address both threats and resultant problems. The paper also included initial thoughts on the next steps to achieve soil protection for sustainable use. Looking back at the Communication now, I believe it has served well as a baseline for subsequent work, not just at the policy level, but in informing public and interested parties alike of the challenges we face to ensure soil can continue to deliver its great gifts to humanity. I would change but one word. I would refer to 'challenges' rather than 'threats' for although I think 'threats' is the more correct, 'challenges' tend to inspire greater commitment to action!

The 2002 formal Council conclusions, led by Spain and the 2003 European Parliament opinion, gave a clear indication that at the political level, there was consensus. It was recognized that indeed soil is vital, that its functions are essential to life on earth, that it faces many challenges and that we need to address them. In these more difficult times, it is important to recall and reiterate that indeed today soil is fully recognized on the European political agenda even if, as yet, there is no agreement on the correct approach to address its protection.

The period prior to the Commission's presentation of its formal proposals, in 2006, was rich in scientific endeavour, with a series of publications dealing with contamination, erosion, organic matter, monitoring and research establishing a solid basis of evidence and experience to provide a path forwards. The involvement of over 400 scientists, farmers, planners and administrators over this period had the dual effect of spreading the 'soil gospel' as well as gearing up towards a common approach to its protection. The Commission's formal proposals for the Thematic Strategy were a distillation of ideas from that process and included four strands. These are: **Awareness raising, Research, Integration and Legislation.**

It is worth examining progress on the first three of these before touching the thornier issue of legislation. The Commission intends to formally report on them in 2011, so my remarks now are both subjective and incomplete.

Awareness raising on soil requires a different approach to that for water and even biodiversity. There are no blue flags, no beautiful animals to act as our emblems, and despite the toils of dung beetles and earthworms, their work is unsung. Likewise, there are also no visible dramatic events like the pollution of the Danube by cyanide several years ago or the beaching of disoriented whales on our coasts which remind us of the importance of water and biodiversity. Soil is dirt that glues to our shoes and its degradation largely invisible to our eyes. That is a pity, because a London-sized dung heap or impervious worm-free soils in The Netherlands might hasten awareness throughout Europe. Work on awareness raising has

had a strong educational aspect linked in many ways to research. The Commission itself has organized several major conferences on soil and climate change and soil and biodiversity. In future, we certainly have to pursue this task further on compaction, salinity and acidification as well as on soil sealing, its occurrence, effects and strategies for mitigation. But it is certainly not just the Commission that has been active. As well as the wonderful 'JRC Atlas of Europe' and equally remarkable 'Soil Biodiversity Atlas,' there has been an upsurge in interest in soil, such as the many events staged by Osnabrück (Germany), the preparation of educational material by soil scientists in co-operation with school teachers in several Member States, a documentary on the importance of soil completed by the Italian Emilia-Romagna Region and funny cards presenting soil types as human characters (e.g. 'Pete' for organic soils, 'Rocky' for stony soils) by the Macaulay Institute in Scotland; to name just a few. Soil has become an issue of discussion either for itself or in the context of other issues and films like 'Dirt' (USA), 'Humus' (Austria) and 'Solutions locales pour un désastre global' (France). Although not directly linked to our work, have nevertheless highlighted that soil is a matter of common concern. I am minded in this context of John Steinbeck's novel 'The Grapes of Wrath' which, in its way, defined the misery related to (unintended) land abuse during the American depression of the 1930s. That depression saw great legislative strides made for soil protection in the USA. Perhaps a timely viewing of the John Ford's classic film of the same name would remind all of the value of early protective action.

I recall my own soil studies in University College Dublin on 'Pedogenetic processes in the Macamore Soils' in south-east Ireland in the early 1970s. In the intervening decades, I was asked just once about my thesis and this was to allow another postgraduate student to quote my work. It struck me at that time and it still strikes me that much of **Soil Research** (and as every reader of this publication knows very well there is a vast amount) has been carried out from the perspective of general scientific interest, rather than from the perspective of public policy. I do not believe that research should always adopt the perspective of public policy, but looking at the way farm management and economics were gaining sway over the science of agriculture during my undergraduate period, I do believe we needed to address the global and local public policy issues surrounding earlier studies of soil. We know now (at least soil scientists do) that soil fertility does not solely come out of a sack of N, P, K and Mg, that the retention of soil fertility and health depends on much more, including the almost forgotten practise of mixed farm rotations. We also know that soil is the vital source of carbon, that its water filtration and purification powers are essential to life and that it can and is being abused, albeit often unintentionally. Within Europe, the work of the various scientific bodies on soil is increasingly linked to policy needs. Perhaps worldwide now should be the time to reflect on whether an international panel of soil scientists, similar in shape to the Intergovernmental Panel on Climate Change (IPCC), be set up. I may be presumptuous, but I begin to think that grey, or none, is no longer the dominant hair or head condition of soil scientists in Europe! The work of the various scientific groups, linked to the JRC or the EEA in the past, has a huge role to play in providing ever growing understanding for the role of soils in climate, water, biodiversity and especially food production. In not so many years to come, many fundamental building blocks of life, such as P and K, will be scarce and very expensive. But the soil will still have to provide food. As climate changes, we can expect changes in soil carbon; how can we address these issues as well as the multiple roles of soil? The research agenda is vast, but it needs harnessing to focus largely on growing policy needs. The research pillar of the Soil Thematic Strategy is in its infancy, but I believe it has already given shape to general thinking in the area and will much more rapidly do so when all strands of the strategy are in place.

Environmental integration has been a 'buzz word' in administrative circles since given added status via the Maastricht Treaty in 1997. Its meaning is rather more difficult to pin down, as in practise it often means different things to different interests. At its weakest, it implies taking account of. This is rather like being aware that a large quantity of beer will give you a headache but having it anyway, while at a higher level of reflection it involves actually developing policy designed to ensure real environmental benefits and certainly no damage in the course of the action taken. By analogy, you lower the beer intake, drink a good deal of water and walk home to reduce after-effects!

Integration of soil protection into other policy areas covers that range of comprehension so let me start with some good examples. Within the revised IPPC Directive, the level of soil protection in so far as new installations are concerned requires, in effect, no deterioration or at least remediation to pre-installation condition. Within the Common Agricultural Policy (CAP), soil protection lies at the heart of the cross-compliance mechanism for direct support to farmers. Although the level of ambition shown by some EU Member States in under-pinning agricultural practise has been insufficient, nevertheless, the seed has been sown for greater soil protection in future. However, continued urban and industrial expansion shows, as yet, little sign of taking long-term soil considerations into account. The concreting of gardens and car parks, to mention but two activities, carries on apace as if to suggest that the water absorption function of soil is honoured in the breach. No integration in sight yet, just flooding and reduced water table replenishment.

I have left the draft **soil legislation** until last. I do so, partly to draw attention to progress elsewhere first and partly because many readers will be aware of the ongoing battle to get it onto the statute book. The Commission proposal was made in September 2006. The European Parliament endorsed it in 2007, albeit with some amendments, by a two-to-one majority. There was a long and intense discussion at the Council, particularly under the extraordinarily hard working Portuguese Presidency but, with five Member States (Austria, France, Germany, The Netherlands and the UK) forming a blocking minority, it was not possible to find agreement, despite the positive support of 22 Member States. Council rules require a very high level of support for a Commission proposal to pass into law and this has not yet been achieved. Several subsequent presidencies made further strenuous efforts to find agreement, but the blockers were not for turning.

I recall very briefly the content of the proposal and the main reasons given for opposition to see if they can be refuted, taken fully into account or the proposal otherwise altered to find an acceptable compromise. Otherwise, the ongoing soil degradation will continue, an inevitable if unwanted consequence of stalemate.

The essence of the proposal is for each Member State to examine its soil situation due to the various threats within a given time frame (up to 25 years for identifying contaminated sites) and begin to take action to address these threats. There is also a general duty of care. At a more detailed level, various steps in the examination of the soils are foreseen as well as the designation of areas with difficulties so as to give a limited degree of harmonization and certainty to society.

Member States raised difficulties with subsidiarity, costs and detail. Some objected to legislation in this area, despite soil being an environmental medium and environment being a common policy according to the Treaty. Their argument is that "soil does not move"

and therefore lies within national competence. No legal challenge was formally made on this ground and legal advice in the various EU institutions clearly showed that the proposal satisfied the Treaty and gave due respect to subsidiarity. Movement of a medium is said nowhere to be a *sine qua non* for environmental protection and, in any event, the degradation of soil does involve effects elsewhere, such as sediments from eroded soils, increased CO₂ emissions, water pollution in another jurisdiction and the giving of financial advantage in areas not addressing contamination as opposed to others that do. Indeed, in my view, much of the initial enthusiasm in Germany for an EU approach to soil protection was based on their realization that the soil law there put them at a competitive disadvantage in attracting industry as compared to other parts of Europe. Of course, times and positions change! The cost argument was based largely on concerns regarding the identification of contaminated sites. Here, the Portuguese Presidency tried by all means to find a way to reduce these concerns and, I believe, had largely succeeded by adding greater flexibility while still striving to achieve a positive outcome. Subsequent presidencies have further explored this issue, but despite progress including in areas such as simplification of procedures and the savings to be made by a clean-up of contaminated sites, there is reluctance by doubters to move forward.

In summary then, the road to comprehensive soil protection and sustainable use is joined and we can point to progress in three of the four areas of the Thematic Strategy, although not yet on the fourth. The pity is that this fourth area is by far the most important and progress there would lead to a flowering of soil protection initiatives across Europe and the world. The boost given to better planning, to the protection of agricultural land, to water protection and biodiversity enrichment would be enormous, but the effects would be greater: a new tool for better city design, a new appreciation of nature, a new logic to layout.

A spin off of the failure to agree legislation is the opportunity missed for European companies to become world leaders in remediation, an area where we can now expect strong growth and competition from the emerging powers. But let me not end this Guest Editorial on a negative note. We have made progress on soil protection and will continue to do so because of this initiative. In time, I believe that the wisdom of having legislation at EU level will become increasingly apparent and ideological positions rigidly held today (although in my view illogically) will change. I trust our joint efforts over more than a decade will bear fruit or more correctly enrich soil before we, friends and foes alike of legislation, make our own deeply personal contribution to it in the fullness of time!

Further Reading

Towards Communication

http://ec.europa.eu/environment/soil/making_en.htm

Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions – Towards a Thematic Strategy for Soil Protection, COM(2002) 179, 16.4.2002.

Soil Thematic Strategy

http://ec.europa.eu/environment/soil/three_en.htm

Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – Thematic Strategy for Soil Protection, COM(2006) 231, 22. 9. 2006.

Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC, COM(2006) 232, 22. 9. 2006.

Commission staff working document – Accompanying document to the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – Thematic Strategy for Soil Protection – Summary of the impact assessment, SEC(2006) 1165, 22. 9. 2006.

Commission staff working document – Document accompanying the Communication from the Commission to the Council, The European Parliament, the European Economic and Social Committee and the Committee of the Regions – Thematic Strategy for Soil Protection – Impact assessment of the thematic strategy on soil protection, SEC(2006) 620, 22. 9. 2006.

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EDUCATION CENTRE OF NAOUSSA (GREECE) FOR THE ENVIRONMENT AND SUSTAINABILITY

Education for Sustainable Land Management

The Education Centre for the Environment and Sustainability was founded in Naoussa in October 1999, as part of the educational structure of the Hellenic Ministry of Education, Lifelong Learning and Religious Affairs. It is funded by the National Strategic Reference Framework and is technically and financially supported by the National Youth Foundation.

The activities of the Centre focus mainly on primary and secondary school students and teachers. However, since 2010, we have also engaged in life-long learning activities. We, therefore, organize adult learning seminars, networking activities and events and projects. These activities are relevant to disseminating sustainable development, supporting human values, reinforcing skills, encouraging direct action and promoting participation in voluntary work. Our activities include:

- Planning and conducting one-day and three-day programmes of environmental education for primary and secondary school students.
- Supporting environmental programmes in schools.
- Organizing training seminars for teachers and citizens.
- Providing information for social groups interested in environmental issues.
- Developing and jointly co-ordinating national school networks.
- Producing educational and informational materials.
- Developing local, national and international collaboration.
- Working with governmental and non-governmental organizations.

Our objectives include:

- To inform students and citizens about the natural and human-made environment of the region, through the four poles of society, economy, culture and environment.

- To educate students and citizens, in order that their knowledge and skills encourage an environmentally-friendly code of behaviour.
- To raise awareness through a method of knowledge based on experience that encourages having a critical mind, as well as assuming direct action.
- To encourage trainees to be more responsible and to take action promoting the preservation and sustainability of the environment.

Environmental Education for Students

The educational programmes aimed at primary and secondary school students approach the environment in a holistic way and are implemented through an interdisciplinary method based on experience. As stated in the draft implementation scheme of the 'United Nations Education Decade of Education for Sustainable Development', they place great emphasis on awareness, behaviour, attitude, values, skills and participation. They help trainees understand the interconnectedness of waste management and lifestyle habits, agricultural policy and environmental degradation, water resources management and human rights, biodiversity and human health, cultural heritage and socio-economic dynamics. At the same time, they encourage skills for addressing problems, such as group work, creative thought, critical thinking and direct action initiatives.

The stated objectives permeate all our areas of interest. These are: (1) our programmes for the river and mountain ecosystems of the region, (2) our industrial heritage programme and network, and (3) our sustainable agro-land management programme and network that deals with the interaction between agriculture and the environment. The same objectives will also serve as a framework for our eco-tourism project, which we intend to develop in the future.

Sustainable Land Management

In an effort to promote sustainable agricultural development, the programme encompasses several aspects of the interconnectedness between agricultural practises and socio-environmental problems. Through an interdisciplinary approach, we aim to help students familiarize themselves with several aspects of sustainable land management, as well as helping them consider the matter and then take active initiatives, that will enable them to eventually adopt sustainable practises in their own local environment. Rather than focusing on scientific knowledge, we opt for the acquisition of experience through outdoor activities, that are based on collective group work, and on multiple intelligence (cognitive, emotional and environmental). More specifically, the workbook of the programme is based on facts and stimuli associated with the local region. The workbook was compiled by the pedagogical group of the Centre, in collaboration with Giorgos Daoutopoulos (retired Professor of Agricultural Sociology at the Aristotle University of Thessaloniki (AUTH)) and Myrto Pyrovetsi (Professor of Biology in the Department of Ecology at AUTH). The workbook consists of questionnaires, workshops, experiments, games, worksheets, activities, informative material and a glossary. Activities are designed to implement observation, interviews, study and feedback, group work and critical thinking. These focus on arable land management, livestock farming, land degradation, composting, analysis of soil profiles, biodiversity and social and dietary aspects of agricultural practises.

The programme itself is delivered through a three-stage framework. During the pre-field stage students are encouraged to explore their knowledge. The second stage is based on field study/work and action-oriented learning. The final, post-field stage progresses

speculation and conclusions through creative work. Our objectives are implemented through various educational methods.

The **pre-field stage** usually involves discussion methods, such as **brainstorming** and **concept mapping**. Brainstorming is a method that can be used as a tool to introduce land management to students. They are encouraged to think freely and express themselves in relation to a given topic (e.g. 'land'). In this way, they are given the opportunity to recall their own knowledge and discover knowledge, ideas and experience of the subject from other students in the class. The students are encouraged to formulate new ideas. Concept mapping, on the other hand, helps them work collectively and simultaneously organize concepts pertaining to the subject of land management. This first stage helps both trainees and trainers obtain significant information about the level and depth of existing knowledge, which they can use as a basis on which to construct new knowledge during outdoor activities.

The **field-trip stage** involves **outdoor activities** that contribute to familiarizing students with the natural and/or man-made environment, as well helping them understand the interconnectedness of all its aspects. **Environmental trails, field study** and **outdoor games** give students the opportunity to get involved with experiential learning that develops their awareness and willingness to act on issues and problems. Our 'Sustainable Land Management Programme' is based on an environmental trail, several workshops and visits in the open market of the city and the gardens of citizens involved in composting. Field survey and study are two of the methods on which our workbook is based. This particular environmental trail involves visiting a vineyard, a pasture and an organic vineyard and winery. Questionnaires and interviews have been devised to help students observe, collect data, take photos, measurements and samples. More specifically, the field-trip worksheets give students the opportunity to:

- Observe, identify, compare and contrast practises of conventional and organic irrigation, tillage, pruning, fertilization, pest control and weeding.
- Observe and study the natural process of composting in local forests and fields, including observations on soil horizons, soil organic matter and soil biodiversity.
- Familiarize students with the concept of land degradation, to examine relationships between land degradation and intensive and/or exploitative land management and to explore linkages between soil erosion and overgrazing.

Compost workshops involve students in the actual process of composting and promote their adoption of recycling organic waste practises at home. While using the guidelines of the activity sheets in the workbook, trainees work on the active compost bins of the Centre. Here they can observe the condition of the compost and collect samples to locate and identify worms, insects and micro-organisms. They are also given the opportunity to fill the new compost bins with dead leaves, grass, branches of trees (after having used our equipment to cut them down into smaller pieces), organic waste and active compost (Plate 1).

Finally, the **post-field stage** offers students the opportunity to assess their findings, reach conclusions, speculate on the problems of environmental degradation and express themselves through collective and creative work. This stage usually takes place on the grounds of the Centre and may involve **experiments** (Plate 2), **role playing, theatrical games** and **feedback activities**. The Sustainable Land Management post-field stage entails experiments, such as compost in a jar, studying and assessing the samples of soil taken from the field and/or pasture, as well as samples taken from the compost bin, with the use of scientific organs provided by the Centre. Feedback questionnaires and a puzzle game allow students to integrate newly acquired knowledge in terms of arable land practises and recycling of organic waste. On the other hand, during this stage **clarification and analysis of values** and attitudes may also take place. Activities and games aim at developing the emotional and cognitive intelligence of students. These are designed to encourage them to



Plate 1. Detailed study of the nature and properties of composted material.



Plate 2. Microscopic study of soil fauna.

work collectively, in order to solve problems or to express themselves creatively, which in turn helps them realize the interconnectedness of society, economy and the environment. An activity, for example, that helps them trace the origins of the food we consume or investigate the ingredients and additives of a processed food product aims at recognizing the ways in which arable land management may be connected with consumerism or with our dietary habits. A **theatrical game** or a colourful-yarn **thought-visualization game** help learners identify and clarify values, examine and compare them, and, finally, recognize the way values affect behaviour (Plate 3). Such games give them the opportunity to communicate openly with their fellow-learners and voice their conclusions, while, at the same time, they may work towards adopting responsible environmental behaviour.



Plate 3. Thought-visualization game in progress.

Our Centre also organizes training seminars for teachers and events for specific groups of professionals and for the general public. More specifically, environmental and vocational training has always been part of the education for sustainable development offered by Environmental Centres. In this light, our Centre has realized introductory training seminars for teachers of State Schools participating in sustainable land management environmental programmes and seminars for educational methods to enhance understanding of sustainability. These seminars have involved introductory lectures, field trips, drama courses, activities and workshops for the problem-solving approach and the project method. The Centre also organizes viticulture seminars for teachers and farmers and a composting pilot-programme with the participation of the citizens of Naoussa (Plate 4).

Since 2010, however, life-long learning programmes have been officially assigned to Education Centres for the Environment and Sustainability, a fact which has given us the opportunity to diffuse our activities and events towards every citizen conscious of the interaction between their society and the environment; and every family or social group willing to embark on direct action. For instance, our 2011 'Food: A Political Action' Seminar was aimed at farmers of the region, citizens of Naoussa and teachers from nearby prefectures, in an effort to disseminate information about the interaction between agricultural practises

and the environment. It included lectures on organic viticulture, the GM controversy, the slow-food movement and the short supply chain in the periurban zone of Thessaloniki, local wine and cheese tasting workshops, as well as a local cooking recipe workshop. Under the guidance of a professional chef, trainees were given the opportunity to cook, and then eat, traditional dishes of the region, with locally-produced ingredients. In effect, similar seminars will eventually contribute to the dissemination of the values of sustainability and the adoption of responsible environmental behaviour; such as composting, organic farming and eating local produce (Plate 5).



Plate 4. Life-long learning for adults.



Plate 5. Training in the preparation of traditional regional dishes using locally-produced ingredients.

Our future plans entail seminars, events and activities that will range from gardening and fair trade, to ecotourism and human rights. Through a holistic approach to sustainability, life-long learning provided by the Education Centre of Naoussa will hopefully result in

helping individuals and social groups acquire awareness of land management issues, gain experience, acquire values and skills and, thus, address environmental and socio-economic problems through the adoption of sustainable practises, while working on a personal or a group level.

On behalf of the Pedagogical team of the Environmental Education Centre

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The Newsletter and supporting Ph.D. research

Editor's note:

At the ESSC Council meeting in Lleida (Spain) in September 2006, the interactions between the ESSC and younger soil scientists were discussed (see Newsletter 2006/3, p. 5-8). It was decided that the ESSC should be more proactive in its support of younger scientists. As part of that initiative, we welcome articles from both Ph.D. researchers and supervisors. We would like to hear from recent Ph.D. graduates; what advice and experience do you have which you would like to share with your colleagues in earlier stages of their research? We would also like to hear from current Ph.D. researchers; what are the factors which both encourage and limit progress? What are the particular challenges facing part-time Ph.D. researchers? We also invite contributions from experienced Ph.D. supervisors. What experience would you like to share with less experienced colleagues? If you are a less experienced Ph.D. supervisor, what supervisory issues do you find challenging? In short, please tell us "what I know now, which I wish I knew then!"

Editor's note:

The citation details of Ph.D. theses by ESSC members since and including 2004 have been added as an additional page to the ESSC web site. To date, 50 Ph.D. theses are quoted. On the ESSC web site, please look under 'Publications.' Please forward the citation details of any additional Ph.D. thesis completed since the year 2000 by an ESSC member to any of the Editorial team. We will then add the thesis citation details to the web site.

Recent publications by ESSC members

Included are the citation details of papers and books produced by ESSC members. These provide a growing resource for exchange of valuable information to both research and teaching. The cumulative citation list is being added to and updated on the ESSC web site. Students of ESSC members (both undergraduate and postgraduate) are increasingly accessing this facility in their literature searches. Currently, the number of quoted publications cited on the web page is 598. Please e-mail the citation details of papers in international refereed journals since and including the year 2000 to any member of the Editorial team.

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THESSALONIKI:

THE HOST CITY FOR THE 6TH ESSC CONGRESS



The White Tower is the symbol and dominant landmark of the City of Thessaloniki (photo by Mike Fullen).

Thessaloniki provided the venue for the 6th ESSC Congress. Thessaloniki is the second city of Greece and the main city of northern Greece, with a population of about 1.2 million people. The City has a long and complex history and is an interesting mix of ancient and modern. The City's history is intertwined with its special geographical position, where Eastern Europe meets Western Asia. Hence, Saint Paul described Thessaloniki as "the Golden Gate to Europe." Thessaloniki is also a major port, lying in the Gulf of Thermaikos, on the northern shores of the Aegean Sea. Consequently, there are the imprints of many civilisations on the City, including Macedonian, Thracian, Roman, Ottoman and Greek.

The City was founded in 315 BC by King Kassandros, as the capital of the Kingdom of Macedonia. Alexander The Great is strongly associated with Thessaloniki, and Alexander's statue is a prominent landmark on the City's waterfront. In fact, the City is named after Thessaloniki, who was the wife of King Kassandros and half-sister of Alexander. Thessaloniki was the second city of the Byzantine Empire, after Constantinople. Another prominent feature is the White Tower. The 30 m high Tower was built in 1500 and was originally a fort and later a prison. The Tower had several names, including 'The Tower of Blood.' The name the 'White Tower' was adopted in 1890 after a prisoner agreed to paint the Tower white, in exchange for his freedom. The White Tower boasts an award-winning museum and the upper observation platform affords excellent views of the City's waterfront. The City of Thessaloniki certainly provided an interesting, lively and diverse environment for our successful Congress!

On 9 May the 6th International Congress of the European Society for Soil Conservation, entitled 'Innovative Strategies and Policies for Soil Conservation' commenced. The Congress ended on 14 May. Scientists with international recognition presented the results of their recent investigations, and proposed methodologies to address the problems of maintenance and restoration of land and water resources.

At the Opening Ceremony several distinguished participants delivered their opening speeches. These included Dr A. Katzilakis (the representative of the Minister of Agriculture), Professor E. Voulgaridis (President of the Scientific Council of the National Agricultural Research Foundation), Mr. Zervas (the Deputy Mayor of Thessaloniki) and Professor José L. Rubio (President of the European Society for Soil Conservation). Professor N. Yassoglou (Emeritus Professor at the Agricultural University of Athens) presented a keynote lecture concerning soil degradation problems from antiquity to the present, based on existing historical data. Dr Theodore Karyotis (President of the Organizing Committee) welcomed the participants, briefly mentioned the scientific content of the presentations and opened the Congress. He also thanked the Institute of Land Reclamation (NAGREF) which took over most of the obligations of the organization of the Congress, the Forest Research Institute of Thessaloniki and the Soil Science Institute of Thessaloniki. The Congress was attended by scientists from approximately 50 countries, and several journalists were also present.

Several of the present papers addressed both the scientific community and participants from interested entities charged with formulating policy for the protection and preservation of natural resources. The contents of several tasks were related to the quality indicators that can be used to protect land and the measures required to improve soil systems. The papers also highlighted issues related to land use, the Common Agricultural Policy and its impact on natural resources, soil fertilization treatments using GIS and advanced recording and monitoring systems for soil quality. Strong interest was paid to presentations regarding the impacts of forest fires on land degradation and the policies needed to restore soils affected by erosion.

In the Congress many works of broader interest were also presented. These included the effects of climate change on soil organic matter and different soil restoration techniques. Results of programmes to combat desertification, proper management and soil remediation techniques of degraded areas and investigations into the socio-economic impacts of land degradation were presented.

Then presented papers focused on the effects of climate change on soils, emissions from agriculture and the required mitigation measures, and impacts of nitrogen on European land systems. Particular interest was devoted to biodiversity and the policies adopted by Member States of the European Union. Finally, progress was reported on educational initiatives. These included results of training programmes to educate students of the environment in European countries, interdisciplinary studies by students using new technologies in schools and progress in promoting public awareness of soil systems.

Following a proposal by the representative of the EU Joint Research Centre (JRC) to the Organizing Committee, the Proceedings of the Congress are available on the JRC website. The Congress was attended by the representative of Catena Verlag, Mrs. Margot Rohdenburg. It was agreed that several presentations would be published in a Special Issue of 'Advances in GeoEcology'. For the above reason, a letter will be sent to participants by Professor Donald Gabriels (Chairman of the Congress Scientific Committee) to submit their work for peer review. Catena Verlag kindly donated several scientific handbooks to the President of the Organizing Committee. These will be delivered and lodged in the Library of the National Agricultural Research Foundation.

The number of registered Congress participants exceeded 160 and there was great interest from the media (especially radio, newspapers and various websites). The journalists were particularly interested in the activities of current research, and frequently raised questions about the application of research by policy-makers. Moreover, many colleagues had the opportunity to exchange views and discuss opportunities for future co-operation and to prepare scientific proposals. Meanwhile, the General Assembly of the European Society for Soil Conservation took place in order to elect the new ESSC President and Executive Committee. The unanimously elected new President of the ESSC is Professor Carmelo Dazzi (University of Palermo). Dr Edoardo Costantini (Florence) was unanimously elected as the Secretary of the Society.

After the completion of Congress work, the participants had the opportunity on Saturday 14 May to visit the Museum of Ancient Vergina, including the resting place of King Philip II, the King of Macedonia and father of Alexander The Great. The group also enjoyed a visit to the Environmental Education Centre of Naoussa, where their impressive work in environmental education to a broad range of students of differing ages was presented. The participants visited local vineyards, a local winery and sampled fine wines. The last stop of the tour was the recreation park and restaurant of Saint Nicolas in Naoussa. At the end of the Congress, it was announced that the 7th Congress of the European Society for Soil Conservation will be held in Iceland in 2015.



Members of the Congress Secretariat.



Welcome speech by Dr Theodore Karyotis (President of the Congress).



Address by Professor E. Voulgaridis (President of the Scientific Council of NAGREF).



Address by Dr A. Catzilakis (General Director of the Ministry of Agriculture).



Keynote lecture by Emeritus Professor N. Yassoglou.



Registration of participants.



Excursion to the vineyards of Naoussa.



Break at the Environmental Education Centre of Naoussa (Yechezkel Mualem, Margot Rohdenburg, José Rubio and Theodore Karyotis).

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A MESSAGE FROM THE CONGRESS ORGANIZERS

Dear Colleagues

The 6th International Congress of the ESSC hosted in Thessaloniki (Greece) from 9–14 May 2011 has now passed into history. Through four stimulating days, full of scientific presentations and discussions and five social events all organized with much care, we do hope we provided you with vivid and pleasant memories for years to come. Preparing this Congress has been a great and memorable experience, and now it is over we do want to share our appreciation for entrusting this significant event to us and for honouring us with your presence. The Proceedings of the Congress have been uploaded on the JRC web server and the URL address is reported below (please see the open letter from Dr Panos Panagos, below). You are also welcome to browse through some pleasant moments of the 6th International Congress of the ESSC, our Congress, at the following web link:

https://picasaweb.google.com/107326211296729808136/1105_ESSC?authkey=Gv1sRgCNeY4t2r8YHxlgE&feat=directlink

On behalf of the organizing committee and the 'kids with the orange polo-shirts'
A BIG THANK YOU!

**A NOTE OF THANKS FROM PROFESSOR CARMELO DAZZI
(PRESIDENT OF THE ESSC)
TO DR THEODORE KARYOTIS
(PRESIDENT OF THE CONGRESS)**

Dear Theodore

On behalf of the European Society for Soil Conservation I wish to express to you, as President of the Organizing Committee of the 6th ESSC Congress, our appreciation and recognition for the excellent work done in organizing and directing the Congress. The overall arrangements, the cultural excursion, the scientific contributions, the information provided and the great disposition of the organizing team, were outstanding.

Please, transmit the ESSC thanks and congratulations to the people and organizations that contributed to the success of the Congress.

Sincerely
Carmelo Dazzi
Palermo (Italy), 24 May 2011.

Editor's note

The complete book of Congress Abstracts is now available as a downloadable pdf on the ESSC web site.

**A NOTE OF CONGRATULATIONS FROM DR PANOS PANAGOS
(JOINT RESEARCH CENTRE OF THE EUROPEAN
COMMISSION, ISPRA, ITALY)**

Dear Colleagues

It was my pleasure to meet you in 6th ESSC Congress in Thessaloniki. Many thanks for the excellent organisation of this important event.

I have uploaded the Congress Proceedings in the European Soil Portal:
http://eussoils.jrc.ec.europa.eu/ESDB_Archive/eussoils_docs/Conf/6thESSC.pdf

I have also written a small summary about the 6th ESSC Congress, available at:
http://eussoils.jrc.ec.europa.eu/ESDB_Archive/eussoils_docs/doc_Conf.html

I will include this publication in our Monthly Newsletter, which reaches over 2,000 scientists worldwide.

My proposal is to develop a section in the 'Conference Presentations':
http://eussoils.jrc.ec.europa.eu/events/Event_index.cfm?id=C

Kind regards
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NEW ESSC EXECUTIVE COUNCIL

The new ESSC Executive Council was elected at the ESSC Congress in Thessaloniki. Council meetings took place on Monday 9 May and Thursday 12 May and the new Council was elected at a plenary session of the Congress on Friday 13 May.



ESSC Council meeting on 12 May 2011. From left to right: Anton Szafranek, Carmelo Dazzi, Edoardo Costantini and Lillian Øygarden (photo by Saulius Marcinkonis).



Unanimous nomination of Professor Carmelo Dazzi as the next ESSC President at the ESSC Council meeting on 13 May 2011. From left to right: Wim Cornelis, Carmelo Dazzi and José Rubio (photo by Saulius Marcinkonis).

The new ESSC Executive Committee consists of the following members:

- President: **Professor Dr C. Dazzi** (Palermo, Italy)
- Past-President **Professor Dr J.L. Rubio** (Valencia, Spain)
- Vice-President **Professor Dr A. Kertész** (Budapest, Hungary)
Dr P. Strauss (Petzenkirchen, Austria)
Professor Dr M.A. Fullen (Wolverhampton, UK)
- Secretary **Professor Dr E. Costantini** (Firenze/Florence, Italy)
- Treasurers **Professor Dr W. Cornelis** (Ghent, Belgium)
Professor Dr D. Gabriels (Ghent, Belgium)
- Editor-in-Chief **Professor Dr M.A. Fullen** (Wolverhampton, UK)
- Members **Professor Dr M. Dumitru** (Bucharest, Romania)
Dr S. Marcinkonis (Vilnius, Lithuania)
Professor Dr L. Øy garden (Ås/Aas, Norway)
Professor Dr I. Pla Sentis (Lleida, Spain)
Dr E. Reintam (Tartu, Estonia)
Professor Dr T. Scholten (Tübingen, Germany)

The short biographies of eight of the 15 members of the Executive Committee are presented below. It is planned that the remaining biographies will be published in Newsletter 2011/3. Subsequently, we plan to publish the biographies of national representatives on the ESSC Committee.



PRESIDENT: Carmelo Dazzi

Palermo, Italy

Carmelo received his "*laurea summa cum laude*" from the University of Palermo (Italy). He is Professor of Pedology at the University of Palermo and Honorary Professor at the Universidad Nacional de San Agustín de Arequipa, Peru. Carmelo's research activities are mainly concerned with soil survey and land evaluation; soil and saline waters relationships; soil degradation and desertification; anthropogenic soils and pedodiversity; soil features and human health. He is a referee for 11 journals and has published over 200 papers (in scientific journals, as book chapters, as proceedings of national and international congresses and as editor). Carmelo has supervised and has been the Examiner of several Ph.D. theses (in Italy and abroad). He is appointed as expert for several projects.

These include the evaluation of Strategic Projects, University of Bologna; the evaluation of PRIN Projects, Italian Ministry of Universities; and the evaluation of projects in the 'Rita Levi Montalcini' Young Researchers Project. Carmelo is a member of the 'Panel for Soil Quality' of the Italian Ministry of Agriculture and of the Committee of International Referees of the ATLAS Project (Atlas of Soil Quality Indicators, of the Italian Ministry of Agriculture). Carmelo is also the Vice-President of the Italian Society of Soil Science.

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VICE-PRESIDENT: Adam Kertesz

Budapest, Hungary

Ádám received the degree of M.Sc. in Geography and Mathematics from Eötvös Loránd University (Budapest, Hungary) in 1972. In 1986, he qualified as a soil scientist/engineer at the University of Agricultural Sciences (Gödöllő, Hungary). He was awarded the degree of Ph.D. in Geography (1986), the degree of Doctor of Science in Geography (1993) and the degree of Doctor Habilitatus (1996). Currently he is the Head of the Department of Physical Geography at the Geographical Research Institute of the Hungarian Academy of Sciences in Budapest. Ádám is also Professor of Physical Geography at Eötvös Loránd University (Budapest, Hungary) and at Eszterházy Károly Főiskola (Eger, Hungary).

Ádám's research activities mainly involve soil erosion and conservation, research on agricultural pollution, pure and applied research into geocological systems, land degradation and desertification in semi-arid and sub-humid environments, land capability analysis and climate change studies. He has published mainly in the field of Physical Geography and Soil Science (as of May 2011, he has authored four books, 52 refereed papers, 57 conference papers and 151 further publications in scientific journals). Ádám is a member of the Editorial Board of the journals 'Acta Universitatis Carolinae Environmentalica' and the 'Hungarian Geographical Bulletin'. Ádám has supervised 6 Ph.D. theses and been Examiner for 9 Ph.D. theses. He has received research grants from many bodies, principally the European Union. Ádám is also a member of the Geographical Scientific Committee of the Hungarian Academy of Sciences and was the President of the Hungarian National Committee of the International Geographical Union between 1989-2009.

Further information is available at:

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VICE-PRESIDENT: Peter Strauss

Petzenkirchen, Austria.

Peter studied Agriculture at the University of Natural Resources and Life Sciences in Vienna, Austria. At the same University he completed his Doctoral thesis on 'Diffuse pollution in the watershed of the River Kamp'. Presently Peter is Head of the Institute for Land and Water Management Research within the Austrian Federal Agency for Water Management. He is also a Lecturer at the University for Natural Resources and Life Sciences. Peter's main research interests are in soil erosion, watershed hydrology and watershed management, in particular in relation to diffuse pollution processes. He is Associate Editor of the 'Journal for Soil and Water Conservation' and a referee for many scientific journals. To date, Peter has authored or co-authored 30

papers in peer reviewed journals and about 100 papers in other media.

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Mike 'walking on water' on Tongching Lake, Yunnan Province, China.

VICE-PRESIDENT (and Newsletter Editor-in-Chief): Mike Fullen

Wolverhampton, U.K.

Mike received the degrees of B.Sc. and M.Sc. from The University of Hull (UK) and a Ph.D. from the UK Council for National Academic Awards (CNAA). Currently, he is Professor of Soil Technology at the University of Wolverhampton. His research activities are mainly concerned with soil erosion, soil conservation, desertification and desert reclamation and his fieldwork is mainly based in Europe and Asia. He has published widely in soil science (as of July 2011, he has authored one book, 179 refereed papers, 193 conference papers and 25 consultancy reports). He is a referee for 38 journals and a member of the Editorial Board of the journals 'Geomorphology', 'The World Association of Soil and Water

Conservation' (WASWAC), 'The African Journal of Agricultural Research', 'The Lithuanian Journal of Science (Agricultural Sciences)', 'The Open Journal of Geology', 'The Geographical Research Bulletin (Hungarian Academy of Sciences)', 'Sociedade & Natureza' (Brazil), 'Applied and Environmental Soil Science', 'The Spanish Journal of Soil Science' and 'Pedosphere'. Mike has jointly supervised 22 Ph.D. theses to completion and been Examiner for 21 Ph.D. theses. He has received research grants from over 29 institutions, principally the European Union. He is also Vice-President and UK Representative on the Council of the European Society for Soil Conservation (ESSC) and Editor-in-Chief of the ESSC Newsletter. Mike is also WASWAC Vice-President, Councillor and Representative for the United Kingdom. Further information is available at:

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SECRETARY: Edoardo Costantini

Florence, Italy.

Formation and research stages: Edoardo received his Doctoral degree in Agricultural Sciences in 1979 from the Institute of Geopedology and Applied Geology in Florence. The thesis was acknowledged 'with honours and publishing dignity'. Research activities included appointments at the Physical Geography Faculty of the University of Zaragoza (Spain) (1997); the US National Resources Conservation Service (1999) and the Geology and Geoenvironment Service Department of the University of Athens (2010-2011).

Career: Edoardo was a Researcher of the Experimental Institute of Agronomy of Modena (1981-1985); a Researcher of the Experimental Institute for Soil Study and Conservation of Florence (1985-1999); Professor of Pedology and Geopedology of the Department of Earth Sciences of

the University of Siena (1999-2008) and First Researcher of the CRA-ABP Research Centre on Agrobiological and Pedology of Florence (1999-2008). Since 2008, Edoardo has been Research Director of CRA-ABP and Leader of the Italian National Centre for Soil Mapping: www.soilmaps.it.

Career-related activities: Edoardo is Past President of the Palaeopedology Commission of the International Union of Soil Sciences, Past President of the Italian Association of Pedologists, current President of the Commission on Pedology of the Italian Soil Science Society, National Expert of the theme 'Soil' for the Italian Ministry of Agriculture and National Expert in the EU Soil Working Group for the INSPIRE Directive.

Refereeing and editorial activities: Edoardo is a Member of the Editorial Board of 'Quaternary International', a referee of 20 international journals and an evaluator of projects for national science foundations in Belgium, Georgia, Italy and Switzerland.

Current research interests: The main research interests of Edoardo include: the impact of global changes on soil characteristics and quality; new soil survey technologies; and soil functional factors for precision viticulture.

Current leader of research projects: Edoardo is the leader of several research projects. These include LIFE international LIFE08 ENV/IT/000428 'Monitoring for Soil Protection' (SOILPRO); CRA 'Soil national archive and database' (ARCA); and CRA 'Using isotopic ratios in precision viticulture and for denomination of origin certification' (ISSUOVINO).

Papers: Edoardo has published over 200 papers (42 ISI) and monographs on various

topics. These include soil survey and land evaluation for quality crops (vines and olive trees), soil hydrology, soil geodatabases, land degradation, desertification, palaeopedology and soil genesis. Recent publications are cited on the ESSC web site 'recent publications by ESSC members page.'

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MEMBERS



Saulius Marcinkonis

Vilnius, Lithuania

Saulius was born on 19 June 1972 in Vilnius, Lithuania. He has a Ph.D. and is a Senior Researcher in Soil Chemistry at the Department of Soil and Plant Sciences, Voke Branch of the Lithuanian Research Centre for Agriculture and Forestry. Saulius was awarded a Doctor of Biomedical Sciences degree in Agronomy by the Lithuanian Institute of Agriculture in 2000. Saulius was awarded the Lithuanian national 'Laureate of State Premium for Young Scientist' twice (in 2002 and 2006). He is registered as an expert evaluator for both EU Framework 7 and national Lithuanian research programmes. Saulius is the author/co-author of over 30 scientific papers and over 40 conference papers. His research interests include soil chemistry, soil degradation, soil pollution and re-vegetation.

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Ildefonso Pla Sentis

Lleida, Spain

Ildefonso received the degrees of Ingeniero Agrónomo from the Universidad Central de Venezuela, of M.Sc. and Ph.D. in Soil Science from the University of California, Riverside (USA), of Dr. Ing. Agr from the Universitat de Lleida (Spain), and specialities in Soil Salinity (USDA, USA) and Agricultural Drainage (ILRI-University of Wageningen, The Netherlands). Currently he is Emeritus Professor and Co-ordinator of the Doctoral Programme in Soils, Water and Environment of the Universitat de Lleida. Ildefonso has a rich portfolio of roles. He was founder and President of the International Soil Conservation Organization (ISCO), President of the Soil Science Societies of Latin America and Venezuela, President of the Sub-Commission on Soil Conservation and Environment of the International Society of Soil

Science (now IUSSS), Member of the International Board of Soil Research and Management (IBSRAM) and FAO International Consultant and Expert on Soil Salinity and Soil and Water Conservation. Ildefonso has many distinctions for academic and research activities around the World. These include being founder and Honorary Member of the World Association of Soil and Water Conservation (WASWAC) and Honorary Member of both the Venezuelan and Colombian Soil Science Societies. He has been Visiting Professor at several Universities in Latin America, the USA and Europe. His research activities have been mostly dedicated to soil and

water management and conservation, with experiences in Latin America, the USA, Central Africa and Mediterranean Europe. He has published and edited over 200 papers and books. Ildefonso has supervised 15 Ph.D. theses and 13 M.Sc. theses. Among the main research contributions have been the development and adaptation of simple methods and equipment for evaluating soil physical and hydrological properties in field conditions, the development of process-based simulation models for soil salinity (SALSODIMAR) and for soil water balance and water regime in relation to soil degradation processes (SOMORE). These contributions have been widely used in different parts of the World. Ildefonso is on the Editorial Board and scientific committees of several journals, including 'Cahiers' of ORSTOM, 'Soil Technology', 'Soil & Tillage Research', 'Journal of Soil and Water Conservation', 'International Agrophysics', 'Agronomía Tropical', 'Venesuelos', 'Ciencia del Suelo', 'Suelos Ecuatoriales', 'Land Husbandry' and the 'Spanish Journal of Soil Science'. He is also a referee for many other journals. Ildefonso is presently Co-Director of the International College on Soil Physics (International Centre of Theoretical Physics), Vice-President of WASWAC, Member of the ISCO Board and President of the Soil and Water Conservation Section of the 'Sociedad Española de la Ciencia del Suelo.'

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Thomas Scholten

Tübingen, Germany

Thomas Johannes Arnold Scholten studied Physical Geography, Geology and Mineralogy at Münster University in Germany (Diploma in Physical Geography and Landscape Ecology, Doctorate in Soil Science). From 1994 to 2002 he was a Post Doctoral Researcher at the Institute of Soil Science and Soil Conservation, Faculty of Agriculture of Giessen University. Thomas was a member of the Collaborative Research Project SFB 299 (Land Use Options for Peripheral Regions). In 2002 he was appointed as Full Professor of Physical Geography and Soil Science at the Faculty of Chemistry and Geosciences of Friedrich-Schiller University of Jena. Since 2005 Thomas has held the Chair of Physical Geography and Soil Science at the Faculty of Science of Tübingen University.

The research interests of Thomas started from studies on acid rain and soil acidification, soil erosion and soil genesis (including regolith weathering, saprolite formation and palaeo-environments). Subsequently, Thomas developed strong interests in soil-landscape modelling using pedometrical methods. Some of the very latest digital soil mapping and data mining approaches were developed in his group and applied to various landscapes. These include the mid-altitude mountain ranges of Central Europe and mountainous regions in China. His recent research focuses on process-based studies of soil erosion and soil carbon dynamics and their inter-relation with biodiversity, climate change and land use on various spatial scales.

Thomas has conducted work in several countries, including China, Israel, South Africa, Sudan and Swaziland. In Europe his work is mainly in Germany and Switzerland. Thomas was a member of the Collaborative Research Project SFB 299 (Land Use Options for Peripheral Regions) funded by the German Research Foundation (DFG) from 1994–2006; and the BIOLOG Programme (DIVA project) funded by the German Federal Ministry of Education and Research (BMBF). Currently, he is part of the iSoil FP7 collaborative project funded by the European Union (EU) and the Central Asia Programme of the BMBF. Furthermore, Thomas

investigates soil erosion in China in a collaborative project funded by the German Science Foundation (DFG, FOR 891, Steering Group Member) and in the Sino-German Yangtze-Project on land use change, soil erosion and mass movements (BMBF, Scientific Co-ordinator). Thomas was guest editor for Geoderma (2010) and Catena (2004) and currently serves on the Editorial Boards of several journals, including the 'Journal of Plant Nutrition and Soil Science'. Since 2004 Thomas has been a member of the Council of the ESSC. In 2007 and 2009, he was elected as Vice-President of the German Soil Science Society (DBG). Additionally, he is highly involved in different expert groups and reviews for several scientific journals and donor organizations.

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Announcements

LAUNCH OF THE EUROPEAN UNION REPORT ON SOIL SEALING

The Environment Directorate-General of the European Commission has recently released its Report on soil sealing. This is available at:

http://ec.europa.eu/environment/soil/index_en.htm

The direct link is at:

<http://ec.europa.eu/environment/soil/sealing.htm>

The Report is accompanied by a press release available in all official EU languages at:

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/624&format=HTML&aged=0&language=EN&guiLanguage=en>.



AT A GLANCE

Title: Prevention and Restoration Actions to Combat Desertification. An Integrated Assessment

Instrument: European Commission Support Action FP7

Duration: 36 months
Start Date: 01/09/2009

Consortium: 16 partners from 12 countries

Project Co-ordinator:

Ramón Vallejo, CEAM Foundation
C/ Charles Robert Darwin, 14,
Parque Tecnológico
46980 (Paterna) Valencia, Spain
Tel: 00 34 96 131 8227
E-mail: fundacion@ceam.es

Project Web Site: <http://www.ceam.es/practice>

Key Words: desertification prevention, restoration, participatory and integrated evaluation, knowledge exchange.



The Challenge

Desertification is an important environmental and socio-economic problem that affects much of the world's drylands, resulting in a significant loss of biological and economic productivity. Responding to desertification by improving the efficiency of land and resource management represents a crucial step towards social welfare in drylands. Science has made noticeable progress in aiding our understanding of the drivers and processes of desertification, the evaluation of practises to combat desertification and the exchange of experience and knowledge. However, the incorporation of social dimensions in the solutions often remain limited, compromising the adoption of best practises in prevention and restoration efforts.

The Response

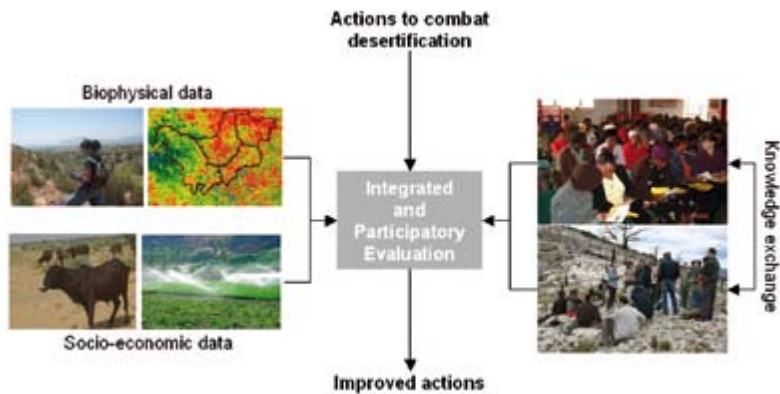
PRACTICE is a global initiative that gathers scientists and stakeholders from among the most affected regions of the world to combine local and scientific knowledge to help address the desertification challenge. In this way, we hope to learn from past and ongoing experiences, and equally important, from each other.

Project Objectives

To pursue this goal PRACTICE first aims to develop and apply participatory evaluation tools to assess the effectiveness of prevention and restoration practises, integrating the human and biophysical dimensions of desertification, and involving stakeholders at all levels, including farmers and ranchers, natural resource managers, scientists and policy-makers (local, national and international).

Secondly, PRACTICE seeks to create an international network of long-term monitoring sites aimed at supporting future synthetic analysis, improving the accessibility and use of long-term data, and facilitating the exchange of knowledge of successful practises worldwide.

The key to successfully assessing practises to combat desertification is learning from those who have interest, knowledge, experience and/or perspectives to share. Participating would involve providing perspectives on what is working and what is not, meeting with other interested people or affected groups, visiting the sites, reviewing what has been learned and discussing the process with the research team, so that we can improve our ability to conduct such a participatory approach in the future.



The study sites

PRACTICE involves research teams and stakeholder platforms in 12 countries. Monitoring sites are distributed in Mediterranean Europe (Greece, Italy, Spain and Portugal), Africa (Morocco, Namibia and South Africa), the Middle East (Israel), China, and South, Central and North America (Chile, Mexico and the USA).

PROJECT PARTNERS

CEAM Foundation, Spain.

University of Alicante, Spain.

Nucleo Ricerca Desertificazione (NRD), University of Sassari, Italy.

University of Trier, Germany.

Euro Mediterranean Center on Climate Change, Italy.

Aristotle University of Thessaloniki, Greece.

University of Aberdeen, UK.

Fundación Universidad Empresa Región de Murcia and Spanish Ministry of Environment, Spain.

University of Hamburg, BioCentre Flottbek, Germany.

Liga para a Protecção da Natureza (LPN), Portugal.

Ben Gurion University (Israel), Israel.

North-West University (South Africa), South Africa.

NE Normal University and Shengyang Institute of Applied Ecology, China.

Instituto de Ecología y Biodiversidad, Chile.

Universidad Autónoma de Nuevo León, Mexico.

University of Arizona, USA

ESSC membership list and contact details

Web Based Bulletin Board

The ESSC wishes to rapidly disseminate information to its members. Please forward information to the ESSC web site to be placed on our ESSC Bulletin Board. These could include searches for potential collaborators for research proposals, calls for research proposals, job opportunities, research studentship opportunities, impending conferences and other items of important information for rapid dissemination. Of course, we will also continue the regular circulation of information via our Newsletter. The ESSC web site is:

<http://www.essc.sk>

ESSC membership list and contact details

The full ESSC membership list is held on the ESSC web site. Under 'members' you can obtain a full listing. Also under 'members' you can click on any member country and find a listing of members in the selected country.

We are trying to keep the membership list on the web site up-to-date. Please check your details and let us know if there are any necessary correction(s). If your details change, also please let us know. Some members have requested that we do not add their e-mail addresses to the web site, to avoid uninvited 'spam' e-mails. Of course, we respect this request. Therefore, while we retain a list of the e-mail addresses of ESSC members, this list will not be available on the web site.

Editorial matters in Bratislava are handled by Ida Kurincová Kriegerová. In terms of membership lists, contact details and the ESSC web site, please send updated information to Ida at:

E-mail: i.kriegerova@vupop.sk

Please also use and refer to the '*Directory of European Organizations and Persons Working on Soil Protection*' as a reference source for European colleagues, both members and non-members of the ESSC. This publication contains the e-mail addresses of most ESSC members and will be subject to periodic updates. The reference citation is:

Rubio, J.L., Imeson, A.C., Bielek, P., Fullen, M.A., Pascual, J.A., Andreu, V., Recatala, L. and Ano, C. (2006). *Directory of European Organizations and Persons Working on Soil Protection*. Soil Science and Conservation Research Institute, Bratislava, 190 pp. (plus CD-Rom).

FORTHCOMING DATES FOR YOUR DIARY

Editor's Note

The rising cost of printing means we need to be more economical with our printing runs. This issue was discussed at the ESSC Council Meetings in Thessaloniki on 9 and 12 May 2011. It was agreed that non-ESSC conferences would only be announced once in the ESSC Newsletter. These announcements will be restricted to one-page of print. However, fuller conference descriptions will be placed on the 'Conferences' section of the ESSC 'Bulletin Board' on the ESSC web site. The Council invites readers to make greater use of this facility. Use of the web site also facilitates the rapid relay of accurate information. There are inevitable delays between receipt of information on forthcoming conferences and printing of the information in the Newsletter.

Please also note that the presentation of the ESSC web site has been revised. Our thanks to the team at Bratislava for their splendid work. Please visit the site and let us have your comments and suggestions for web site development.

LAUNCH OF THE 'TOWARDS A GLOBAL SOIL PARTNERSHIP FOR FOOD SECURITY AND CLIMATE CHANGE MITIGATION AND ADAPTATION' PARTNERSHIP IN ROME (ITALY), 7 – 9 SEPTEMBER 2011

Several institutions and countries have already expressed their interest in joining this Partnership at an early stage. We are pleased to extend to you a preliminary invitation to the formal launch event of this global partnership. This is being organized by the Food and Agricultural Organization of the United Nations (FAO) and the Joint Research Centre (JRC) of the European Commission.

The venue will be FAO Headquarters in Rome.

For further information, please visit:

<http://eusoils.jrc.ec.europa.eu/InternationalCooperation/GSP/>



COLLOQUE
'ÉROSION HYDRIQUE ET VULNÉRABILITÉ DES SOLS AU MAGHREB:
ÉTAT DES LIEUX ET PERSPECTIVES'
12 ET 13 OCTOBRE 2011

Première annonce

Un colloque 'Erosion hydrique et vulnérabilité des sols au Maghreb: état des lieux et perspectives' aura lieu à Rabat au Maroc, à l'Institut Agronomique et Vétérinaire Hassan II, campus de Rabat, les 12 et 13 octobre 2011.

Objectif:

L'objectif général de ce colloque est de faire le bilan des recherches en matière d'érosion au Maroc et plus largement dans l'ensemble du Maghreb, de favoriser la diffusion de ces résultats et de promouvoir les collaborations sur ce thème.

Contexte:

Les changements climatiques et d'utilisation des sols attendus au cours du 21ème siècle vont influencer les phénomènes de dégradation et d'érosion des sols. Il est donc crucial de mieux comprendre les conséquences de l'érosion hydrique vis-à-vis des fonctions du sol et du transfert des sédiments et des nutriments dans les eaux de surface. C'est dans ce sens qu'un programme PRAD a été mené depuis 2009 et qu'un programme de recherche a été initié pour accompagner les actions du projet arboriculture fruitière dans le cadre du MCC. Il s'agit d'associer des partenaires du Sud et du Nord intervenants dans les pays du Maghreb afin de partager et d'échanger nos connaissances sur les thèmes suivants:

- Etude de l'érosion hydrique: processus, modélisation, impacts environnementaux, sociaux et économiques.
- Inventaires, études de cas, indicateurs, spatialisation et cartographie de l'érosion hydrique.
- Lutte contre l'érosion hydrique, efficacité des pratiques culturales et des aménagements de bassins versants.
- Outre les chercheurs, la manifestation comprendra des agents des services de développement agricole et d'aménagement du territoire afin de dialoguer avec les structures opérationnelles.

Les personnes souhaitant présenter une communication à ce colloque sont invitées à envoyer un résumé d'une demi-page avant le 15 mars 2011 au secrétariat du colloque: colloque.erosion2011@gmail.com

Il n'y a pas de frais d'inscription pour la participation au colloque

Calendrier: Sélection des résumés le 15 avril, Programme final le 15 juillet

Contact: colloque.erosion2011@gmail.com



NJF SEMINAR 444. SOIL EROSION IN THE NORDIC COUNTRIES.
PROCESSES, MAPPING AND MITIGATION

This Seminar will be held from 2–4 November 2011 in Ski, Norway. Ski is 30 km south of Oslo, close to Bioforsk and the University of Life Sciences. There are frequent train connections with Oslo.

The Conference will be held at the Thon Hotel Ski, Norway. Please visit:
<http://www.thonhotels.no/hoteller/land/norge/ski/>

The participation fee (hotel not included) is €350 for NJF Members and €400 for non-Members.

Important deadlines

Final registration: 1 September 2011.

Proposal for posters and papers: 1 September 2011.

Please, send your abstract for oral or poster presentation as soon as possible and at the latest by 1 September to the Seminar Secretary. We plan to publish a special issue of papers in 'Acta Agricultura Scandinavica'.

For further information, please visit:

<http://www.njf.nu/site/seminarRedirect.asp?intSeminarID=444&p=1004>

Organizer

Marianne Bechmann

E-mail: marianne.bechmann@bioforsk.no

Seminar contact

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N-1432 Ås
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Web site: <http://www.bioforsk.no>



**FOURTH INTERNATIONAL CONFERENCE BALWOIS 2012
ON 'WATER, CLIMATE AND ENVIRONMENT',
OHRID (REPUBLIC OF MACEDONIA), 28 MAY – 2 JUNE 2012**

Dear friend

It is our pleasure to inform you about the Fourth International Conference BALWOIS 2012 on 'Water, Climate and Environment' to be held from 28 May to 2 June 2012 in Ohrid, Republic of Macedonia.

All necessary information is available at:
www.balwois.com/2012

If you wish to submit an abstract, please register and create an account on the BALWOIS Conference management web site (do not forget to tick the box 'author' in the form):
<http://ocs.balwois.com/index.php?conference=BALWOIS&schedConf=BW2012&page=user&op=account>.

The deadline for submitting an abstract is 31 October 2011.

Please remember your username and password; as you will need them for all your communications with the Conference organisers.

We look forward to seeing you in Ohrid!

Best wishes

The BALWOIS Organising Committee.

REMINDER FOR THE NEXT ISSUE

Articles, reports, letters, views or comments on any aspect of soil erosion and conservation in Europe are always welcome.

We invite proposals for special thematic issues of the Newsletter. We also welcome any comments on the ESSC Newsletter and suggestions on how it can be improved and developed.

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

- (i) Reviews of recent conferences.
- (ii) Recent grant awards.
- (iii) The citation details and abstracts of completed Ph.D. and M.Sc. theses.
- (iv) Newly enrolled Ph.D. research students, title of their research topic and names of research supervisors.
- (v) Recent staff institutional movements/promotions.
- (iv) A reference list of your 'new' international refereed scientific journal papers, which have been published recently (since and including the year 2000).
- (v) At the ESSC Council at Průhonice (Czech Republic) in June 2009, it was agreed that the Newsletter will present a series of national reports on soil erosion and soil conservation activities in individual European countries. If you would like to volunteer a contribution, please contact any member of the Editorial team.

Send these details to either:

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

or

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

and they will include this information in the next issue.

PLEASE NOTE:

**We publish four Newsletter issues per year. The deadlines are:
10 January; 1 April, 1 July and 1 October.**

Some Closing Thoughts:

“There be three things which make a nation great and prosperous: a fertile soil, busy workshops, easy conveyance for men and goods from place to place”

(Sir Francis Bacon, 1561 – 1626)



“We might say that the earth has the spirit of growth; that its flesh is the soil”

(Leonardo da Vinci, 1452 – 1519)



“Detachment has bred ignorance and out of ignorance comes the delusion that our civilization has risen above nature and has set itself free of its constraints”

(Dr Daniel Hillel, 2004)



“Soil is the last necessary thing. With air and water, a person can live 30 days; add but a comely pile of dirt and life expectancy expands a thousand times”

(Justin Isherwood)



*“Have you learned lessons only
of those who admired you,
and were willing to tender with you,
and stood aside for you?”*

*Have you not learned
great lessons
from those who braced
themselves against you,
and disputed the passage
with you?”*

(Walt Whitman, 1819 – 1892)



“If any man is able to convince me and show me that I do not think or act right, I will gladly change; for I seek the truth by which no man was ever injured. But he is injured who abides in his error and ignorance”

(Emperor Marcus Aurelius, 121 – 180 AD)



“The trouble with most of us is that we would rather be ruined by praise than saved by criticism”

(Dr Norman Vincent Peale, 1898-1993)

AIMS OF THE SOCIETY

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

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

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

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

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

ZWECK DER VEREINIGUNG

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

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

Durch Information der Öffentlichkeit über wichtige Fragen des Bodenschutzes in Europa.

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

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

BUTS DE L'ASSOCIATION

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

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

En informant le public des problèmes majeurs de la conservation du sol en Europe.

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

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

OBJECTIVOS DE LA SOCIEDAD

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

Promocionando la investigación sobre degradación, erosión y conservación de suelos.

Informando al público sobre los principales aspectos de conservación de suelos.

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

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

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

MEMBERSHIP FEES

I wish to (please mark appropriate box):

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

wim.cornelis@UGent.be