World Association of Soil & Water Conservation–WASWC

NEWSLETTER

Reporting global SWC news to you quarterly since 1983

Volume 21, Number 2
April - June 2005

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Publishing Partner: Science Publisher, Inc., P.O. 699 Enfield, NH 03748, USA. info@scipub.net, www.scipub.net,
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WASWC Vision: A world in which all soil and water resources are used in a productive, sustainable, and ecologically sound manner.
WASWC Mission: To promote worldwide the application of wise soil and water management practices that will improve and safeguard the quality of land and water resources so that they continue to meet the needs of agriculture, society and nature.

Conserving soil and water worldwide – join WASWC

In this issue

The WASWC Newsletter seeks to keep conservationists worldwide informed of new developments in the field of soil and water conservation and land management issues. Please send editorial contributions to the editor at sombatpanit@yahoo.com.

MESSAGE FROM THE ACTING PRESIDENT

TSUNAMI in Indian Ocean

Samran Sombatpanit

At the end of 2004 no news was as big and far-reaching as the news about the tsunami that hit South Asia. On December 26, 2004, at 00:58:53 UTC (in Indonesia and Thailand) an earthquake of 9.0 magnitude on the Richter scale occurred in the Indian Ocean, just off the NW coast of Sumatra Island in Indonesia. The underwater quake resulted in tsunamis that attacked the coast of several countries. The immediate impact was the loss of life, and later, the search for missing persons and treating the survivors both physically and mentally. Shortly after, it would be the rehabilitation of urban areas destroyed by the tsunami and, to a lesser extent, agricultural land. Death tolls were high in several countries; present statistics show the following: Indonesia, 126,915; Sri Lanka, 30,957; India, 10,749; Thailand, 5,395; Somalia, 298; Myanmar, 61; Malaysia, 74; Maldives, 62, Seychelles, 3; Tanzania, 10; Bangladesh, 2; South Africa, 2; Kenya, 1 and Yemen, 1. The total death toll is 175,000 and could finally reach 200,000 or more.

Apart from this, 125,000 people were injured, 51,000 are missing and about 1.5 million were displaced, including around 1,000 people in Madagascar (Wikipedia Free Encyclopedia http://en.wikipedia.org/wiki/2004_Indian_Ocean_earthquake). Hundreds of websites now illustrate various aspects and features of the tsunami in general and of the Indian Ocean tsunami in particular.

Around half of the death toll for Thailand were foreigners who were on holiday. This was indeed a terrible disaster and on behalf of the WASWC I would like to extend our heartfelt sympathy to all our members, from Thailand and throughout the world, who lost family and friends. This disaster has, however, triggered a global response from governments, NGOs and individuals who have pledged to donate up to several billion dollars for relief and rehabilitation. This has reduced the risk of hunger that could have affected the devastated countries of this region. How efficiently this aid is distributed remains to be seen.

In Thailand, the Asian Institute of Technology (AIT) did a quick study of the disaster itself and the impact that it has had. After less than four weeks, they were able to organize a seminar and give details of what they had found. In the words of Prof. Mario T. Tabucanon, Acting President of AIT, "In the aftermath of the earthquake and Tsunami that occurred in the South and Southeast Asia on 26 December 2004, the Asian Institute of Technology (AIT) has looked into how as an institution of technology in service of the region it could assist and contribute. Teams of experts from AIT joined with local and international agencies on several missions to visit the affected areas in the South of Thailand and in Sri Lanka, to assess first hand the situation and to define ways in which AIT together with its partners could further provide assistance including the rehabilitation of the affected areas. A special seminar was held at AIT on Wednesday, 19 January 2005, to present the findings of the team. Coming out of this seminar, AIT has prepared a Working Paper on AIT's Response to the Earthquake and Tsunami in South and Southeast Asia outlining its position and presenting concept papers on some of the areas in which the Institute could play a role. The presentations made by the AIT experts at the seminar together with the working paper are available at http://tsunami.ait.ac.th/index.html." Reading through this 40-page report provides an insight into how the disaster happened and what could be done shortly after it, in the eyes of these experts.

I had the opportunity to travel to the tsunami hit areas in the six Southern provinces of Thailand after several weeks had passed, by accompanying the team from the Land Development Department to study the impact of the tsunami on the land, especially in respect to salinity caused by the inundation of large amounts of seawater. The Thai government has managed to relieve the sorrow of the people and the land very fast. By the time I was there most of the beaches were clean but the land that

had been inundated by seawater, though not large (a few hundred ha), still could not yet be planted to crops. The greatest damage was done to the coastline where land was lost to the sea. Interestingly, many beaches were saved because of the presence of rows of casuarina trees (*C. equisetifolia*) that were planted long ago at the interface between terra firma and the beach. We can see in the photo to the left that more than one metre in depth was washed away by the great waves. The overall opinion of the study team was that the impact on the land was not as great as in other countries, especially Indonesia. But as it was saline water that inundated the land, it would take sometime, perhaps some years, before this salinity problem could be substantially reduced. Photos taken from the trip in February 2005 are posted along with other photos in the album Waswc8c, http://community.webshots.com/album/261470240VxzFyy.

Another interesting workshop was organized at the FAO Regional Office for Asia and the Pacific in Bangkok from March 31-April 1, 2005. Many specialists working in various countries affected by the Indian Ocean tsunami were invited to participate, along with several local and foreign experts working in Thailand. We had a good discussion and later on formulated the way to cope with the salinity problems. A summary of the recommendations is being prepared to assist the countries affected. If interested, you may contact Dr. Yuji Niino, FAORAP Land Management Officer at yuji.niino@fao.org.

I have been interested in this phenomenon for quite a long time. Less than four weeks before the Indian Ocean tsunami struck, I was traveling along the coast on Hokkaido Island in Japan and could see the protection measures that this country has created to absorb the impact from great waves including tsunamis. One of them is shown on the left. Undoubtedly, with several centuries of 'great waves' experienced by people living along the coast of the Pacific Ocean, along with its good economy, Japan has been prompted to implement these measures. I also have heard about the high waves and the greater impact that the tsunamis have had in Japan. If events of the same magnitude had occurred in this part of the world, the damage might have been much, much greater. A Webshots.com photo to the left shows one tsunami attacking the coast of Japan; note the huge wave to the right of the picture.

We have already received some donations from our members. If you would like to help tsunami victims or those injured by the event, or to help restore houses or their affected land, you may send the money to any organization in your country that receives funds to help people affected by the tsunami, such as the Red Cross Society. You can also send your money directly to our Tsunami Relieve Fund to Bill Moldenhauer (contact moldwc@itctel.com), our Assistant Treasurer.

GUEST MESSAGE

By **Ian Makin,** Director of the IWMI-SEA (SE Asia Regional Office of IWMI), IFRDP Building, Kasetsart University, Bangkok 10903, Thailand.

The International Water Management Institute (IWMI) is an international, autonomous, non-profit, scientific organization and is a member of the Consultative Group for International Agricultural Research (CGIAR). IWMI's headquarters are located in Colombo, Sri Lanka. The declared mission of IWMI is "improving land and water management for livelihoods, food and nature". IWMI has regional offices in Hyderabad (India), Lahore (Pakistan), Tashkent (Central Asia) and Pretoria (South Africa). A regional office was established in Bangkok in April 2001 after the merger with the International Board for Soil Research And Management (IBSRAM) in an effort to strengthen its presence in the SE Asian region and to implement its mandate. In addition, IWMI SE Asia (or IWMI-SEA) has staff seconded to the research group of the French Institute of Research for Development (IRD), which works from sub-regional offices in Vientiane, Lao People's Democratic Republic and Hanoi, Socialist Republic of Vietnam.

Issues associated with the equitable management of land and water resources in the region are assuming greater relevance to policy and decision makers both at the national, community and regional level. In order to sustain industrial growth and enhance the wellbeing of all sectors of the community and the environment, the sustainable management of water and land resources in the region will be critical in the future. IWMI has within the

organization a diverse range of skills and expertise that include the core disciplines of governance and policy, land and water management, and socioeconomics. With these skills an integrated approach to developing solutions to land and water issues can be achieved. In the short period that IWMI has had a presence in Southeast Asia, it has endeavored to establish collaborative activities in research, education, training and capacity building, and information exchange in sustainable management of land and water resources through collaboration with government departments, universities, NGOs, farmer organizations and various networks.

Research activities undertaken by IWMI-SEA in collaboration with partners are addressing issues associated with land and water management that cover the entire continuum of resource management from the individual farmer up to the basin level. The activities within IWMI's programs are diverse ranging from understanding the processes of soil erosion and its management at the individual/community level through to the development of models to identify sediment discharge from micro/meso catchments. In addition, research into heavy metal contamination of rice and the rehabilitation of degraded soils have their focus on food security and human health and increasing productivity and farm incomes, respectively. Water allocation at the basin level and the mobilization of farmer water user associations as governments move towards decentralization of irrigation management are current research areas. All of these research activities have a central focus on sustainable land and water management for the wellbeing and benefits of people and the environment.

For the benefit of WASWC members, if any member would like to know more activities of IWMI-SEA or would like to collaborate in any of the subjects for our mutual interest, please do not hesitate to contact us at iwmi-sea@cgiar.org.

ASSOCIATION NEWS

Machito Mihara recently attained his full professorship

We recently learned of the academic accomplishment of Prof Machito Mihara (m-mihara@nodai.ac.jp), our new Deputy President, who was promoted to become a full professor of the Tokyo University of Agriculture from October 1, 2004. Being a full professor before reaching his 40th birthday means Prof. Mihara will be able to contribute much, much more during the rest of his academic life. We heartily congratulate him for this early achievement.

Composition of WASWC Council up to December 2007

It has been a difficult time since President Martin Haigh stepped down due to illness at the beginning of his term. It took the remaining councilors more than one month to settle on the new administration but by early April we had agreed on the following arrangement:

Miodrag Zlatic - President
Machito Mihara - Deputy President
John Laflen - Treasurer
Jiao Juren - Executive Secretary
Samran Sombatpanit - Immediate Past President

But as Miodrag still has an important academic commitment, he has asked me to handle the association for a period of 15 months in the capacity of Acting President, up to June 2006. With the consent of the rest of the councilors, I have agreed to Miodrag's request.

By mid April the new council was able to enter into the first round of discussions and looked at what it wanted to do in this term of office. With the inclusion of some items discussed in the short time that Martin Haigh was President, we have come up with a long list of activities. While the list is being refined into a work plan - and members will be given the details later - there are some items that are definite that I would like to make known to you all now.

WASWC activities planned for this term

1. Issuing WASWC newsletters, four times a year in English, French, Spanish, Portuguese and Chinese. The newsletter will now be posted on the website and members may access it by using their username and password.
2. Issuing an online international journal for soil and water conservation with the purpose of helping members worldwide to publish their research and development work at no cost. The journal is to be called the "Journal of the World Association of Soil and Water Conservation (JWASWC)." It will also incorporate "The Land", a tri-annual official journal (previously supported by FAO) of the International Land Use Society (soon to close),

based in Belgium (Willy Verheye: Editor-in-Chief and President; Robert Ridgway: Secretary).
3. Working with cooperating journals - starting with the new Asian Journal of Water Environment and Pollution. We will also explore other possibilities.
4. Issuing awards as has been done in the past and exploring other types of award to motivate our members to undertake more advanced work.
5. Amending the constitution to reflect more accurately the situation of today, with the purpose of encouraging more useful activities to benefit members globally.

What can our members do now?

In view of the above, we would like to ask members to:

1. Send in news from your country/ region to us for publishing in the newsletter. Our reserve of articles is running very low!
2. If you have articles of either research or development work, you are welcome to send the draft to our editorial coordinator, Dr. Takashi Ueno of ERECON in Tokyo at waswc@nifty.com. At present, Dr. John Laflen (laflen@wctatel.net), the Editor-in-Chief of the Journal, is working with members of the international editorial board to formulate the guidelines for the papers to be submitted. All papers will be peer-reviewed.
3. If you know any person who has done outstanding work in soil and water conservation, especially at the international level, please send the name and a short description of the work to us, in order that our Awards Committee can judge the Norman Hudson Memorial Award for this year. Please send your nominations to the chairman of the Awards Committee, Prof. Stanimir Kostadinov, Faculty of Forestry, University of Belgrade, Belgrade, Serbia and Montenegro, kost@eunet.yu. The deadline for receiving all nominations is July 31, 2005. The background to the award and regulations for judging it were published in the newsletter issue 19(4), as follows:

Norman Hudson Memorial Award nominations due

Members are encouraged to submit nominations of deserving persons for the Norman Hudson Memorial Award. This is the highest honor bestowed on an individual by the Association. It is given for distinguished service in recognition of international accomplishments in soil and water conservation. The award is named after Norman Hudson, whose exemplary professional career was devoted to the cause of global soil and water conservation.

Criteria

* The award may be given to Association members or nonmembers.
* No elected officer of the Association shall be eligible for the award while holding office.
* The service and accomplishments of the nominee shall have made major and widely recognized contributions to soil and water conservation on the international level.

Nomination Procedure

* Any Association member may make nominations.
* Nominators should submit nominations in narrative form of up to 1,000 words. The supporting material should document the international scope of the nominee's accomplishments, including such items as professional achievements in natural resource publications and papers written or delivered at professional meetings. Service to the Association either as a member or nonmember and service to other professional or conservation organizations can also be included.

Selection

* The Association's Awards Committee will review all nominations and select the recipient.
* The award will be presented at an event designated by the President of the Association.
* The award will be given to no more than one individual annually. No award shall be made if a suitable candidate is not nominated or if the Awards Committee decides the nominees do not fulfill adequately the criteria for the award.

Photo Competition

The winners of the second photo contest ending December 25, 2004, in no particular order, were as follows:

Prof. Li Rui, Vice President for Asia, responsible for China.

The picture is about planting trees on contour pits, Loess Plateau, NW China

Dr. Manuel Paulet, formerly of IICA, Peru. His winning picture shows Pisac Terraza, cultivated terraces in Cusco, Vilcanota Valley, Peru

Prof. Fernando Garcia Prechac, University of the Republic, Montevideo, Uruguay, with the satellite image of Rio de la Plata, between Uruguay (north) and Argentina (south), showing a heavy sediment load.

The winners are welcome to choose a book they would like from the Science Publishers, Inc., which can be seen on album Waswc4d on our photo website. The deadline for the next competition is June 25, 2005. All members are welcome to send in their good photos of SWC and related subjects.

Progress of our photo website http://community.webshots.com/user/waswc
Due to the good response from our members in sending photos for the photo competition, our website had become full and therefore we have had to open up a new one at http://community.webshots.com/user/waswc1. Some albums have been transferred to the new site, leaving sufficient space for posting photos for competition all the time.

Special Publication No. III
Special Publication No. III for 2005 on No-Till Agriculture will be written by a number of well-known WASWC members: Rolf Derpsch (Paraguay), Don Reicosky (USA), John Landers (Brazil) and Carlos Crovetto (Chile). We expect this publication to be of practical value to many members and to help to spread no-till agriculture to other parts of the world. To raise money to have it published, we need to raise some funds through advertising in its pages as well as in the WASWC Newsletter. The print run will be up to 5,000 copies and will be distributed in over 120 countries. Colleagues and friends are kindly asked to search for some enterprises to help sponsor the project. You may contact the publication's editor at sombatpanit@yahoo.com for the rates and conditions. Any amount of cash contribution towards this project is welcome.

MEMBERS' FORUM

The tsunami - members' messages

Dear Samran,

* I just heard the bad news about the earthquakes and the tsunami disasters in SE Asia and the Southern part of your country. I am very sorry to hear about that. My sympathy is with your people. - Menachem Agassi, Israel
* I learnt from TV about the disaster in Asia and Thailand. Regarding this news I see that 300 people in Thailand are missing and presumed dead. This is really shocking news. I am very sorry. My deep condolence to the people of Thailand and Asia. - Miodrag Zlatic, Serbia & Montenegro
* Our condolences to Thailand and other affected countries. We have seen the disaster now

on TV. It is terrible. Hope that none of you have lost relatives or friends in this catastrophe. - Rolf Derpsch, Paraguay

* We are so worried after knowing about the unprecedented earthquake and tsunami in several countries including Thailand. Please reply to me at once after receiving this mail. - Anisur Rahman, Japan
* I would like to express my sorrow at the devastating loss of life and the human tragedy due to the tsunamis, and to say that your friends in Morocco are all praying for the families of the victims, as well as the survivors affected by this, and hoping that relief is swift and thorough for the entire region. - Abdelaziz Merzouk, Morocco
* I just heard the bad news about the earthquakes and the tsunami disasters in SE Asia and the Southern part of your country. I am very sorry to hear about that. My sympathy is with your people. - Paola Rossi Pisa, Italy
* Our hearts reach out to you in this terrible disaster. Nancy and I sincerely hope that none of your family or loved ones were affected. The death figure now being reported here is >22,000. My mind simply cannot comprehend a loss of that magnitude. Please know that you and the Thai people are in our thoughts and prayers. - Maurice Cook, USA
* My commiserations, Samran. Is your family safe? Nature lets us know that he still has the last word? -John Cameron, UK
* I am really sorry for this disaster. I hope you and your family are safe. - Guillermo Vidal, Argentina.
* I heard about the terrible disaster that happened in your country and others yesterday night on the TV news. It is hard to believe how so big a human disaster can happen. We are really concerned at the magnitude of the earthquake and the tsunami. In 1960 we had in our land the worst in the world. We lost thousands of peoples, big cargo ships and hundreds of small boats. The ground went down 2 m. Today thousands of hectares are still under water. We are happy to learn that you are fine. Some Chileans are lost in Thailand. What can I do? Dear Samran, in our country the people, private and public, are concerned; they are collecting money and sending help. - Carlos Crovetto, Chile.
* I'm saddened by the natural calamities we have experienced recently with the devastating effect of giant tsunamis that hit those countries along the Bengal Bay. Prayers are the answers to all of this for endurance and courage to go on. - Concepcion Payapaya, Philippines
* It's terrible to hear about the monster earthquake and tsunami in Asia that caused destruction in Thailand and other countries. Our wishes are that the disaster will pass away very soon. - Xiong Han Feng, China
* My condolences about the people in Thailand and other WASWC countries that died. It is so bad, I am sorry. - Abdybek Asanaliev, Kyrgyzstan
* We are very sorry for what happened due to the tsunami. We sympathize with you and people of other Asian countries that were affected. - Gheorghe Cretu, Romania
* I am very sorry to hear about the terrible incidents that have taken place in Thailand. I hope that you and all your loved ones are okay. We are thinking of you over here and sending you all our prayers. - Mira Inbar, USA
* We are terribly sorry about what has been happening in that part of the world. May be "the day after tomorrow" is not that far off, and hope the causes are not our dealing with nature but nature in itself. - Manuel Paulet, Peru
* I hope Thailand will not be reeling from the tsunami impact for a long time to come. - Baden Williams, Australia
* We have been watching the reports on the TV and have been horrified at the extent of the devastation and number of dead. We hope that at least your families and friends are all safe and well. Some British tourists have just returned from Thailand and have been interviewed on TV. They have been full of praise for the Thai people for their help and kindness at this time when the Thais have been suffering so much more than the rescued tourists. This is something for you to be very proud of. - David and Mandy, UK
* Unfortunately the number of casualties is building up. We can just hope that rescue forces will reach the area as soon as possible to reduce the dimensions of the disaster. Israeli rescuers are all thankful for the warm and efficient care they received from local peoples and the authorities. I have already donated some money through Israeli relief agency. - Menachem Agassi, Israel
* We are very affected. Our minds are all the time with the victims. We hope that God will have them at his best paradise. - Mohamed Sabir, Morocco
* The Soil Conservation Society of India condoles the death of thousands of people due to the tsunami in the Asian region on 26.12.04. Let us pray to the Almighty to provide enough strength to the near and dear of the bereaved families. - S.N. Das, India
* I do hope you are well! Our thoughts are with your people in SE Asia. It is such a shock

that things like this can happen but the power of nature is incredibly strong. - Caisa Oskarssson, Sweden

* I have been really anxious for one week to know about you and your family. The news about the earthquake and the tsunami are so incredible, and sincerely I am praying for you, your family and your country. - Elena and Osvaldo Abraham, Argentina
* I saw the sad news about the waves caused by earthquakes. I hope you and your family are well and wish all those affected by this tragic manifestation of the power of nature a lot a hope, strength and support. - Hanspeter Liniger, Switzerland
* Under the present terrible situation of your neighborhood of the world, what one can wish is a quick recovery of your countries and a minimum toll of human lives. - F. Garcia Prechac, Uruguay
* I have been looking at the events in your part of the world - it must be horrible. I regret very much the loss of life. - George Gergov, Bulgaria
* With very much sadness and sorrow we read in papers and see in TV about the tsunamis in SE Asia and Southern Thailand. We could never imagine that this could happen. We think very much of you and hope you all are ok. - Mats and Eva Skoglund, Sweden
* We are very sorry for the tragedy in Thailand. Our hearts, thoughts and prayers are with the families of those affected. God will comfort and heal all those distressed hearts. May God grant everlasting peace to those that passed away. - James G. Njuki, Kenya
* We are very sad because of this disaster. We had a similar disaster in 1999, 7.4 magnitude earthquake in Turkey and 15,000 people died in 45 seconds. The Turkish government decided to send some aid and has opened some bank accounts for people to donate. All Turkish people hope that the victims overcome this situation in a short time. - Sevilay Haciyakupoglu, Turkey
* Hope for some tangible signs of recovery and support to all our brothers and sisters hit by this terrible tsunami. - Christian Pieri, France
* I wish to share with you my sentiments over the great tragedy suffered by so many in the region including in your country. We are praying for God's mercy so that the suffering ends. Our hearts are with you in this moment of sorrow. - Khalid Mohtadullah, Pakistan
* I encourage you to have the will power to finish your excellent work notwithstanding this very hard period for neighboring countries due to the ravages of the tsunami in Asia. - Benediktas Jankauskas, Lithuania
* We have all been reading the news of the tsunami with horror and sadness. Our thoughts and prayers are with you and all your countrymen who have to struggle with this. Please let me know if there is a particular group you would encourage us to support. We are meanwhile sending contributions through the Red Cross and UNICEF. I hope that all your loved ones have been spared. - Sara Scherr, USA.
* I am so glad to receive this message from you. I hope the "Tsunami disaster" did not hurt any of your loved ones. - Roberto Peiretti, Argentina
* I am very sorry to hear that a very large ocean wave caused by an underwater earthquake happened in Thailand and other countries. I see the great power of nature, so I think that we should cherish our life and be happy everyday. - Wenhua Zhou, China
* I read about the earthquake and tsunami in Southern Thailand. Ms Kaneko and I are really worried about you. We hope you are OK. - Yoko Numata, Japan
* It is very sad that over 4,500 people were killed in South Thailand by the tsunami. - Machito Mihara, Japan
* I saw the sad news about the waves caused by earthquakes. Both government and common people in China started to raise money and materials to help countries that suffer from the tsunami. I wish all those affected by this menace a lot a hope, getting support and soon resuming their normal living. Specially, I hope you and your family are well. - Peng Cui, China
* The recent tragedy of the tsunami brings into sharp focus the need for conservationists to be better prepared to deal with the unforeseen emergencies that affect people and land. Nature is not a terrorist, however the consequences can also be staggering as we are realizing. Perhaps this is also a wake up call to us to do more to get our messages out and better understood by the mass media and the folks who guide land use decisions. Hari Eswaran has been writing about the Anthropocene, the age of human dominance in the environment, and his messages spell out time and again the potential limits to growth and where we appear to be now. But we need more people doing this, and more articles and more public relations to not only move ourselves ahead but more importantly to help those in greatest need. The challenges and opportunities are here - NOW - and so as we go bravely ahead let us be thankful for the resilience of God's creations and this lovely planet, our global habitat. - Dick Arnold, USA
* With my condolences to the victims of the tsunami that devastated many countries

including yours. As a member and Officer of the WASWC, I would like to donate $50 for any country that WASWC chooses. - Mohammad H. Golabi, USA

* I hope you and your friends were not affected by the tsunami. We will be praying for you. - Jose Rondal, Philippines
* Let's all pray for the tsunami's victims and their families so that they will be strong. - Rufi I Susanto, Indonesia
* Wish you all the best for 2005 though we are in a very pathetic situation at present due to the damages created by the tsunami. - Ananda Jayakody, Sri Lanka
* Our family and I tried to help by contributing some cash through the Red Cross. - Tep Sombatpanit and family, USA
* Yesterday a group of medical doctors, nurses and engineers left our country to help the disaster area. A national movement is growing to help your people in such disaster. On Phi Phi Island we have lost one Chilean young wife; fortunately her husband is alive because he was more inland. It is hard to believe how fast the disaster was. - Carlos Crovetto, Chile
* I've received your correspondence copies regarding the tsunami - thank you. Horrible event for many citizens of the world. I've just had a phone message from a news correspondent from the Canadian Broadcasting Corporation (local radio station of our national broadcaster). She was asking what the consequences would be of the salt from seawater entering the coastal areas. My message will be as follows: 1. The salt will have negligible effect. Coastal areas have sandy or silty textured soils that drain well and, usually lots of rainfall, so any salt from seawater will be washed down into the soil profile. 2. Larger concern will be the damage to coastal ecosystems from the erosion of the water and deposition of new sediments. Some coastal areas had very little land above the water table. That may have disappeared and seawater will arrive daily with tides. This will kill the old vegetation. Habitats will have been lost (rearranged) for plants and animals. There will be decay in some areas followed by new growth of different plants. All of this habitat and ecosystem damage will have occurred below the waterline as well. Sediments rearranged in bays, coral damaged, etc. 3. Not much man can do other than let nature progress. Be aware that vegetation decay, stagnant water, etc may be health risks. Coastal/shore fisheries may change. Where there were freshwater wetlands, there may now be saltwater wetlands, etc. - Tom Goddard, Canada

PS. Canada has started in with aid assistance although rather late, in my opinion. Already some benefit gatherings here in Edmonton. My daughter who is turning 13 this month told me she wanted friends to make a donation to the Tsunami relief funds rather than bring gifts to her birthday party.

* I would like to send my condolences for all the misery the disaster has brought to SE Asia. Friends of a Swedish friend perished. - Jan de Graaff, The Netherlands
* Finally, I must show my very sorry feelings for the tsunami disaster in the southern part of Thailand. Wish people there could recover soon from the damage. - Zhang Yana, China
* I would like to express my deep condolences and sympathy to all the victims and families of the earthquake and tsunami attack. - Toshiyuki Wakatsuki, Japan
* I am so sorry that the earthquake and tsunami from the Indian Ocean have carried a huge loss and calamity for your country. Please receive our blessing. - Fenli Zheng, China
* Hope you and family are safe. The tsunami hit the coast of Kerala, killed hundreds and devastated the southern coast. I am living about 20 km from the sea and we are fully safe. There was enough time for a warning on the Indian coasts (except the Andaman Islands). Unfortunately, the Government machinery is very slow and there is lack of cooperation among the various Government Departments and administrations of autonomous States. In spite of rules and regulations, millions are living in the vulnerable coastal zones. The impact of the tsunami on soil and water is tremendous and is a factor to be assessed. My family and I extend our deep condolences to the victims and share the sorrows of Thailand in the unexpected natural calamity. - Nair, India
* The professors and students of our institute gave a donation for the countries affected by the earthquake and tsunami yesterday. Recently many companies, communities, colleges, schools, universities, factories, NGOs, all donated their money and love to the people in the disaster area. So you should not worry, all the difficulties will go away with the help from all over the world. I hope the day will come as soon as possible. - Wenhua Zhou, China
* I am very sorry for reacting to this immense and tremendous human disaster so late. We strongly believe that an efficient alarm system could prevent events like these ones. Anyway, in front of this tragedy, we can only certify that this is the answer of the Earth to our activities, aiming to exploit all the natural resources without safeguarding them and taking into account the different cycles and changes of the meteorological conditions. - Michele Pisante, Italy

* We sympathize with you in the tsunami tragedy. - Gheorghe Cretu, Romania
* With my best personal regards and thoughts for all Tsunami victims and other affected persons in your region. - Hans Hurni, Switzerland
* We are sorry because of the tragedy in your country and other Asian countries. Hope things are getting better. - Oscar Rodríguez, Venezuela
* When I received the e-mail from you, I knew you were safe. It's fine. Sometimes some disasters and misfortune can make one think about the meaning of life. - Zhang Li, China.
* At the end of 2004, a tremendous disaster, earthquake and ensuing tsunami, hit SE Asia heavily, which brought a gigantic catastrophe to Indonesia, Sri Lanka, India, as well as your country. From here, on behalf of Guigang Municipal Government, I would like to express my condolences for the dead, and to express my deep sympathy to tsunami-hit countries and people. I sincerely hope that your family and friends are alright. At present, several donation activities are being held in Guigang. - Hanping Xia, China
* We were very sad to hear of the devastation from the earthquake and tsunami. I am sure you will know people who have been affected, perhaps even some who lost their lives. I hope that you and your immediate family were safe. There will be a huge task to recover from the devastation, and much grief over the losses. It will be particularly hard for those who will never be sure what happened to their missing family or friends. - Marianne Vespry, Canada
* Am glad you are all safe and doing fine. You are right, we can only pray for those who are affected by the tsunami. - Teresita Sandoval, Philippines
* I am very sorry to know about the tsunami tragedy in your country. Hope everything is fine with you. - P.K. Mishra, India

> *I thank you all for your worry and care during the difficult period. Now, the situation has much improved and there seem to be sufficient funds to help rehabilitate both nature and the life of people affected by this great catastrophe. - Editor*

Obituary - Prof. Anthony Juo, formerly of the Texas A&M University, TX, USA

The eulogy for Prof. Juo, a WASWC member, provided by his daughter, Jennifer Juo (jenjuo@aol.com), was read at his funeral in the Washington, D.C. area on April 16, 2005. We publish this eulogy in our newsletter as he was an extraordinary, happy individual who led a unique life in China, Africa, Texas and Maui (Hawaii). He was a fine example of a selfless professional in the field of natural resource conservation. He died on April 12, 2005 from an aggressive form of metastatic cancer and complications due to pneumonia. I was fortunate to have met and talked with him twice, in Thailand in 1999 and in Argentina in 2000. - Editor

Tony spent his early childhood on his family estate in China together with his large extended family. He attended the family school with his cousins where they received a classical Chinese education. He remembered these childhood days in China fondly and often reminisced of this bygone way of life. Tony will be happy that several of his cousins' children are here with us today. When he was 11 years old, his family moved to the island of Taiwan to temporarily escape the Japanese occupation during WWII. After the war, however, the Communist Revolution swept China and the Juo family never returned to their homeland.

Tony spent his teenage years in the small town of Lotung on the island of Taiwan. He attended the top university in Taiwan-Tai-Da University where he obtained a BS in 1959 and MS in 1961 in Agricultural Chemistry. He left for the US after being awarded a full scholarship to Michigan State University and obtained a PhD in Soil Chemistry in 1967. As a postdoctoral fellow at Purdue University, he attended many Chinese Association parties at Indiana University in Bloomington, and met his wife and life companion Rosalind. They were married in 1969.

During his college years, he was inspired by the philosophical teachings of the great humanitarian Albert Schweitzer, who dedicated his life to relieving suffering in the Developing World. Tony was a selfless idealist trained with a practical skill. He strived to bring equity to this world and struggled with the fact that despite modern technology, science and wealth, so many people on this earth were still starving. Later works of Tony would grow to address the ecological and environmental problems of the world as well.

In March 1970, he joined the International Institute of Tropical Agriculture (IITA) in Nigeria, West Africa. Tony and Rosalind had their daughter Jennifer in 1971 and son Peter in 1972 and spent over 17 years in Africa. It was here in Nigeria that they made many of their close friends from all over the world, and we are fortunate that some could be here

today.

Tony dedicated his career to the research of tropical agriculture and natural resource conservation. He adopted a holistic approach to solving Africa's food and environmental problems. This would become his life's work.

In October 1988, already an internationally recognized authority in Soil Chemistry, Tony was appointed as Full Professor of Agronomy at Texas A&M University and the Juo family moved to College Station, Texas. In addition to teaching, Tony served as the leader of the Tropical Soils Research Program associated with the USAID. Through this program, Tony managed research projects in Africa, Central America, and the Caribbean. Tony and Rosalind spent over 14 years in Texas where they enjoyed the friendship of many, several who are also present here today.

In 2002, Tony retired from Texas A&M University and moved to the tropical island paradise of Maui. His career was capped in 2002 and 2003 with the highest awards and honors professionally given in his field. These were "The International Soil Science Award" sponsored by the Soil Science Society of America, and the "International Agronomic Award" sponsored by the American Society of Agronomy for his contributions to tropical agriculture research and international development. His distinguished career was characterized by the prolific publication of over 100 original research papers and the training of 25 graduate students. Upon retirement, he was promoted to Professor Emeritus at Texas A&M University and published his long-awaited book, Tropical Soils, with the Oxford University Press.

During the last 2 years of his life, he enjoyed a happy, idyllic life in Maui-tending to his organic garden, playing golf with old IITA friends, attending classical concerts, and entertaining the many visitors that stopped by the island. He also enjoyed the frequent visits of his children and grandchildren Ethan and Devon.

We all remember Tony as a unique individual full of life, originality, wisdom and humor. His upbeat, optimistic personality and laughter brought joy to all those around him. Tony was also an intellectual, cultured and philosophical thinker who often shared his insightful perspectives on many issues from world politics to art. He had an original way of looking at the world that was sometimes humorous but always profound. Tony was no ordinary person, and he lived an extraordinary life. We have all been blessed that such an amazing human being has been part of our lives.

REGIONAL NEWS

Mangroves Could Have Reduced Tsunami Damage, U.N. Official Says, January 7, 2005
Sam Cage, Associated Press, through ENN

GENEVA - Damage from the Indian Ocean tsunami could have been reduced if more coastal areas had maintained their protective shields of mangrove swamps and coral reefs, a key U.N. official said Friday.

Pasi Rinne, who is heading the U.N. Environment Program's response to the disaster, agreed with conservation groups that the swamps and reefs not already destroyed by humans may have reduced some of the damage caused by the tsunami. But, he said, it is too early to tell how much difference they made.

These natural defenses "have protected coastal zones from this kind of tidal waves" in previous natural disasters, Rinne told The Associated Press. Mangroves grow in thickets along tropical coastlines and their complicated root systems help to bind the shore together, effectively providing a shield against destructive waves.

"These act as shock absorbers for the types of flooding and the tsunami that we saw," said Simon Cripps, head of the Worldwide Fund for Nature's marine program based in Gland, Switzerland. "It wouldn't have been able to stop it completely, of course, but we've seen areas already ... where there were mangroves, there was substantially less damage."

Rinne said, however, that it still has to be confirmed whether mangroves and coral reefs prevented significant damage from the Indian Ocean tsunami. "It's not only an early warning system that is going to help, we also have to look how we construct, how we use the coastal zones," he said.

Many lives could have been saved if mangroves and reefs had been conserved in a healthy state, said the Mangrove Action Program, an environmental organization based in Port Angeles, Washington. "Instead these vital protective buffers that nature provides against wind and wave had been foolishly degraded or removed for unsustainable developments," the organization said in a statement.

An official of the 144-nation Ramsar treaty protecting the world's wetlands said initial assessments indicated mangroves had lessened some of the impact of the tsunami. "Mangroves are recognized as being one of the coastal systems that provides buffering against storms and storm effects from the sea," said Nick Davidson, deputy chief of the

secretariat for the Ramsar Convention on Wetlands, which also is based in Gland, near Geneva.

But, he said, it remains unclear whether mangroves and coral reefs had a significant protective effect against a "tsunami on the scale that we've just witnessed." Up to half of the world's mangrove swamps have disappeared in the last 20-30 years because of the development of tourist resorts, transport infrastructure and commercial prawn fishing, Cripps said in a telephone interview.

The Mangrove Action Program estimates that there are 16,000 hectares (40,000 acres) of mangroves left in the world. This makes coastal areas more susceptible to flooding, as has previously been seen in Bangladesh, which no longer has a protective shield of mangroves.

"The advantage of mangroves is several fold," Cripps said. "They hold the structure of the land."

FEATURES

World Water Crisis - the Volta River basin joins global research effort to produce more food with less water. A report from the Int'l Water Management Institute (IWMI) iwmi@cgiar.org

Accra, Ghana - May 18 2004 - At a ceremony to launch the CGIAR Challenge Program on Water and Food in the Volta River Basin, some of the world's leading agricultural scientists warned of the dire consequences that communities living along the Volta will face unless steps are taken to improve the management of the river's waters. Food security in the region will be threatened and competition for water is set to increase between countries dependent on the Volta, largely due to rapid population growth, climate change and the drive for economic development.

The Volta river basin is one of the nine selected river basins across the world where scientists of the Challenge Program aim to find sustainable solutions towards producing more food by using less water. Research projects are uniting scientists from international and national research institutes, NGO's and local communities, in a common effort to address the global water crisis.

"The populations living in the Volta basin population may increase by as much as 80% over the next 25 years, this is one reason why many farmers won't have sufficient access to the water they need. This scarcity is likely to be even further exacerbated by climatic and man-made factors", says Dr. Winston Andah (weiandah@africaonline.com.gh) of the CSIR Water Resources Institute and Volta basin coordinator for the Challenge Program.

Agriculture is the primary economic activity in the Volta basin, the other major water user being hydropower. By 2020 the water demand for irrigation in Ghana is expected to rise by more that 500% over levels in 2000 and in Benin by 700%. The high projections of water demand for irrigation in the basin are based on the fact that rain-fed agriculture is becoming more precarious and less reliable. As the number of small reservoirs in the river basin increase, so too is abstraction of the river's upstream waters, creating various conflicts including trans-boundary ones with downstream users. "It is crucial that conflicts of water use for hydropower generation downstream and its abstraction for irrigation upstream are addressed" says Dr. Andah, adding, "It is essential that policy makers finalize the establishment of the long awaited Volta River Basin Commission/ Authority to oversee the integrated management of water in the basin."

Challenge Program researchers will help to develop national policies and institutions that provide incentives to improve water management at all levels. Researchers will also work on finding ways to manage water that take into account the water needs of crops, fisheries, livestock and the environment. Innovative technologies and farming methods will be designed that bring increases in agricultural production while reducing the amount of water used. These include breeding new drought resistant varieties of high yield crops that use less water and farming practices like integrated crop-fish and poultry-fish farming etc, which increase water productivity.

In October 2003, 50 research projects worth US$80 million were approved for funding in nine river basins. Eleven of the 50 approved projects are located in the Volta basin worth US$18 million.

Both the CSIR Savanna Agricultural Research Institute (SARI) and the Kwame Nkrumah University of Science and Technology (KNUST) are beneficiaries of two projects in the Volta basin. Other basin partners are CSIR-Water Research Institute, Water Resources Commission, Institute of Statistical Social, and Economic Research (ISSER) of University of Ghana, Irrigation Development Authority of Ministry of Food and Agriculture all of Ghana, and Institut de L'Environnement et de Recherches Agricoles (INERA), and Direction

Generale de l'Inventaire des Ressources Hydrauliques (DGIRH) of Burkina Faso.

The Volta River Basin is rich in natural resources and has significant potential for development. However the region is held back, by low human capacity that stems from high population growth rates, low literacy levels, malnutrition and the prevalence of water borne diseases. The riparian states have an average GNP/capita of US$372 (ranging from Mali with $190 to Côte d'Ivoire with $710) making this one of the world's poorest regions. The waters of the Volta River and its tributaries provide electricity through hydropower dams, particularly the Akosombo dam in Ghana - one of the largest in Africa that currently produces about 30% of the electricity used in Ghana. Hydropower fuels economic development in the riparian countries.

The national economies of Ghana, Burkina Faso, Togo and Benin are strongly linked to the adequacy of water supplies reaching downstream dams. During the droughts of 1983 and 1998 the water levels of the Akosombo reservoir dropped to critical levels causing an energy crisis resulting in widespread rationing of electricity in the country. Many blamed this on the abstraction of water for irrigation upstream (especially in Burkina Faso). However, research shows that these situations occur mainly as a result of climatic variability. Water scarcity is arising largely as a result of decreasing and erratic rainfall, reduction in river flows, falling water tables, and an increase in the amount of evapo-transpiration.

Understanding the Process of Soil Erosion and Water Infiltration, Rolf Derpsch, VP for South America, rderpsch@quanta.com.py. The full version of this article can be found on our website www.swcc.cn/waswc/ under "Articles".

Soil erosion is caused by non-infiltrated water that runs off a field. It is astonishing how often the process of soil erosion and water infiltration into the soil is not well understood by farmers, but also by extension workers and scientists as well. Despite scientific and empirical evidence explaining these processes, many people still think that the soil has to be loosened by tillage to increase water infiltration and reduce runoff.

Soil erosion by water and runoff is often accepted as an unavoidable phenomenon associated with agriculture on sloping land, but this is not so. Erosion damage on cultivated land is merely a symptom of land misuse for that particular environment. The farmer can, through the utilization of site specific and adapted farming systems and management practices, effectively control erosion, reduce runoff and increase water infiltration on his land. Runoff water is lost to crops and this is very important in drier climates.

Conventional farming practices utilized in many parts of the world have had negative consequences in terms of soil and water preservation as well as on the conservation of the environment as a whole. This is due to improper soil use; monoculture and the use of tillage systems that leave the soil bare and pulverized, so that heavy rains can carry it away. Technologies that are not adapted to site-specific conditions (slope, rainfall intensities) result in runoff, soil erosion and degradation. Thus, the consequence of traditional cultivation methods can be the gradual loss of soil and fertility until the land becomes unproductive. Eroded, unproductive and abandoned lands are a silent testimony of this phenomenon all over the world.

Runoff and erosion start with raindrop impact on bare soil. Soil splash, seen on fence posts, or on walls in a field or plot of bare soil, is evidence of the force of large raindrops striking bare soil. In one year, raindrops deliver to an acre of land an impact energy equivalent to 20 tons of TNT (50 t/ha). The impact of falling raindrops disaggregates the soil into very fine particles which clog soil pores and create a surface seal that impedes rapid water infiltration

Due to surface sealing, only a small portion of rainwater can infiltrate into the soil; most of it runs off so that it is lost to plants and causes erosion. On the other hand, when the soil is covered with plants or plant residues, the plant biomass absorbs the energy of falling raindrops and rainwater flows gently to the soil surface where it infiltrates into soil that is porous and undisturbed. In this way soil cover impedes the clogging of soil pores.

Research conducted in Brazil shows that the percentage of soil covered with vegetation is the most important factor influencing water infiltration into the soil. While virtually all water from a simulated rainfall of 60 mm/hour infiltrated when the soil was 100% covered with plant residues, 75 to 80% of rainwater ran off when the plots were bare.

It is therefore important to maintain the soil cover with plants or plant residue all year round. Any attempt to control runoff and erosion via bare soil, burying plant residues with tillage implements and maintaining the soil surface loose and uncovered, will sooner or later lead to failure.

Not tilling the soil, crop rotation combined with the use of cover crops, and not burning plant residues are the most important agricultural practices that make it possible to achieve

the goal of permanent soil cover.
Conservation agriculture, using the no-tillage system, offers the most effective strategy and affordable methods available today to control soil erosion and in this way achieve sustainable agriculture. Sustainable agriculture is a necessary step to achieve sustainable rural development, and only with sustainable rural development can global sustainable development be achieved.

No-tillage appears to be essential for the maintenance of soil structure and productivity in many tropical soils. The long-term gains from widespread conversion to no-tillage could be greater than from any other innovation in third world agricultural production.

Agroforestry Highlights

Diversity of Homegarden Agroforestry Systems of Southern Ethiopia. PhD thesis by **Tesfaye Abebe,** Tropical Resource Management Paper No. 59, Erosion and Soil & Water Conservation Group. Dept of Environmental Sciences, Wageningen Univ and Research Centre, Wageningen, Netherlands. 2005. 119 pp. ISBN: 90-6754-901-0, ISSN: 0926-9495, http://www.dow.wau.nl/eswc/ Contact: Jolanda Hendriks at jolanda.hendriks@wur.n

The agroforestry homegardens of the Southern Ethiopian highlands are dominated by the native perennial crops enset and coffee, and additionally include a large variety of staple food crops. This traditional subsistence agriculture is changing into a market-oriented agriculture with decreased diversity. In this dissertation, the diversity, species composition and productivity of these homegardens are characterized, the factors that affect their dynamics are identified and the implications of these changes for agricultural sustainability are assessed. Each homegarden had an average 16 crops and 21 tree species with enset, coffee and maize being the most common crops. Four homegarden prototypes were distinguished. They differed not only in the share of crops, but also in composition of tree species.

Variation among sites in both prototypes and crop species is large and is largely explained by geographical location and altitudinal differences. Also access to market and major roads is very important. Increasing commercialization and land pressure have led to the decline in the area of the perennials enset, coffee and trees and an increase in annual crops. This could adversely affect the ecological benefits derived from these integrated and complex systems and threaten their long-term sustainability. Research and development efforts should aim at developing techniques on how to integrate high-value crops into the systems without affecting their integrity.

Vetiver Highlights

Vetiver Grass and Its Application for Treatment of Sewage Effluent. Dick Grimshaw, The Vetiver Network, dickgrimshaw@vetiver.org

I participate in a number of Internet discussion groups. Recently questions were raised as to the problems caused by seepage from overfull household sewage tanks polluting the adjacent beaches on Caribbean Islands. Raw sewage on the rampage, whether from overfull sewage tanks, improperly operated public sewage systems, or from sewage filled drains is often a problem in poorer countries and contributes to health and other problems. Vetiver grass can, in some instances, be used very effectively as a mitigation technology. In its most simple form it can be planted as a mini wetland at the outlet end of a private household sewage tank to dry up excess seepage and, on a larger and more complex scale, it can form the basis of a constructed wetland as a means to finally "clean" the output of public sewage plants.

In Australia practical demonstrations of both have shown very good results. It has been used at Beelarong, Queensland, to "dry up" seepage and remove pollutants from small septic systems (documented at: http://www.vetiver.com/AUS-Beelarong.pdf). In summary: "Results demonstrated that "Monto" Vetiver grass is very effective in treating Beelarong blackwater in an evapotranspiration bed. Total nitrogen pre-treatment was 95 mg/L compared to 16 mg/L after two rows of Vetiver and 1.2 mg/L after five rows of Vetiver. Faecal coliforms pre-treatment were 500 organisms/100mL and post-treatment approximately 50 organisms/ 100 mL in both wells. Total phosphorus was low pre-Vetiver treatment at 1.3 mg/L but declined further with Vetiver treatment." This was achieved with only 200 plants.

Another paper, http://www.vetiver.com/AUS_ekeshire01.pdf describes how vetiver has been used for larger sewage treatment programs. In all cases vetiver reduces the levels of

nitrates, phosphates and BODs very significantly. Note how, as vetiver continues to develop its root system in the second year, its pollution mitigation impact more than doubles. The results were as follows:

Tests	Plant Influent	Plant Effluent 2002/03	Plant Effluent 2003/04
pH (6.5 to 8.5)	7.3 to 8.0	9.0 to 10.0	7.6 to 9.2
Dissolved Oxygen (2.0 mg/L min)	0 to 2 mg/L	12.5 to 20 mg/L	8.1 to 9.2 mg/L
5 Day BOD (20 - 40 mg/L max)	130 to 300 mg/L	29 to 70 mg/L	7 to 11 mg/L
Suspended Solids (30 - 60 mg/L max)	200 to 500 mg/L	45 to 140 mg/L	11 to 16 mg/L
Total Nitrogen (6.0 mg/L max) *	30 to 80 mg/L	13 to 20 mg/L	4.1 to 5.7 mg/L
Total Phosphorous (3.0 mg/L max) *	10 to 20 mg/L	4.6 to 8.8 mg/L	1.4 to 3.3 mg/L

* License requirements. (N and P levels are possible future requirements)

Some of you may be asking, why introduce this topic to this newsletter? There are three good reasons: (1) vetiver hedgerows, apart from reducing sewage pollution, are reducing the erosive force of outflows from these dysfunctional sewage systems and at the same time stabilizing the area of use; (2) vetiver is removing pollutants before they can pollute downstream resources; and (3) it is my firm belief that as soil conservationists we need to look beyond the narrowness of our science and utilize good soil conservation practice techniques for other purposes when and where applicable.

The Vetiver System is in many ways unique in that it has such a wide range of applications across many sectors.

Landcare Highlights

Funding Australian Landcare, Sue Marriott and Victoria Mack, Phone +61 3 52 505252, smarriott@silc.com.au, vmack@silc.com.au, www.silc.com.au

In the early 1980s at the start of the Australian Landcare movement landholders worked together on their own land and farms using their own resources. The magnitude of environmental problems quickly became clear as the movement gathered speed and new information came to hand. There was a growing realisation that a larger effort was required to correct the damage that European farming techniques had inflicted on the phosphate deficient, over-cleared and over-farmed Australian landscape.

It was also realised that this problem was not solely the responsibility of farmers and landholders. Both the private and public sector had actively benefited from the wholesale clearing and development of land for more than 100 years,

In 1990, Prime Minister Bob Hawke, with bipartisan parliamentary support, announced the "Decade of Landcare" which was firmly supported by the unique alliance of the National Farmers' Federation and the Australian Conservation Society. The resulting National Landcare Program allowed for the first time groups and individuals to apply for grants. These grants were used not only for work on the ground but also for training facilitators and coordinators to help with the implementation of on-ground works.

The Government also saw the need for the wider Australian community to become involved in the growing Landcare effort and Landcare Australia Ltd. (LAL) was established as a commercial arm of government to raise the profile of Landcare across Australia and attract corporate support.

LAL today continues to work with an 'army' of landcare volunteers by linking projects, people and external donors, or sponsors. Sponsorship plays a vital role in modern Landcare. LAL also owned the 'caring hands' Landcare logo, which came to be recognised by the Australian community as a symbol of public good.

In 1997 the Australian Government sold part of the national telecommunication carrier Telstra, and allocated one third of the proceeds to form the National Heritage Trust (NHT). A further one billion dollars was added to the pool in 2001.

The aim of the NHT was to fund natural resource management initiatives as well as

further develop a network of facilitators and coordinators to support project development and implementation. Over the next seven years the NHT stimulated a host of projects on public and private land, including works on creeks, rivers, streams, bushland and on the coast.

NHT today works at three levels. At the micro level is the Envirofund. The fund supports applications from groups working at the grassroots level.

At the median level is Regional Investment which provides the delivery mechanism for NHT and the new National Action Plan for Salinity and Water Quality (NAP). These projects link into regional catchment management strategic planning. It is worth noting that Australia has successfully managed to plan its natural resource management priorities across the entire country since 2003.

National Investment covers national priority areas for action such as water management. These funds are administered by the Australian Government and distributed in consultation with the States and Territories.

At the local level, thousands of farmers and community groups give thousands of hours to making projects work. Farmers are increasingly funding their own projects when prices are good and many farmers and community groups are at last seeing the benefits of their tireless investment in the Australian environment.

However, there is still so much to be done if true sustainability is to be achieved. Many realise that we have only just touched the surface of the problem. It is clear that funds will be required for many years to come if the true damage is to be halted, let alone reversed. However, Australia has made a significant effort and is to be congratulated.

WOCAT Highlights

9th WOCAT Annual Workshop & Steering Meeting (WWSM9), Yichang, China

Thomas Ledermann, WOCAT Berne, Switzerland. thomas.ledermann@cde.unibe.ch

The 9th Annual WOCAT workshop took place from November 8-13, 2004 and was attended by over 40 participants, 17 from countries outside China. The meeting was hosted by the SWC Monitoring Centre of the Chinese Ministry of Water Resources. The venue was the city of Yichang near the famous Three Gorges Dam in the Yangtze River. The opening ceremony by high-level officials illustrated the importance the Chinese authorities place on SWC.

It is encouraging to report that funding had been secured from the Swiss Development Cooperation (€260,000/yr for 3 yr), DANIDA (€50,000/yr for 2 yr) and the Syngenta Foundation (€30,000/yr for 3 yr).

Core activities included work on the first WOCAT Overview Book, to be published in 2005, which will contain some 40 Technologies and 25 Approaches. A third version of the WOCAT CD ROM has been distributed widely. The website (www.wocat.net) is now accessible in three languages (E, F, S). WOCAT also supported regional or national WOCAT meetings or training.

However, at the operational level it was noted that neither the Task Forces nor the Management Group have operated satisfactorily. Another strategy has to be devised to answer that need.

The meeting was told that WOCAT would have a substantial role to play in the LADA project, for which a full project proposal had recently been approved by GEF (and later by UNEP - ed).

The long-debated issue of "too long questionnaires" was brought up. Some countries have already tried shorter versions. Three versions are now available:

- Light (for fact sheets/ posters, basis for further documentation)
- Basic (for producing attractive 4 page documentation, overview books, basis for further documentation)
- Professional (professional use/ database: capacity building, monitoring and evaluation, decision making).

A field trip was made to the Three Gorges Dam. This enormous project, which will result in the world's largest artificial reservoir (>600 km long), was started in 1993 and is scheduled to finish in 2009. When finished, 26 700-MW turbines will generate power equal to the energy produced by 18 nuclear plants or the burning of 40 million tons of coal. The dam is already operational and the lake about half full (see http://www.chinaonline.com/refer/ministry_profiles/threegorgesdam.asp).

The meeting discussed the "vision and mission" of WOCAT and the results were reported in the last issue of this newsletter.

Other issues discussed included the operation of task forces, WOCAT in global conventions and global coordination of SWC initiatives, organizing of WWSM, etc.

Agreement was reached about the formation of the following task forces: mapping, QT/QA, quality assurance/control procedures, WOCAT in research and education, feedback (WOCAT internal) and dissemination strategies (external). The meeting agreed that CDE Berne will continue to host the Secretariat.

A short post-workshop excursion allowed some participants to spend two more days in the field near the Three Gorges Dam. A watershed was visited where the expected impact of rising water on local agriculture (tea and vegetable terraces) was already visible. This particular watershed looked fairly well protected against erosion and hence siltation of the lake, mainly through widespread terracing and reforestation, partly done by "airplane seeding".

A demonstration site north of Yichang was visited to observe various fruit trees (e.g. tangerine for local markets) on stone terraces. Terracing (stone or earth), seems widespread in the region.

Special thanks are due to the Chinese hosts who organized an excellent and pleasant meeting. Photos of the meeting are shown at http://community.webshots.com/album/199489463tfRJWg (see also http://community.webshots.com/album/247401486XxbXDR for WWSM8, Nepal).

The full proceedings of the meeting are available on the WOCAT Website.

The 10th Annual WOCAT Workshop and Steering Meeting (WWSM10) will take place in Serbia and Montenegro, from September 5-10, 2005.

RESEARCH NEWS & ABSTRACTS

RESEARCH NEWS: The El Teularet-Sierra de Enguera Soil Erosion Experimental Station, Valencia, Southeast Spain, Artemi Cerda, Univerisity of Valencia, Spain, NR for Spain acerda@uv.es

The Soil Erosion Experimental Station of the El Teularet-Sierra de Enguera is devoted to the study of soil erosion processes under rainfed agricultural land management, with special reference to the olive groves.

In 2003 a new soil erosion experimental station was established in eastern Spain, Valencia province. The objective of the research station is to study the water erosion processes in rain -fed agricultural fields and rangeland. Southeast Spain is highly affected by land degradation processes due to the aggressive climate, the fragile soils and the poor vegetation cover. Moreover, long human occupation has resulted in deforestation, overgrazing, fire and the bad effects of agriculture. In fact is it well known that the agricultural land is the main source of sediments in the mountainous areas of Spain. The experimental station of the El Teularet-Sierra de Enguera includes a meteorological station with a tipping-bucket raingauge (0.2 mm), and sensors that measure soil and air moisture and temperature, wind direction and speed, and the sun's radiation. They are connected to a data-logger that records these data every five minutes.

Soil erosion measurements are made of 13 plots, each of them composed of 5 subplots of 1, 2, 4, 16 and 40-60 m^2 under different land uses and managements. Two plots are covered by shrubs: Quercus coccifera and Ulex parviflorus, respectively. Three plots reproduce various herbicide management techniques. One plot in the study area is ploughed 3 to 4 times a year as the farmers used to do traditionally. On three plots the following conservation practices are followed: oats and beans with no-tillage, with tillage, and with a vegetation cover of weeds. Other plots are mulched with straw, chipped branches of olive and with a geotextile developed to control erosion on agricultural fields.

The one-year results show that the use of herbicide induced an increase in soil loss, while the geotextile increased the surface runoff due to the hydrophobic response to wetting. Two rainfall simulators were designed and built during the year 2004 to develop experiments that will give information on the effect of intense thunderstorms.

The main soil characteristics are monitored: grain size, organic matter, soil fertility, calcium carbonate content, etc. Special attention is paid to the vegetation dynamics, and the soil biology. Prof. Jorge Mataix from the University of Elche is also involved in the study of soil quality, focussed on soil microbial activity and soil structure.

The research is focussed also on the relationship of agriculture and land degradation with rural development and economics. Prof. Enric Mateu from the Department of Applied Economics from the University of Valencia is involved in these topics.

The aim of the research station is to share the results with the technicians, the farmers and end-users. This is why the research is done under the supervision and collaboration of the Agrarian Experimental Station of Carcaixent from the Agriculture Department of the Valencia Government. Close communication has been established with the farmers of the surrounding area.

***Abstract:* *Mulching with composted municipal solid wastes: I. Effects on minimizing rain water losses and on hazards to the environment*. M. Agassi et al.,** Soil Erosion Research Station, Soil Conservation and Drainage Division, Ministry of Agriculture, Rupin Inst. Post, Israel menahema@moag.gov.il (Submitted for publication in Agriculture, Ecosystems & Environment)

Dryland farming in arid and semiarid regions requires minimization of rainwater losses. Major causes for the loss of rainwater are (i) runoff due to seal formation by raindrop impact, and (ii) evaporation from the wet soil surface. Mulching the soil surface is an effective way to prevent seal formation and water losses. We hypothesized that composted municipal solid waste (CMSW) could be used for mulching arable lands and minimizing rainwater losses without posing a hazard to the environment. Our objective was to study the effects of annual application of CMSW at the soil surface on rainwater retention in the soil, crop production and some hazards to the environment.

The experiments were conducted for 4 years on commercial rainfed wheat (*Triticum aestivum*). Amounts of 0, 100 and 300 m^3 ha^{-1} CMSW were added annually to the soil surface prior to the rainy season. Water content in the soil was determined 4 times, soil salinity, and sodicity were determined twice and heavy metals in the soil and the yield were determined once every year. Yield was determined at the end of each growing season. Application of CMSW increased available water in the root zone mainly due to reduction in evaporation and almost doubled the yields. No considerable increase in salinity, sodicity and heavy metals was noted in the root zone following CMSW application. Our observations suggested that annual application of CMSW at the rate of 100 m^3 ha^{-1} was enough to significantly minimize rainwater losses and increase yield under dryland conditions, without posing specific hazards to the environment.

***Abstract:* *Mulching with composted municipal solid wastes: II. Effect on available nitrogen and phosphorus and on organic matter in soil*. A. Hadas et al.** Institute of Soil, Water and Environmental Sciences, The Volcani Center, Agricultural Research Organization (ARO), Bet Dagan, Israel. ahadas@volcani.agri.gov.il (Submitted for publication in Agriculture, Ecosystems & Environment)

Composts are stabilized organic residues that are expected to decompose slowly in soil. When applied regularly, however, they may increase the load of organic nitrogen that will eventually mineralize and subsequently nitrates in excess of crop demand will be leached towards groundwater. We conducted a 4-year field experiment, in which composted municipal solid waste (CMSW) was annually added as mulch to conserve water for rainfed crops, with the objective of evaluating the amount of mineral N released from the CMSW and build-up of soil organic matter (SOM); in order to minimize the hazard of nitrate contamination under this practice. Amounts of 100 and 300 m3 ha-1 CMSW were spread over the soil surface each autumn prior to seeding, and in the following year the residual material was incorporated into the soil at seedbed preparation. We measured: (i) emission of CO2 from the soil surface during two months commencing after the first heavy rainstorm, (ii) SOM content below the CMSW mulch twice a year, and (iii) concentrations of available nitrogen and phosphorus 3-4 times during each cropping season. In the 100 m^3 ha^{-1} CMSW treatment, SOM increased by 21% of the organic matter added by CMSW in 3 years, whereas the increase in CO2-C emission due to this CMSW treatment was only 12% of the C applied. Both measured parameters were not proportional to the amount of CMSW applied, thus indicating that the gap between measured mineralization and gain of SOM was even larger in the 300 m^3 ha^{-1} CMSW treatment.

The concentrations of available N and P in soil were sufficient for the wheat crop (*Triticum aestivum* L.) during its main growth period, and were also disproportional to the amount of CMSW added. Loss of nitrate from the root zone during the growth period of wheat was twice the amount of estimated N uptake, if we assumed that only the soluble N of the CMSW became available. However, the small gain in SOM implied that more N was mineralized and lost, although the distribution of nitrates with depth did not show considerable leaching. Annual mulching with 100 m^3 ha^{-1} CMSW, which was adequate for water preservation, provided sufficient available N and P for rainfed wheat. Conversely, 4 years of mulching with 300 m^3 ha^{-1} CMSW led to an excess of 100 kg ha^{-1} NO3-N accumulated in the root zone, which could potentially contaminate groundwater.

Abstract:* *Coping with drought: Options for soil and water management in semi-arid Kenya. PhD thesis by **Elijah K. Biamah,** Tropical Resource Management Paper No. 58,

Erosion and Soil & Water Conservation Group. Dept of Environmental Sciences, Wageningen Univ and Research Centre, Wageningen, Netherlands. 2005. 119 pp. ISBN: 90-6754-861-8, ISSN: 0926-9495, http://www.dow.wau.nl/eswc/ Contact: Jolanda Hendriks at jolanda.hendriks@wur.nl

In semi-arid Kenya, episodes of agricultural drought of varying severity and duration occur. The occurrence of these agricultural droughts is associated with seasonal rainfall variability and can be reflected by seasonal soil moisture deficits that significantly affect crop productivity. The aim of this study was to analyze agricultural drought, and to evaluate soil and water management options and strategies for crop production in drought-prone, semi-arid Kenya. Research was conducted at an experimental site in Katumani and Iiuni watershed, both in Machakos District. First, the dry and wet spells in Iiuni were modeled using a Markov model. The study revealed that the short rains (October-December) are more reliable for crop production than long rains (March-May).

A literature review on tillage methods for SWC in eastern Africa showed the importance of tillage practices and the benefits of residue management for improved soil moisture conditions. Especially, conservation tillage techniques were found to be promising for the improvement of crop productivity under semi-arid climatic conditions. Moreover, farmyard manure application in combination with tillage appeared effective in reducing surface runoff from a crusting and compacting soil, especially during the early stages of the rainy season. At the watershed scale, the AGNPS model was applied to evaluate the effect of land use changes on watershed runoff volume. Changes in land use covering a period of nearly 20 years were significant, with a dramatic increase in the area for crop cultivation, but this did not have a significant effect on the hydrology. The reason is the widespread adoption of SWC measures (mainly bench terracing) that occurred during the same period.

The last part of the thesis deals with suitable options for watershed conservation in semi-arid Kenya. Apart from technical solutions, the enabling conditions for farmers at various hierarchical levels are discussed. A few of these enabling conditions that are elaborated upon include agricultural policy, focus on smallholder agriculture and public-community partnerships.

ANNOUNCE-MENTS

STUDY-RESEARCH-TRAINING

Study Opportunity in UK

Here is a great opportunity for PhD studies in the UK. Please share it widely.

The Dorothy Hodgkin Postgraduate Award Scheme is a new UK initiative to bring outstanding students from the developing world to study for PhDs in top rated UK research facilities. In 2005, funding will be provided for up to 160 new PhD students. To learn more, please visit: http://www.rcuk.ac.uk/hodgkin/. The website informs that: 30 top universities in the UK participate in this initiative; each of them has a few fully sponsored PhD fellowships. There is no standard application form and no deadline. Students apply to the university directly. Students can apply to more than one university. Best regards, Per Rudebjer, (ICRAF)" p.rudebjer@cgiar.org

Research Grant Opportunity [Special Call for Research on Water and Food]

The International Foundation for Science (http://www.ifs.se/index.asp - IFS) and the CGIAR Challenge Program on Water and Food (http://www.waterforfood.org/ - CPWF) have issued a call for research proposals open to young scientists.

Researchers in developing countries who satisfy the IFS eligibility criteria and undertake research into Crop Water Productivity Improvement; Water and People in Catchments; Aquatic Ecosystems and Fisheries; Integrated Basin Water Management Systems; or the Global and National Food and Water System may apply for the grant.

Research grants are awarded up to a value of US$12,000 for a period of 1-3 years. The twice renewable grants are intended for the purchase of scientific equipment, expendable supplies and literature, and to arrange field activities. Grantees must be salaried by, or have a stipend from, the university where the research project will be conducted. The grant will include mentorship and guidance on theme, basin and project from theme leaders, basin coordinators and project leaders.

Application Deadline: June 30, 2005. For information about the IFS grant and application process, please go to: http://www.ifs.se/Programme/waterandfood_call_2005.asp & http://www.ifs.se/Programme/waterandfood_call_2005.asp.

Participatory Action Research for Community based Natural Resource Management (PAR for CBNRM)

An International Training Workshop jointly developed by IDRC/IIRR/RECOFTC and facilitated by IIRR and RECOFTC, August 15-30, 2005

The objectives of this training are to examine the concept and principles of PAR, to explore practical challenges to CBNRM, and to critically evaluate the applicability of PAR for CBNRM.

Contact: Peter O'Hara, International Institute of Rural Reconstruction (IIRR), Y.C. James Yen Center Silang 4118, Cavite, PHILIPPINES, education&training@iirr.org, www.iirr.org or Ronnakorn Triraganon, Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC), P.O. Box 1111, Bangkok 10903, THAILAND. contact@recoftc.org, www.recoftc.org

MEETINGS

8th Meeting of Farmers and Technicians of the Zero-Tillage Movement for the Cerrados

Tangará da Serra, Mato Grosso, Brazil, June 28-July 1, 2005

The 8th biennial meeting of farmers and technicians of the Zero Tillage movement for the Cerrado (tropical savannah) region of Brazil will take place in Tangará da Serra in Mato Grosso, on the watershed between the rivers which flow South to the Pantanal and those which flow North to the mighty Amazon. The Associação de Plantio Direto no Cerrado has delegated the organization of the event to the Clube Amigos da Terra of Parecís/Tangará. The Parecís plateau is the home of the largest soybean farms in the world. But unlike the fashionable image of destroyers of biodiversity, these farmers do have a very keen sense of their responsibility to the environment. The program can be found on the site www.apdc.com.br.

The Cerrado region has grown from 180,000 ha of Zero Tillage when APDC was founded in 1992, to nearly 9 million ha in 2004/5. Zero tillage has been the salvation of these very erodible latosols and arenosols and permits a gradual buildup of organic matter, which is responsible for most of the CEC. Erosion is a thing of the past and the wide-ranging off-farm benefits to society are huge, all at the farmers' expense.

The last meeting had attracted a total of some 3,000 visitors and a similar number is expected this year. The low soybean prices are a great incentive to seek even better technology. In spite of Asian soybean rust, individual fields are yielding up to 4,700kg /ha with top technology. We do not yet have the funds for simultaneous translation into English.

The region has many tourist attractions for post-event activities. Contact: John N. Landers, Meeting Coordinator (Coordenador da APDC - Relações Internacionais / Novos Projetos), Phone/Fax: 55 (61) 366-1984/366-5307, john.landers@apis.com.br

15th Ifoam Organic World Congress

Adelaide, Australia September 20-23, 2005.

IFOAM's mission is leading, uniting and assisting the organic movement in its full diversity. Our goal is the world wide adoption of ecologically, socially and economically sound systems that are based on the principles of Organic Agriculture.
Contact: Angela Rott, IFOAM Head Office, Charles-de-Gaulle-Str. 5, 53113 Bonn, Germany
Phone: +49-228-92650-10, Fax: +49-228-92650-99, a.rott@ifoam.org, www.ifoam.org, www.nasaa.com.au/ifoam2005

(Advertisement)

Eijkelkamp Agrisearch Equipment BV is an international company in the Netherlands that supplies a complete range of equipment for environmental and agricultural research. The current product range of Eijkelkamp Agrisearch Equipment can best be described as equipment for soil, water, plant, climate and residual substances research and is intended primarily for agricultural, hydrological and environmental studies. Some of Eijkelkamp's core products are:

Penetrologger: The penetrologger is a versatile instrument for in situ measurement of the resistance to penetration of` the soil. Continuous measurements can be made with the penetrologger recording each layer of the ground profile up to 80 cm on the chart.

Diver: The Diver is the smallest instrument in the world for automatic measurement and registration of ground water levels and temperatures.

e-SENSE: Intelligent sensors, such as Divers or e+ Sensors, independently measure data in the field and register these internally. Connected to an e-SENSE field modem, the measurement data or alarms are transferred to a database, which is in your own PC.

SonicSampDrill: SonicSampDrill is a unique concept for drilling and sampling that is characterized by speed and quality while causing next to no inconvenience to its environment or disturbance of the soil. High frequency vibrations are transferred in an efficient way to the drilling rods. This then has the effect of causing the first layer of surrounding soil around the borehole and drill string to become fluid. This process reduces the friction so that the Sonic bodies are able to rapidly penetrate sandy, gravelly soils and clay.

Peristaltic pump: The peristaltic pumps are very reliable sampling apparatus for fluids and gasses, for application in very diverse field circumstances.

Up-to-date information about Eijkelkamp and her distributors can be found on www.eijkelkamp.com or email to info@eijkelkamp.com.

WHAT'S NEW

Wet Aggregate Stabilty

Leo Stroosnijder (Erosion and SWC Group, Department of Environmental Sciences, Univ. of Wageningen & Research Centre, Wageningen, The Netherlands and WASWC NR for The Netherlands, leo.stroosnijder@wur.nl) was involved in developing a wet sieving apparatus (see photo below) based on standard principles given in Dane and Topp (2002). Eight sieves are filled with a certain amount of soil aggregates. Sieve sizes can vary from 2.0 to 0.045 mm. These sieves are placed in a can filled with water, which will move up and down for a fixed time. Unstable aggregates will fall apart and pass through the sieve and are collected in the water-filled can underneath the sieve. The equipment is produced and sold by Eijkelkamp (www.eijkelkamp.com, info@eijkelkamp.com) for about 3,500 EURO.

The aggregate stability of a soil is the resistance of soil structure against mechanical or physico-chemical destructive forces. Soil structure is one of the main factors controlling plant growth by its influence on root penetration, soil temperature, gas diffusion, water transport and seedling emergence and therefore it is an important soil characteristic for farmers. Aggregate stability is also strongly linked to erosivity (Le Bisonnais, 1996) and crust formation (Stroosnijder and Hoogmoed, 1984). Recently important relations between aggregate stability, organic matter and soil biota were established (Six et al., 2004). We are now starting research on changes in physical and hydrological soil properties, induced by differences in soil faunal diversity, determining simultaneously the water use efficiency (WUE) and nitrogen use efficiency (NUE) in sustainable African cropping systems. We work with four sizes of water stable aggregate fractions; > 2,000 μm, 2,000-250 μm, 250-50 μm and < 50 μm.

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Six, J., Bossuyt, H., De Gryze, S. and Denef, K. 2004. A history of research on the link between (micro)aggregates, soil biota, and soil organic matter dynamics. *Soil & Tillage Research*, 79:7-31.

Stroosnijder, L. and Hoogmoed, W.B. 1984. Crust formation on sandy soils in the Sahel; II: Tillage and its effects on the water balance. *Soil & Tillage Research*, 4:321-337. (See: http://www.dow.wau.nl/eswc/crust_2.pdf).

SUMMARY REPORTS

Declaration of the II World Congress on Conservation Agriculture "Producing in Harmony with Nature"

Iguassu Falls, Parana State, Brazil, August 11-15, 2003

This Congress endorses the Declaration of the First World Congress on Conservation Agriculture (CA) in Madrid (2001) and notes the remarkable advances made in the two years which succeeded it, both in area adopted (now totaling 72 million ha of annual crops worldwide - an additional 7 million hectares since 2001- and at least a similar area of agro forestry/perennial crops) and the evolution of CA technology and its implementation in many new farming systems in the 50 countries represented in the WCCA2. This congress strongly believes that CA, comprising the universal principles of permanent soil cover, direct seeding or planting, minimum soil disturbance and pluri-annual crop rotation, is the principal road to sustainable agriculture and capable of helping solve the world's hunger and environmental crises while improving the quality of life. CA can achieve food security by reversing soil degradation, reducing agrochemical use and contamination, improving food quality, and conserving, preserving and enhancing the quality of natural resources and biodiversity while increasing farmer net income and competitiveness, and sequestering carbon from the atmosphere. Also, CA is applicable to all sizes and types of farms and to all crops. Therefore, this Congress calls upon all governments, elected politicians, policy makers, NGOs, the private sector and consumers of agricultural products worldwide to actively support the wider adoption and development of CA.

To achieve this goal, the following road map is recommended which would:

* Create conditions for the paradigm shift necessary to the adoption of CA principles by lead farmers, technicians, educators and policy makers (education, training, demonstrations, risk removal, media reports).
* Apply the universal principles of CA, as stated above.
* Support all initiatives, with preference for farmer-led, to transfer and develop CA technology.
* Carefully examine and endeavour to overcome the barriers to CA.
* Fund farmer led on-farm research programs and support applied research to maximize agricultural sustainability and net returns for CA farmers.
* Develop widespread awareness of the substantial benefits of CA for society as a whole and fund research for socioeconomic and environmental impact assessments.
* Include support actions for CA in ongoing national and international initiatives, especially those in developing countries.
* Promote the remuneration of environmental services including carbon sequestration, reduction in soil erosion and water pollution.
* Develop world guidelines for the market differentiation of environmentally friendly products produced by CA.
* Incorporate support actions for CA in the implementation of international conventions, such as Agenda 21, Convention to Combat Desertification (CCD), Framework Convention on Climate Change (FCCC) (including the Kyoto protocol) and Convention for Biological Diversity (CBD), especially as a means of mitigating global warming, de-forestation and HIV/AIDS-induced labour shortages.
* Support farmer organizations to lobby for appropriate enabling policies for CA.
* Promote the intensification of worldwide exchange of information on CA technologies.
* Promote and support, where appropriate, integrated crop x livestock CA systems and other

means of minimizing the conflict of demands on crop residues.

* Move towards the establishment of an International Coordinating Committee for CA which would interconnect national and regional efforts, perhaps through a "web-based" platform, to facilitate sharing of information on CA study tours, international training schemes, publications and congresses/seminars, etc.

Note: Received from Roberto Peiretti, AAPRESID, Rosario, Argentina. The next WCCA will take place in Nairobi, Kenya, October 3-7, 2005.

1st World Congress of Agroforestry – Orlando Declaration

July 2, 2004

We, the participants from 82 countries who gathered in Orlando, Florida for the 1st World Congress of Agroforestry, declare that over the past 25 years significant progress has been made in building a scientific foundation for the design, installation, and management of agroforestry systems. This progress has allowed farmers to increase crop yields under resource-poor conditions. The resultant gains in crop production and diversification, economic performance, and environmental benefits serve to illustrate the value of agroforestry research and technology development efforts and argue for the need to expand our gains to better meet societal demands.

Agroforestry is a dynamic, ecologically based, natural resources management system that, through the integration of trees on farms, ranches, and in other landscapes, diversifies and increases production and promotes social, economic, and environmental benefits for land users.

Unfortunately, to date, insufficient emphasis has been given to raising the awareness of many policy-makers, natural resource professionals, and farmers regarding the potential of agroforestry.

This Congress declares that the adoption of agroforestry systems and technologies during the next decade will greatly enhance the achievement of the United Nations Millennium Development Goals. Advances will be achieved by building on past research accomplishments and the expanded stakeholder base of agroforestry, which now includes private/public partnerships, communities, ecologists, conservationists, foresters, farmers, indigenous peoples, and policy makers in both temperate and tropical countries.

Agroforestry will:

- Increase household income by diversifying farming and forestry systems to generate profits from the sale of high-value trees and associated products, and creating options to lift millions in the developing world out of poverty;
- Promote gender equity and empower women, who often are responsible for the use of agricultural and forest resources and marketing their products in developing countries;
- Improve the health and welfare of people, especially mothers, children, and HIV/AIDS sufferers, by increasing the food and nutritional security of households through the domestication and cultivation of trees and associated companion crops for their nutritious and medicinal products; and
- Promote environmental sustainability for improved crop production, natural resource management and biodiversity conservation by restoring ecological processes that increase soil fertility, sequester carbon, create native species habitat, and maintain hydrological processes and other ecological services on degraded agricultural lands and in watersheds.

The Congress calls upon the:

- International community that supports and implements international agreements and commitments of the Conventions related to Biodiversity, Desertification, and Climate Change, as well as the United Nations Forum on Forests, to endorse the significant role of, and the enormous potentials afforded by agroforestry in accomplishing their targeted objectives and goals;I
- International organizations, agencies, and institutions to foster synergies and collaboration on dryland management and the special needs of the countries of low forest cover, within the context of the Tehran Process; International donor community to increase its support for research, development, and education to accelerate progress in agroforestry science, to foster effective transfers of agroforestry technology options, and to assist developing countries in formulating related agroforestry policies;
- Developed nations to fully utilize agroforestry as a tool to improve landscape functioning, on-farm profitability, and environmental quality domestically, and to support the efforts of developing nations to build capacity and to mainstream agroforestry to help alleviate hunger and poverty and improve the environment to enhance human health;

- Developing nations to integrate agroforestry into their poverty-reduction strategies by formulating and adopting appropriate policies;
- Private enterprise sector to join in existing and emerging private and public partnerships to help incorporate agroforestry into a sustainable future for people and societies; Non-government organizations to promote agroforestry nationally and internationally for local development and conservation efforts;
- Global conservation community to utilize the science and practice of agroforestry as a powerful ally in the effort to reduce species extinction risks and strengthen the viability of protected area networks;
- Scientific community to recognize the value of agroforestry and include it in its efforts to advance the generation of knowledge that can benefit human welfare; and
- Educational community to vigorously integrate agroforestry into its training and educational efforts to build the capacity of natural resource professionals and land users.

There is a global need for increased investments to support research, technology development, and extension to improve the integration of agroforestry with broader natural resource and watershed management efforts. We urge governments to highlight the role of agroforestry in their poverty eradication strategies, provide funding, and develop policies that promote agroforestry adoption to spark an agroforestry revolution.

Orlando, Florida, USA, July 2, 2004 *(See "The 1st World Congress of Agroforestry" in the WASWC Newsletter 20/4 where this Declaration has been originated from. You may also contact Prof. P.K. Nair at pknair@ufl.edu for further information.)*

59th SWCS Annual Conference
Minnesota, USA, July 24-28, 2004

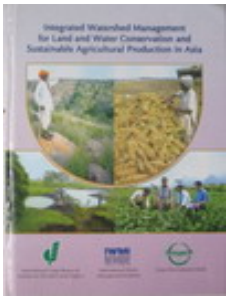
There were 10 pre-conference workshops on computer tools for predicting, assessing and documenting conservation practice. Since most of the membership is USDA employees, a large part of the conference is tied to the USA conservation legislation and farm programs. There was a keen interest in how conservation programs should and could be evaluated and tracked.

Four symposia were organized to examine assessment tools for conservation. Another on geo-spatial technologies emphasized inventorying and monitoring for program purposes. Another group of four symposia could be categorized as dealing with conservation issues. Topics were on fugitive dust (PM2, PM10), air quality, climate change and water quality improvements associated with drainage. One symposium dealt with training Technical Service Providers (TSPs). There has been a new direction in the US government agencies with their use of qualified private companies to provide technical services for conservation programs instead of their own staff. One more in the collection of symposia dealt with negotiations with watershed or community groups.

Outside of the symposia there were lots of interesting presentations on items such as soil quality and how we measure it, non-point pollution issues of pesticides and fertilizers and, point-source issues of intensive livestock operations and manure handling.

A collection of nearly 90 posters and 35 display booths rounded out the conference as well as topical tours in the state of Minnesota. Next year, the conference is to be held in Rochester, New York from July 30 to August 4, 2005. The abstracts for this year's conference can be obtained from:
http://www.swcs.org/t_what2004confabstractsCONTACTS.htm and photos from http://www.dotphoto.com/go.asp?l=SWCS04conf&p=80DC&AID=1688831
- Tom Goddard, Alberta Agriculture, Food and Rural Development, Edmonton, Canada

PUBLICATION REVIEWS



Integrated Watershed Management for Land and Water Conservation and Sustainable Agricultural Production in Asia: Proceedings of the ADB-ICRISAT-IWMI Project Review and Planning Meeting, 10-14 December 2001, Hanoi, Vietnam. Editors: Wani, S.P., Maglinao, A.R., Ramakrishna, A. and Rego, T.J. 2003. Patancheru 502 324, Andhra Pradesh, India: ICRISAT. 268 pp. ISBN 92-9066-466-5. Order Code CPE 150. E-mail: icrisat@cgiar.org

This volume has a grand title - but its contents are better described by the subtitle. It comprises the proceedings of a workshop held in December 2001, bringing together scientists who had been working on two associated ADB-

sponsored projects in Asian watersheds. The majority of the 45 participants - from China, India, Indonesia, Laos, Nepal, the Philippines, Thailand and Vietnam - contribute to the book in one way or another. Chapters are wide ranging. Some focus narrowly on very specific elements of watershed management (e.g. nutrient and water management studies for soya bean-based systems), others look at biophysical research aspects (e.g. factorial analysis of runoff and sediment yield) and yet others are more practically oriented (e.g. improved management for rainfed agriculture in Thailand).

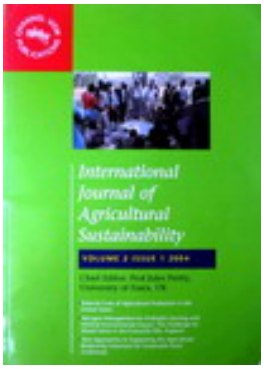
As we have noted, this is a coming together of two separate - but related - ADB projects. The first, REAT 5812 ('Improving management of natural resources for sustainable rainfed agriculture'), under the management of ICRISAT, allowed that institution to test its 'Integrated farmer participatory watershed management model' under five rainfed watersheds, three in India and two elsewhere in Asia. The second, REAT 5803 ('Catchment approach to managing soil erosion in Asia') has been executed by the Bangkok office of IWMI. It is gratifying to see the sharing of experience of two projects, in a world where competition and territoriality is more common.

Two early overview chapters summarise experience of the respective projects. In the first, Wani et al focus on the potential of rainfed watersheds in what they term the 'assured rainfall ecoregion'. Noting that 65% of India's agriculture depends on rainfall, they suggest that this is the zone where the next green revolution may originate. Indeed the improvements possible (in terms of production) are impressive. But the question lingers: to what extent are these results replicable, and at what cost? Maglinao and Penning de Vries then introduce the Management of Soil Erosion Consortium that has compiled an impressive array of data from up to six catchments in each of six countries. It is an important contribution to the database of land use and erosion in agricultural catchments. The authors tell us that "best bet land management options were identified with farmers" - and cover these rather too briefly and superficially.

This book is a record of two projects, and a valuable reference. But it is no 'how to do it handbook' on improved watershed management in Asia. As a compilation of rather disparate papers, it would have benefited from a clear analytical overview chapter from the editors - and from an index. The lack of either detracts from what is otherwise a well presented, if limited, book.

- Will Critchley, Vrije Universiteit Amsterdam, The Netherlands. wrs.critchley@vu.dienst.nl

International Journal of Agricultural Sustainability (IJSA), Editor: Jules Pretty; Associate Editors: Jacqueline Ashby, Andrew Ball, James Morison and Norman Uphoff.



Published since 2003 by Channel View Publications, Frankfurt Lodge, Clevedon Hall, Victoria Rd., Clevedon BS21 7HH, UK. ISSN 1473-5903 (2003: 2 issues; 2004: 3 issues), Annual rates of subscription: Institution: £140, $240, €200; Personal: £50, $90, €75. Also available on the Internet to subscribers at no extra charge. Institutions in some developing countries may be able to access the journal free of charge or at a substantially reduced cost. Contact: info@channelviewpublications.com, http://www.channelviewpublications.com.

Global agriculture has been facing the multiple demands of supplying food, fibre, industrial products and ecosystem services. The social, political and economic disruption caused by the lack of attention to agriculture requires more public, commercial and civil sector initiatives. Agricultural sustainability must be reflected in policies at global, national and local levels.

The International Journal of Agricultural Sustainability started publishing in 2003 with the cross-disciplinary interests of the natural and social sciences. It is a rather unique journal dedicated to advancing the understanding of sustainability in agricultural and food systems through the evaluation of evidences of sustainability and in so doing, it provides a platform for different sectors and disciplines to understand technologies and processes contributing to improved agricultural sustainability. With the appropriate technologies and institutional development, it is believed that it is possible to meet food security while conserving natural resources. The Journal seeks contributions from researchers and practitioners in all geographical regions to address the subject of agricultural sustainability. And, as it states, the Journal will help increase technical knowledge and identify what policies, institutions and economic structures are preventing or promoting sustainability.

The journal covers the following subjects: Soils and Soil Health; Corporate Responsibility; Entomology and Pest Management; Fair Trade; Agro-ecological

Relationships; Local Food Systems; Plant and Animal Breeding; Rural Financial Systems; Landscapes and Aesthetics; Agricultural Externalities; Biodiversity and Values; Gender Issues; Agricultural Economics; Ethics in Agriculture; Food Safety and Food Systems; Conservation Agriculture; Urban and Peri-urban Agriculture; Climate Change Impacts; Social Organization and Networks; Integrated Farming Systems; Agricultural, Rural and Food Policies; Soil Biodiversity; Public Health and Diets; Renewable Energy Production; International Agreements; Participatory Approaches; Conservation Agriculture; Rural Livelihoods; Rural Economic Development; Rural Poverty; Attitudes to Sustainability; Case Studies of Transformed Systems; Crop Physiology; Agronomy and Cropping Systems; Livestock Systems; Culture and Agriculture; Local Knowledge; Labour Use and Farm Work; and Farm Tourism/Ecotourism. I would suggest also including the subjects related to GIS/RS based studies on agricultural sustainability and natural resources management.
- Yuji Niino, FAO RAP, Bangkok, Thailand. yuji.niino@fao.org

INFORMATION SOURCES

Announcements or reviews for the WASWC newsletter may be sent to the President or any other Council member. Please state clearly if a publication is available free or priced (including or excluding delivery). Also please indicate the e-mail address and website.

Books, Proceedings & Reports

A Guide for Project M&E - Managing for Impact in Rural Development, a large volume guide published by the International Fund for Agricultural Development (IFAD) in 2003. Contact: IFAD, Via del Serafico, 107, 00142 Rome, Italy. ifad@ifad.org, oemailbox@ifad.org, more info at www.ifad.org

Sowing Seeds of Success - ICRISAT Annual Report 2004, a 44-page report of this fine research institute is now ready in both printed and CD forms. Request your copy from icrisat@cgiar.org, more info available at www.icrisat.org.

Land Cover and Land Use in Syria - An Overview, a 48-page booklet published jointly by AIT, ICARDA and WASWC in 2004 and authored by Eddy De Pauw, Annette Oberle and Michael Zoebisch. ISBN 974-92678-8-5, 1 detachable A3 size full color land cover and land use in illustration of Syria in 1989/90. Available from Samran Sombatpanit at sombatpanit@yahoo.com.

Journals, Magazines & Newsletters

Journal of the World Association of Soil and Water Conservation (JWASWC), the official online journal of WASWC is due to be launched during mid-2005. John Laflen (laflen@wctatel.net) is the Editor-in-Chief. All administration of papers and posting of the journal will be at our Tokyo WASWC Office managed by Takashi Ueno (hq-erecon@nifty.com) and Machito Mihara (waswc@nifty.com).

- IUSS Alert is a short e-mail note issued by the International Union of Soil Sciences. It contains information for prompt distribution amongst the global soil science community. Alred Hartemink (alfred.hartemink@wur.nl), Deputy Secretary General of the IUSS, is taking care of this Alert from his ISRIC, Wageningen office. You may ask him to include you in his mailing list. Alert No. 2 includes important information related to the 18th World Soil Congress in Philadelphia, PA, USA. See also www.iuss.org.

Philippine Journal of Development, a small format 154-page journal, published by the Philippine Institute of Development Studies is a professional journal published twice a year which focuses on the various aspects of Philippine development particularly of the economy, business, public administration, foreign relations, sociology, political dynamics and other topics which have strong policy implications for Philippine concerns. The Journal serves as a publication outlet for research studies conducted under the auspices of the Institute for greater dissemination and wider reach of the Institute's target audience. The target readers include policymakers, planners, key government officials and other interested individuals and organizations with particular focus on both local and foreign-based researchers and research institutions and the academe. ISSN 0115-9143. US$55/yr. Contact: Philippine Institute of Development Studies, Rm 306, Neda sa Makati Building, 106 Amorsolo St., Legaspi village, Makati City 1229, Philippines. publications@pidsnet.pids.gov.ph, and more information at http://publication.pids.gov.ph/

Website

www.journeytoforever.org, Journey to Forever is a pioneering expedition by a small, mobile NGO involved in environment and rural development work, starting from Hong Kong and traveling 40,000 km through 26 countries in Asia and Africa to Cape Town, South Africa.

Our route will take us away from the cities and populated districts to remote and inaccessible areas (usually also the least developed and poorest areas), where we'll be studying and reporting on environmental conditions and working for local NGOs on rural development projects in local communities. The focus will be on trees, soil and water, sustainable farming, sustainable technology, and family nutrition. The aim is to help people fight poverty and hunger, and to help sustain the environment we all must share.

Seats for everyone. This is a participatory project. It's both a real journey and a virtual one via a high-speed satellite link with the vehicles and interactive forums online at our Website, where participants - expert consultants or anyone with a PC and a modem, and especially schoolchildren - can take an active part in the project as it unfolds. Participation will be real, not just a token: the project team will organize the expedition, undertake the journey and do the work, but we'll be looking to our online participants to help give the project its shape as the journey unfolds. Whoever you are and wherever you are, you can make a real difference! Everybody's welcome - it's free, and open to all. The website, available in English, Chinese and Japanese, has been visited already 11.4 million times!

You are welcome to follow their route and contact Keith Addison at keith@journeytoforever.org and Midori Hiraga at midori@journeytoforever.org. Also they will be glad if you can help them financially to fulfill the project. - Information from the website.

Sara Scherr, President of Ecoagriculture Partners, sent a short message to me that she received a short flash cartoon-video from Calestous Juma of Harvard University, with a comment "Everyone should hear this" http://globalcommunity.org/flash/wombat.shtml and after having seen it she agreed with him. Please try – but it takes a while to download the file.

Institutions

Guangdong Institute of Eco-Environmental and Soil Sciences, Guangdong, China

The Guangdong Institute of Eco-Environmental and Soil Sciences was founded in 1958 and was originally named the "Guangzhou Institute of Soil Science, Chinese Academy of Sciences". It was renamed as the "Guangdong Institute of Soil Science" in 1978 and as the "Guangdong Institute of Eco-Environmental and Soil Sciences" in 1996. The Institute is presently subordinated to the Guangdong Academy of Sciences. The Guangdong Key Lab of Agro-Environment Pollution Integrated Control and Guangdong Soil Specimen Chamber have been accommodated in the Institute.

At present, the Institute has more than 100 employees, including more than 70 highly qualified professionals. The Guangdong Society of Soil Sciences is also accommodated in the Institute.

Aimed at regional eco-environmental reconstruction, the safety of agricultural products and ecology, and sustainable development in Guangdong Province, the Institute is working on theoretical scientific investigation and also the development of innovative techniques in the field of integrated control of the agricultural environment. It is focusing on three key subjects: soil quality and the restoration of degradation, SWC and the control of diffuse pollution and techniques for cleaner agricultural production and environmental materials and chemicals. Ten research teams are working hard to fulfill the different tasks under the ongoing program. Two consultative centers have been set up: the Test Center for Agricultural Products and Environmental Quality and the Guangdong Soil Environment and Resources Information Center. The Institute has many advanced instruments and GIS/ RS software and hardware.

The Institute's Journal of Ecology and Environment (formerly Soil and Environment) has been chosen as one of the Chinese core scientific publications. Guangzhou Ecoen Environmental Afforestation Co. Ltd. is a successful enterprise of the Institute, involved in industrializing techniques, controlling of pollution and developing environmental materials, products and techniques. It has been

authorized by CMA, with the First Class National Qualification, to supervise SWC, and the Qualification of Municipal Gardening and Afforestation Enterprise in Guangzhou.

Since its foundation the Institute has undertaken more than 200 projects, including international cooperation projects, national key scientific projects, national natural science projects, projects for the Ministry of Agriculture and State Environmental Protection Administration, and various other scientific projects for Guangdong Province. More than 100 scientific studies have been made, more than 40 science and technology awards have been won, 12 patent applications have been accepted, over 20 books and more than 600 scientific articles have been published. Being very widely applied, its scientific achievements have brought remarkable economic, ecological and social benefits.

- Li Dingqiang, Director (dqli@soil.gd.cn, www.soil.gd.cn)

Kazan State University celebrated its 200th anniversary on the 17th November 2004

By: WASWC members from Kazan State University, Kazan, Russian Federation: Dr. Ludmila Frolova lucy.frolova@ksu.ru, Dr. Valentina Kulagina and Dr. Nafisa Mingazova

According to a resolution of the 32nd session of the UNESCO General Conference, the 200th anniversary of the Kazan State University (KSU) has been introduced into the UNESCO anniversaries list for 2004-2005.

Kazan State University, founded in 1804, is one of the biggest and oldest institutions of higher education in Russia. The Founding Charter and the Regulations of the University were signed by the Emperor Alexander I on November 5 (November 17 according to the new calendar), 1804.

By the Edict of the President of the Russian Federation, signed on July 30, 1996 Kazan State University was included on the list of the most valuable possessions in the cultural heritage of the peoples of the Russian Federation.

At present Kazan State University is a large educational and research complex. Students are trained in 32 specialties and directions at 17 faculties and one interuniversity department. They are the Faculties of Biology and Soil, Ecology, Physics, Mechanics and Mathematics, etc.

Teaching is provided by highly qualified personnel. There are 1,075 professors who work at 86 departments. There are 10,000 students, including foreign students and 600 postgraduate and post-doctoral students.

Kazan State University has partner relationships with 36 universities in 14 countries. The closest and longest contracts are with Justus-Liebig University in Giessen (Germany), Leuven Catholic University (Belgium), Fribourg University (Switzerland), Khunan University in Chanshe (China), and the University of Virginia (USA).

Research in the field of water and soil conservation is in two of the biggest faculties of the university: the Faculty of Biology and Soil (Department of Soil) and the Faculty of Ecology (Department of Water Ecology). Water and Soil Research in the Middle Volga Region (Tatarstan Republic, Mari-El Republic) has as the main goal to assess of the state of ecology in the Region, monitoring water and soil and restoration of nature ecosystems.

Overseas Development Group, University of East Anglia, Norwich, UK

Contact
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Norwich NR4 7TJ, UK
Email: odg.train@uea.ac.uk
Web: www.odg.uea.ac.uk

--- Advancing the Understanding of Development ---

The School of Development Studies (DEV) at the University of East Anglia in Norwich, UK is one of the UK's premier teaching and research institutions in the sustainable development field. The professional skills, experience and interests of the members of faculty are unique in Europe in the way they combine natural and social sciences in the study of development: from environmental change, fisheries, soil science and agronomy to economics, sociology, gender and politics.

The Overseas Development Group (ODG), a charitable company owned by the University, operates alongside the School. ODG has over thirty years' experience in providing consultancy and research opportunities. The symbiotic relationship between the School and ODG feeds current, field development experience to a post-

graduate programme with over two hundred students from thirty different countries.

A programme of short courses and customised training makes ODG a channel for sharing knowledge with a wider audience. Since the inception of its short course programme (in 1981) ODG has welcomed over 2000 individuals - from 124 different countries - to the University. Courses cover a wide range of development topics: Livelihoods, Monitoring & Evaluation, Management Information Systems, Gender Mainstreaming, Planning for AIDS/HIV, Indicators for Sustainable Development, Agricultural Planning and Research and many more.

ODG's longest established course is in Monitoring and Evaluation. The course is designed to bring together professional managers and specialist M&E experts from a wide range of sectors to learn about best practices in integrated information collection for more effective, evidence based decision-making from ODG experts and each other. The four week course includes both more quantitative and more qualitative data collection techniques and links day to day monitoring to impact evaluation.

A recent addition to the ODG annual programme has been Professor Michael Stocking's innovative workshop on Land Degradation and Sustainable Rural Livelihoods. The first half of this two-week course (based in ODG) covers the theoretical background. This is followed by a week's practical fieldwork in the drylands region of Murcia, Spain (based at the Centre for Soils and Applied Biology, Segura). Soil scientists and agronomists from India, Malawi, Venezuela, Nepal, Kenya, China, Syria, Eritrea and many other locations have already benefited from this course.

ODG's long-term involvement in capacity building has given it an outstanding network of global partners and contacts in the development world. It is a unique channel for a productive crossover between academic knowledge and practical outcomes on a local level. A recent participant commented that "the ODG family seems to really care that everything they do should contribute to the lives of the poorest, most vulnerable and most distressed of all peoples."

NEWS IN BRIEF

Meetings

The organizers of meetings in the field of SWC and related subjects are invited to send announcements for publishing in the WASWC Newsletter.

2005

- March 29-April 6, 2005. Int'l Conference on Global Soil Change: Time-scale and Rates of Pedogenic Processes, Montecillo, Mexico. Contact: Elizabeth Solleiro-Rebolledo, solleiro@geologia.umam.mx
- April 2-9. 2005. Int'l Symposium on Regional Hydrologic Impacts of Climate Variability and Change With an Emphasis on Less-developed Countries, Foz do Iguacu, Brazil. More information on the symposium at http://iahs.info, and on the organizer, ICCLAS, at www.hwr.arizona.edu/icclas/.
- April 8-12, 2005. 5th Int'l Conference on Hani/ Akha Culture, Mojiang County, Yunnan Province, China. Contact: Messrs Zhao Dewen, Mr. Minta Minji and Bai Bibo, The Hani Culture Institute, Ethnic & Religious Affairs Bureau, Mojiang County, Yunnan Province 654800, China. Phone: +86-(0)879-4233955, Fax: +86-(0)879-4238299, mjteb@163.com, baibibo@hotmail.com. See more details in Announcement section issue 21(1).
- April 13-17, 2005. Int'l Workshop on Drafting Appropriate Policies and Guidelines to Support Sustainable Land Management in the Mediterranean Region, Beirut, Lebanon. Contact: Pandi Zdruli, CIHEAM-IAM Bari, Italy pandi@iamb.it and Talal Darwish, CNRS Soil Science, National Center for Remote Sensing, Beirut, Lebanon. Phone: +961-4-409845/6, Fax: +961-4-409847, tdarwich@cnrs.edu.lb or medcoastland@cnrs.edu.lb. See more details in Announcement section issue 21(1).
- April 19-21, 2005. The 16th Global Warming International Conference, New York City, USA. Submission deadline: October 30, 2004. Contact: gw16@globalwarming.net
- April 25-27, 2005. Int'l Study Forum on Managing Saline Soils and Water: Science, Technology and Social Issues, Riverside, CA, USA. Contact: Donald Suarez, Phone: +1-909-3694815, dsuarez@ussl.ars.usda.gov
- April, 25-29, 2005. Int'l Conference on Soil Water Erosion in Rural Areas - A special session of the European Geophysical Union, Vienna, Austria. Contact: Cerda, A. artemio.cerda@uv.es, Poesen, J. Jean.Poesen@geo.kuleuven.ac.be and Imeson, A. a.c.imeson@science.uva.nl. See more details in Announcement section issue 21(1).
- May 16-22, 2005. Int'l Symposium on Land Degradation and Desertification (Simpósio de Degradação de Terras e desertificação), Uberlândia, Brazil. Contact: Sílvio Carlos Rodrigues, Instituto de Geografia, Universidade Federal de Uberlândia, Brazil, silgel@ufu.br, comland2005@ig.ufu.br, www.ig.ufu.br/comland/index.htm
- May, 18 to 20, 2005. Symposium on No-Tillage and Environment, Carbon Sequestration and Water Quality, Iguassu Falls, Parana, Brazil. Contact: Federação Brasileira do Plantio Direto na Palha (Brazilian Federation of No Tillage on Crop Residues) at febrapdp@uol.com.br, more info http://www.febrapdp.org.br/simposio. See more details in the Announcement section issue 21(1).
- May 25-27, 2005, Workshop on Climate Change, Terrestrial Carbon Sequestration and Sustainable Management of Soil and Water Resources in Central Asia, Ohio State University, Columbus, Ohio, USA.
- May 25-26(-28), 2005. Int'l Conference on Soil Conservation Issues in Nordic Countries, Tartu, Estonia. Contact: Endla Reintam endla@eau.ee, http://www.essc.sk, http://www.eau.ee/~muld,

http://www.geo.ut.ee/LTconference/ See more details in Announcement section issue 21(1).
- June 6-10, 2005. Int'l Conference on Modeling Tools for Environment and Resources Management Conference 2005, Bangkok, Thailand. Contact: mterm@ait.ac.th, http://www.mterm.ait.ac.th - June 12-15, 2005, 9th North American Agroforestry Conference, Rochester, MN, USA. Contact: Dean Current, 612-624-4299, curre002@umn.edu.
- June 20-23, 2005. VI Headwater Control Conference: Hydrology, Ecology and Water Resources in Headwaters, Bergen, Norway. Contact: Martin Haigh (mhaigh@brookes.ac.uk) and Josef Krecek (krecek@cesnet.cz). See more details in Announcement section issue 20/2.
- June 20-25, 2005. Int'l Symposium on "Sustainability of Paddy Farming Systems", Manila, Philippines. Contact: Jose Rondal at joserondal@yahoo.com
- June 28-July 1, 2005. 8th Meeting of Farmers and Technicians of the Zero-Tillage Movement for the Cerrados, Tangará da Serra, Mato Grosso, Brazil. Contact: John N. Landers, Phone/Fax: +55-61-366-1984/ 366-5307, john.landers@apis.com.br, www.apdc.com.br
- July 9-22, 2005. 2005 Watershed Management Conference - Sheds Light on Water Issues, Colonial Williamsburg, Virginia, USA. More info at http://www.asce.org/conferences/watershedmanagement2005/. See more details in Announcement section issue 21(1).
- July 30-August 4, 2005. Soil and Water Conservation Annual and International Conference. Rochester, New York, USA. Contact: Contact: Nancy Herselius, Phone: +1-515-2892331, nancy.herselius@swcs.org, www.swcs.org
- August 9-12, 2005. Diffusion Pollution Specialists Conference 2005, Johannesburg, South Africa. Contact: Anne Biddlecombe at wisa2005conference@golder.co.za, www.iwa-wisa-2005.com
- September 2005, Int'l SWC Conference, Ghana. To be announced.
- September 7-11, 2005. 6th Int'l Conference on Geomorphology: Geomorphology in regions of environmental contrasts, Zaragoza, Spain. Contact: Organizing Secretary, Geomorphologia, Edificio C. Facultad de Ciencias, Univ. de Zaragoza, Zaragoza, Spain. Fax: +34-976-761106, iag2005@posta.unizar.es, http://wzar.unizar.es/actos/SEG
- September 10-18, 2005. 19th Int'l Congress on Irrigation and Drainage (ICID), Beijing, China. Contact the Chinese National Committee on Irrigation and Drainage, Phone: +86-10-68415522/ 68416506, cncid@iwhr.com, www.icid.org/index_e.html
- September 12-14, 2005. 2nd Int'l Conference on Sustainable Planning and Development, Bologna, Italy. Contact: Katie Banham, Phone: +44-238-029-3223, Fax: +44-238-029-2853, kbanham@wessex.ac.uk, www.wessex.ac.uk/conferences/2005/spd05/index.html
- September 12-16, 2005, 18th Symposium of the Int'l Farming Systems Association (IFSA) with FAO and IFAD, Farming Systems and Poverty: Making a Difference: Global Learning Opportunity, FAO, Rome, Italy. Contact: farming-systems@fao.org
- September 12-16, 2005. Int'l Conference Regarding Human Impacts on Soil Quality Attributes, Isfahan, Iran. Contact: Mohammad Hajabbasi, Soil Science Center of Excellence, College of Agriculture, Isfahan University of Technology, Isfahan, Iran, Phone: +98-311-3913477, Fax: +98-311-3913471, cesoil@cc.iut.ac.ir, http://www.iut.ac.ir/cesoil, https://cc.iut.ac.ir/webmail/, http://www.iut.ac.ir/cesoil/HISQA.htm#arm See more details in Announcement section issue 21(1).
- September 19-21, 2005. XXXI CIOSTA-CIGR V Congress on Increasing Work Efficiency in Agriculture, Horticulture and Forestry. University of Hohenheim, Stuttgart, Germany, www.uni-hohenheim.de/ciosta-cigr.
- September 20-23, 2005. 15th Ifoam Organic World Congress, Adelaide, Australia. Contact: Angela Rott, IFOAM Head Office, Charles-de-Gaulle-Str. 5, 53113 Bonn, Germany. Phone: +49-228-92650-10, Fax: +49-228-92650-99, a.rott@ifoam.org, www.ifoam.org, www.nasaa.com.au/ifoam2005
- September 30-October 6, 2005. 8th World Wilderness Congress, Anchorage, Alaska, with associated events in Kamchatka and the Russian Far East. Contact: info@logisticsllc.com, http://www.8wwc.org/
- October 3-7, 2005. III World Congress on Conservation Agriculture, with a theme, "Linking Production, Livelihoods and Conservation", Nairobi, Kenya. Contact: Melanie Mostert, Phone: +263-4-882107, Fax: +263-4-885596, actnetwork@africaonline.co.zw, www.act.org.zw, www.fao/act-network. See more details in the Announcement section issue 20(4).
- *October 5-8, 2005. "Yundola 2005", Forest Impact on Hydrological Processes and Soil Erosion: 40 years of the foundation of Experimental Watershed Research Basin, Yundola, Bulgaria. Contact: Elena Rafailova, erafailova@hotmail.com, Georgi Gergov, g_gergov@internet-bg.net. See more details in Announcement section issue 20(2) and 21(1).
- October 7-9, 2005, 36th Int'l Binghamton Geomorphology Symposium (BGS 2005), Dept. of Geography, University at Buffalo - The State University of New York, Buffalo, New York, USA. Contact: Chris S. Renschler at rensch@buffalo.edu, http://www.geog.buffalo.edu/~rensch/binghamton/index.htm
- November 17-25, 2005. 3rd Int'l Conference on Soils of Urban, Industrial, Traffic, Mining and Military Areas (SUITMA), Cairo, Egypt. Contact: Salah A. Tahoun, P.O. Box 2893, Heliopolis El-Horria, Cairo 11361, Egypt stahoun@mailer.eun.eg, suitma@mailer.eun.eg. More info at www.eun.eg/suitma. See more details in Announcement section issue 21(1).
- November 28-Dec 2, 2005. First int'l symposium on the Management of Tropical Sandy Soils for Sustainable Agriculture: a holistic approach for sustainable development of problem soils in the tropics, Khon Kaen, Thailand. Contact: Andrew Noble at a.noble@cgiar.org and see details in http://203.209.62.252/tropicalsandysoils/

2006

- February 23-26, 2006. IECA Annual Conference and EC06. Long Beach, CA, USA. Contact: Kate Nowak, Phone: +1-970-879-3010, ext. 15, Fax: +1-970-879-8563, kate@ieca.org
- March 16-22, 2006. 4th World Water Forum: Local Actions for a Global Challenge, Mexico City, Mexico. See http://www.cna.gob.mx/publica/doctos/eventos/Cuarto_Foro_Mundial/Paginas/Inicio_ingles.htm and www.worldwatercouncil.org.
- May 14-19, 2006, 14th ISCO Conference, "Sustainable management of soil and water in a semi-arid environment", Marrakesh, Morocco. Contact: Mohamed Sabir at sabirenfi@wanadoo.net.ma. See more details in the Announcement section issue 21(1).
- July 9-15, 2006. 18th World Congress of Soil Science. Frontiers of Soil Science: Technology and the Information Age, Philadelphia, Pennsylvania, USA. Contact The Organizing Executive Committee at 18wcss@soils.org, www.18wcss.org. First Announcement is available at www7.nationalacademies.org/usnc-ss/WCSS_First_Announcement.html.
- September 12-15, 2006. International ESSC Conference on "Soil and Water Conservation under Changing Land Use", Department of Environmental and Soil Sciences, University of Lleida, Lleida, Catalonia, Spain. Contact: Ildefonso Pla Sentis, WASWC Vice President at ipla@macs.udl.es
- October 22-26, 2006. IV Int'l Conference on Vetiver (ICV-4), Caracas, Venezuela. Contact: Oswaldo Luque at oluque1@cantv.net and Narong Chomchalow at narongch@au.edu, www.fpolar.org.ve

2007

- Summer. 4th ESSC Congress, Palermo, Italy.
- September 10-14, 2007. 4th Int'l Conference on Debris Flow Hazards Mitigation (DFHM), Chengdu, Sichuan, China. Contact: Cheng-lung Chen, Phone/ Fax: +1-408-253-2322, clchen88@gmail.com

2008

- Summer. 2nd Int'l Eco-Engineering Conference, Beijing, China. Contact Alexia Stokes at stokes@liama.ia.ac.cn
- Summer. 15th ISCO Conference. Details will be announced later.

2010

- July 2010. 19th World Congress of Soil Science. Brisbane, Australia. Contact: Neil McKenzie at neil.mckenzie@csiro.au