



**WORLD ASSOCIATION OF SOIL &
WATER CONSERVATION
(WASWC)**

NEWSLETTER

Reporting global SWC news quarterly since 1983
In English, Spanish, French, Chinese, Portuguese, Bahasa, Russian,
Vietnamese, Arabic, Thai

VOLUME 24, NUMBER 2 (APRIL-JUNE 2008)

Conserving Soil and Water Worldwide – [Join WASWC](#)

***WASWC Vision:** A world in which all soil and water resources are used in a productive, sustainable & 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.*

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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 sskukal@rediffmail.com



PLEASE CONSIDER THE ENVIRONMENT BEFORE YOU PRINT THIS NEWSLETTER

President's Message

The President wishes the WASWC Newsletter a great success and service to the members of World Association of Soil and Water Conservation. He is of the opinion that together we can bring revolution in sustaining in our soil and water resources. The Newsletter is a best platform for this to happen. He aspires to see the Journal of World Association of Soil and Water Conservation to achieve heights but at the same time he believes that this cannot be done without the support of our renowned members in the field of soil and water conservation. These stalwarts may contribute their theme and research papers to the journal so as to improve upon its quality and demand among the scientific community. This will pose a confidence in our members to publish in the journal so that the regular issues may be brought out timely. It's true that everybody wants to publish in the renowned journals but somebody has to make a start and it is our stalwarts who can take this step and contribute to the WASWC Journal both in terms of their experience and their papers.

Since President Prof Miodrag Zlatic is out of station, he could not prepare his detailed message but at the same time he conveyed his feelings to the Editor, S.S. Kukal.

Miodrag Zlatic

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EDITOR'S NOTE

My Dear Fellow Colleagues,



The world is facing with the extremes of climate and the recent example in this direction is "The Devastating Floods in Bihar, India". These are in fact not floods but worse than Tsunami, caused by Kosi River (named as Sorrow of Bihar), which flows from Nepal into India. People who have visited the affected areas are amazed by the flooding in the most unexpected areas with over 2 million people bearing the brunt of floods in 14 districts of Bihar. Normally, residents of northern Bihar are prepared for Kosi's fury. Boats are available in villages.



When rains come, people keep few assets in houses. But this time, after some 125 years, Kosi entered new and unexpected areas. Nobody was expecting Kosi to maroon them. Floods have engulfed highways and villages, farms and centuries-old habitats. These people don't have enough food to eat nor do they have potable water. Evacuating the people stranded on roads, embankments and other elevated places between the two streams of the river posed a major challenge to the flood fighting machinery of the state government.



By all accounts, Kosi has not fully flooded yet, says a source in Kathmandu who has visited the area. If more rains hit the area in September then, the situation will be more dangerous than it is now. Right now, the flooding is due to a break in some part of the embankment on the Nepal side that has rushed in waters into India and displaced 50,000 Nepalis (Nepal) and more than 2 million Biharis (India). Kosi's catchment area is massive and the river carries one of the highest amounts of silt in the world.

Friends, while having my dinner last night, I was listening to the news on television and was helpless and ashamed of myself when I saw a 5-6 years old boy saying that he had not eaten anything for the last 5 days, whereas I was having my full meals in air-conditioned dinning room. I realized what we are doing as human beings, as scientists. This made me cry for some time. I am feeling helpless and this feeling inside me was experienced for the second time after the devastating earthquake of China sometimes back. Please suggest me what we should do? What is our role in the society as scientists? Are we doing our duty well? Or we do not have anything in our hands and those at the helm of the affairs are responsible for all these miseries and if not WHO



else is responsible for this? I need answers to all these questions. I need your help in this direction. Please come forward and help me.

Surinder S. Kukal

Prof. S.S. Kukal, Ph.D.

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AWARDS

Achievements of

Dr. Reinhardt Howeler, Mr. Watana Watananonta and Dr. Tran Ngoc Ngoan,
the recipients of the **Distinguished Researcher Award of WASWC** for 2007

(r.howeler@cgiar.org, w.watana@lycos.com, tnngoan@vnn.vn)

Read by Dr. Samran sombatpanit at the Annual Technical Meeting of Thai Department of Agriculture, Miracle Grand Hotel, Bangkok, Thailand, June 18, 2008

Dr. Reinhardt Howeler while working at CIAT in Colombia in the early 1970s had conducted greenhouse and field experiments to determine the nutritional requirements of cassava crop, to elucidate its exceptional tolerance to low-P in natural soils, and to identify practical ways to control erosion and improve the sustainability of cassava production.

After his transfer to Asia in 1986, Dr. Howeler found that while research showed that soil erosion can be markedly reduced by some simple agronomic and soil conservation practices, farmers seldom adopted these practices, either because they are unaware of the extent of soil loss, have no knowledge of effective practices to control erosion, or consider the recommended practices unsuitable, too expensive or labor intensive and without short-term economic benefits.

Dr. Howeler had carried out the Nippon Foundation-funded cassava project from 1994 to 2004 aiming at enhancing the adoption of soil conservation practices by involving farmers directly in the testing, selection and dissemination of locally suitable practices. The first 5-year phase, from 1994-1999, was implemented in cooperation with cassava researchers and extensionists in China, Indonesia, Thailand and Vietnam. This phase was mainly used to develop the **farmer participatory research (FPR)** methodology and to test in farmers' fields in each country. After conducting nearly 500 FPR trials on their own fields, many farmers started to adopt the planting of new high-yielding varieties, more balanced fertilization, intercropping and the use of soil conservation practices.

The second phase of the project, now limited to China, Thailand and Vietnam, was implemented from 1999-2004 by CIAT in collaboration with a total of 14 research and extension organizations in these countries. The main objective was not only to expand rapidly the FPR trials to many more sites, but also to develop a **farmer participatory extension (FPE)** methodology to further extend the farmer-selected varieties and improved practices to many more

farmers, and to achieve widespread adoption and a significant impact on cassava yields and farmers' income.



*At the award presenting ceremony. **From left:** Mr Jirakorn Kosaisawe, Deputy DG of DoA, Mr Watana Watananonta, Dr. Metanee Sukontarug, DG of DoA, presenter of the award, Dr. Reinhardt Howeler, Dr. Tran Ngoc Ngoan, Dr. Samran Sombatpanit*

By the end of the second phase of the project in early 2004, the project had worked in 99 pilot sites (villages), i.e. 32 in China, 34 Vietnam, and 33 Thailand. During the second phase, farmers conducted a total of 1,154 FPR trials on their own fields, of which 375 were variety evaluation trials, 200 erosion control trials, 262 fertilizer and manure trials, 135 intercropping trials, 99 pig feeding trials using cassava leaf silage, and 83 other types of trials in response to the farmers' priorities.

An impact assessment was conducted by an independent consultant in late 2003, using data from 832 farm households in Thailand and Vietnam. The final results are remarkable in terms of farmers' adoption of innovations through the FPR and FPE.



A plaque for Distinguished Researcher Award honoring Reinhardt H. Howeler, Watana Watananonta and Tran Ngoc Ngoan of the Nippon Foundation-funded CIAT Cassava Project in Asia for their significant accomplishments during a long-term farmer participatory research project, resulting in substantial increases in cassava yields in Thailand and Vietnam, and the widespread adoption of soil conservation practices by cassava farmers.

In terms of yield, in 2004 the yield of cassava has increased more than 6 t ha⁻¹ in both Thailand and Vietnam. In all of Asia cassava yields increased during the same period had a value of US\$409 million and the corresponding figure for 2006 was US\$702 million, while in 2008 this is estimated to be around 1 billion US\$. This is because of the needs for better erosion control and the practices to achieve that were identified by Dr. Howeler working with agronomists in national programs in the late 1980s and early 1990s.

The increasing demand in Asia for cassava roots, dry chips, starch and derived products, as well as for cassava-based biofuel for transportation and biofoam for packing will definitely awaken new interest in cassava by national governments, processors, traders and farmers. The new cassava varieties and technologies will contribute to millions of cassava farmers to lift themselves out of poverty, and thus provide their children with a better future.

The works of Dr. Howeler, with two main collaborators, as appearing in the paper "Farmer Participation in Research and Extension" in the M&E

book of WASWC were brought to the attention of the WASWC Awards Committee.

We saw this work to respond to the need to help poor farmers and to prevent soil and land degradation. The long duration and extensiveness of the work had produced the reliable results which can be seen from the increased yields and adoption rates of farmers. Additionally, the timeliness of the work in terms of the need for biofuel and biofoam has given much merit to the work itself. The Awards Committee of the WASWC has therefore agreed to award Dr. Reinhardt Howeler, Mr Watana Watananonta (Thai DoA) and Dr. Tran Ngoc Ngoan (Thai Nguyen University, Vietnam) the Distinguished Researcher Award for the year 2007. We wish them more success in their future careers.



Dr. Howeler and a farmer at a soil erosion experimental field

Sudanese climate scientist receives prestigious [Champions of Earth](#) award

Source: scidev.net

SINGAPORE: A Sudanese climate researcher has been honored by the UN Environment Programme (UNEP) in recognition of her work on climate change and adaptation in conflict-stricken Darfur.

Balgis Osman-Elasha, a senior researcher at Sudan's Higher Council for Environment and Natural Resources, was presented with a "Champions of the Earth 2008" award this week (22 April 2008), along with six other awardees from Bangladesh, Barbados, Monaco, New Zealand, United States and Yemen.

Osman-Elasha, also a leading member of the Intergovernmental Panel on Climate Change (IPCC), carries out research into how communities in Darfur could cope with drought.

She said her commitment to educating Sudanese students and communities — particularly farmers — is slowly paving the way for people to adapt to climate change.

Her work has included expanding the use of traditional rainwater harvesting and conservation techniques, and building windbreaks to protect rangelands from degradation.



It comes at a crucial time for Sudan, as the connections between climate change and conflict in war-torn Darfur have become a major concern.

Over the past seven years, Osman-Elasha has travelled to 45 countries and given over 100 lectures.

"We should act now and curb climate change," she told SciDev.Net. "We can do it if science, governments, businesses and the communities come together and address this pressing issue."

Other award winners were Atiq Rahman, the executive director of the Bangladesh Centre for Advanced Studies; Liz Thompson, the former energy and environment minister of Barbados; and Abdul-Qader Ba-Jammal, the secretary general of the Yemen People's General Congress.

All have spearheaded outstanding initiatives in different areas, from environmental policy to cutting-edge research, with a particular focus on sustainable development and the fight against climate change.

"Our winners for 2008 light an alternative path for humanity by taking responsibility, demonstrating leadership and realizing change across a wide range of sustainability issues," said Achim Steiner, UN under-secretary general and executive director of the UN Environment Programme, in a press release.

"These include more intelligent and creative management of natural and nature-based resources from waste and water, to biodiversity and agriculture."

Champions of the Earth is an international environment award established in 2004 by the UN Environment Programme. See more in <http://www.globalenvision.org/tags/dr-balgis-osman-elasha>.

Asian Scientific and Technical Awards of WASWC 2008

We would like to inform you that WASWC Asia is now looking for the candidate for the Asian Scientific and Technical Award of WASWC for 2008. The awards of WASWC Asia are conferred to WASWC members in Asia who contributed the development and progress of soil and water conservation.

Please see a content of "Awards" on the WASWC website: www.waswc.org/ and you may send your application with CV to us to consider for the award, the deadline of which is September 30, 2008.

If you have further questions, please contact Institute of Environment Rehabilitation and Conservation (ERECON), a host institution of WASWC, hq-erecon@nifty.com or waswc@nifty.com.

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CALL FOR PAPERS

Dr. Xixi Wang, P.E. (Tarleton State University, Box T-0390, Stephenville, TX 76401, USA), invites you to send your papers to publish in the upcoming book on **Modeling Hydrologic Effects of Microtopographic Features at Watershed Scale**, to be published by **Nova Science Publishers**.

Detail of the subject of the book and its academic level:

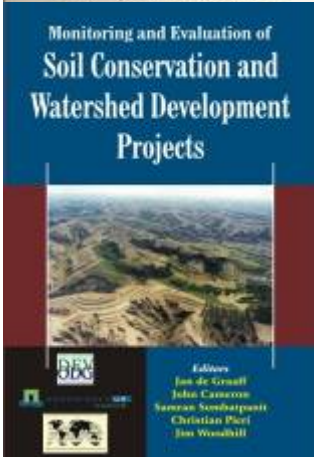
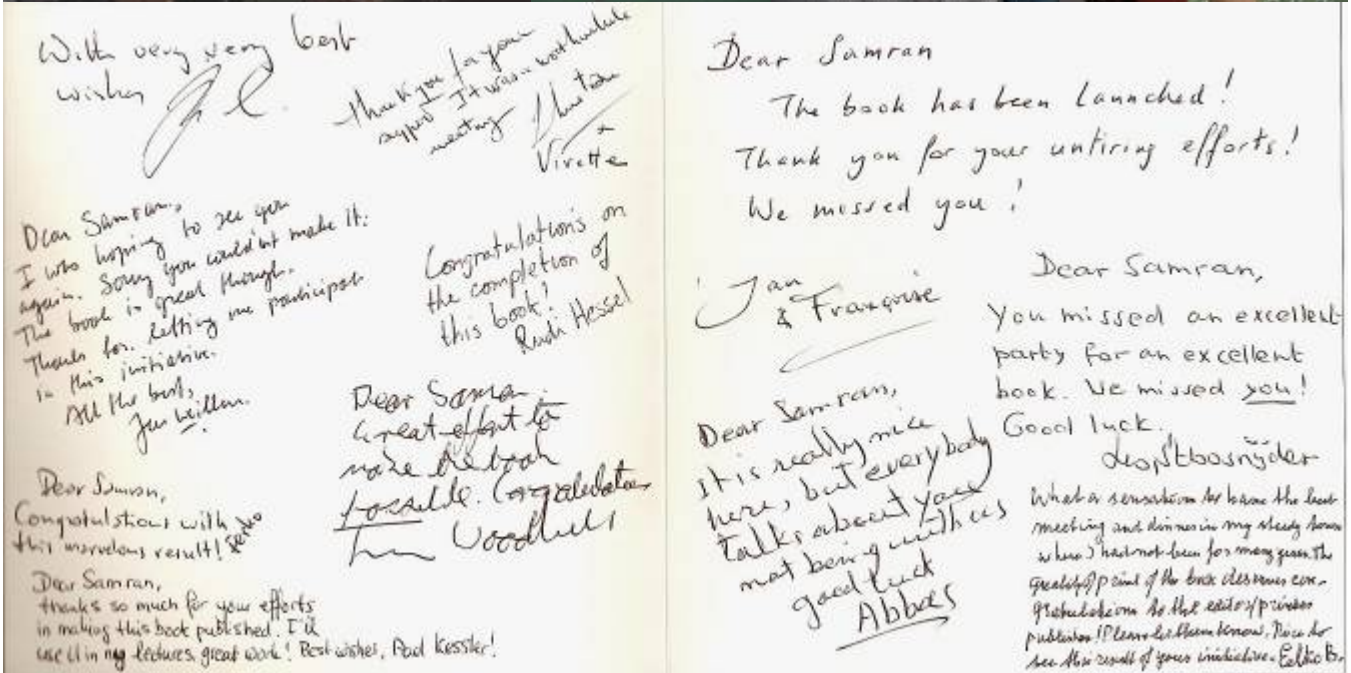
Researchers have widely recognized the importance of the microtopographic features, such as wetlands and depressions, on watershed hydrology and management. However, because most of the existing hydrologic models were designed to capture effects of the major watershed characteristics (e.g. slope and slope length), there is a serious gap in literature on how to capture the effects of the microtopographic features. Thus, this proposed edited collection (book) will be an interdisciplinary forum to discuss how to develop and use hydrologic models to quantify effects of wetlands and depressions at watershed scale. For this purpose, this book will comprise topics on: 1) data requirement, availability, and preprocessing; 2) improvement of existing algorithms; 3) development of new algorithms; 4) development of modeling tools that can seamlessly integrate the major watershed characteristics with the microtopographic features; and 5) applications of the modeling tools in practice.

This book will be an important reference for academic researchers, applied researchers, and professional consultants. The topics on the modeling tools and their applications will provide the information useful for watershed practitioners, conservationists, water resources managers, and policy makers.

Pls contact Prof Xixi Wang at xwang@tarleton.edu.

ASSOCIATION NEWS

Launch of the Monitoring and Evaluation book of WASWC, November 22, 2007



Photos from the book launch, from left: Editors (Jim Woodhill, Jan de Graaff, Christian Pieri and John Cameron, chaired [in the middle] by Leo Stroosnijder of the E&SWC Group of WUR), in discussion with the audience; two students who attended the SWC course of Jan de Graaff who won the prizes (one book each): Eleni Aberha (Ethiopian) and Bart de Jong (Dutch); some participants that gathered at the reception (from left): Jim Woodhill, Aad Kessler, Eelko Bergsma and Rudi Hessel; a card signed by the participants and sent to Samran Sombatpanit, an editor, who missed this rare book launch event of WASWC – which he greatly appreciates.

The WASWC book on Monitoring and Evaluation of Soil Conservation and Watershed Development has been published by our publishing partner, Science Publishers, USA, since October 2007 and a launch was made in Wageningen, the Netherlands on November 22 at the new Atlas Building of Wageningen University and Research Centre (WUR).

Many authors had attended along with the editors Jan de Graaff, John Cameron, Christian Pieri and Jim Woodhill, with exception of Samran Sombatpanit. The program proceeded in that, after a short welcome speech and a presentation of the respective parts of the book by the editors a short discussion was held among the authors that were present, the editors, and students that followed a course on the subject and guests. This was followed by a reception and dinner in a restaurant at the market place in Wageningen (Thuis bij Guus).

The book is available from the Science Publishers, USA, www.scipub.net, at a price of US\$69.50/copy, plus postage charge. WASWC members receive a 40% discount; they may thus pay \$42, plus postage.

- *Dr. ir. Jan de Graaff, Associate Professor in Erosion and Soil & Water Conservation, Wageningen University and Research Centre, Wageningen, The Netherlands*

Photo competition 12



The following three photos have won the competition this time. The Editorial Team congratulates the winners and hopes that they will compete next time with more enthusiasm.

Series of terraces under mahogany trees, stairways style, The Philippines, by Bienvenido Nonoy Oplas, Jr., Manager, Millent Agro-Forest Farm, Brgy. Laguit Padilla, Bugallon, Pangasinan, Philippines noysky_oplasky@yahoo.com



Coruh River, NE Turkey, by Prof. Ibrahim Gurer, Gazi University, Faculty of Engineering & Architecture, Department of Civil Engineering, 06570 Maltepe, Ankara, Turkey gurer@gazi.edu.tr



Indigenous gully control in Zambia, by a Wocateer from Zambia. We ask the photographer to please contact us. Dr. Hanspeter Liniger (hanspeter.liniger@cde.unibe.ch) may please help identify the person – with thanks.

We ask each winner to choose the book you like from www.scipub.net and you will receive it within a few weeks.

What's new on our websites?

After our **Guangzhou website** <http://waswc.soil.gd.cn> had crashed a few months ago, now our team comprising Dr. Z.X. Guo and Dr. Yishan Liao (a new recruit of the Guangdong Institute of Eco-environment and Soil Sciences, Guangzhou, China) has restored it fully. Dr. Samran Sombatpanit had also joined forces with them on his way to Beijing in July and he confirmed our Guangzhou website is as good and informative as it should be (many thanks to Dr. Li Dingqiang, director of the institute).

OLD ITEMS:

- WASWC Newsletter: This item is still little late but we hope to have it produced and posted on time from the first issue of 2009 onward.
- HOT NEWS is always available on the web immediately after getting issued from its editor, Samran Sombatpanit. This is owed to that all news items only need to put into various categories properly, to send off quickly to meet many deadlines and do not need a crisp editing.
- SOIL EROSION & SWC: Video: Erosion by Rain, E. Bergsma, ITC (157MB) and its text, plus one PPT from Sichuan earthquake last May.
- COOPERATING INSTITUTIONS: This page has been almost fully updated, except those institutions that have signed up recently.
- TRAVELOGUES: There are three works posted at the moment. We wait for more from our members.
- TAKE A BREAK: There are many beautiful photos showing the closing ceremony of the 29th Olympiad.

NEW ONES:

- TRAINING COURSES: Only one item from ICIMOD, Training on Low Cost Soil and Water Conservation Techniques and Watershed Management Activities, has been posted.

- SOILS MUSEUMS: There is one exemplary soils museum item (from the Land Development Department of Thailand) has been posted plus one item showing Sirindhorn Museum showcasing the dinosaurs in NE Thailand.
- INSTITUTION INFO: This is planned to introduce various institutions to members. So far we only have one from the Guangdong Institute of Eco-environment and Soil Sciences. More entries are welcome.

Members are invited to send in their works to post on various pages of our website and this activity will help disseminate information and technology from your side far and wide.

For our **Tokyo website** www.waswc.org operated by Dr. Hiromu Okazawa of ERECON, under the supervision of Dr. Machito Mihara, our Deputy President, it has been dedicated to other publications that we have, i.e. Journal and Proceedings of WASWC, The Land Journal and Special Publications, now up to No. 3 and preparation is on the way to No. 4 on *Soil and Water Assessment Tool (SWAT)* to get published by the end of this year. Members are welcome to send their contributions.

New Officer

Mauricio Azero Alcocer of Universidad Catolica Boliviana San Pablo, Cochabamba, Bolivia (mazero@ucbcba.edu.bi, mauricio.azero@gmail.com) has agreed to serve as a Vice President for Bolivia. His CV and photo will be presented in the next issue. **More volunteers to work with WASWC are very welcome.**

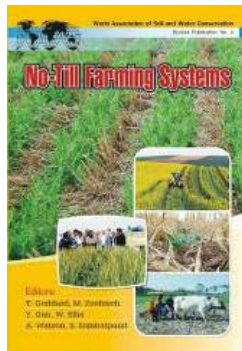
MEMBERS' FORUM

What members say about No-Till Farming Systems book

080320

Dear Samran

Today I got the WASWC-book - thank you very much. I have to congratulate you for the big task you made and the result. It is and will be very valuable for the no-tillage movement. Besides, I didn't know so far that H.P. Liniger from a university close to the place where I work is an expert in no-tillage. Therefore, I already got a benefit from this publication.



Bernhard Streit, Research Scientist No-tillage and Weed Control, Reckenholzstr. 191, CH-8046 Zurich, Switzerland.

bernhard.streit@art.admin.ch

080318

Dear Samran Sombatpanit

I am in receipt of the book on No Tillage farming. Thanks a lot for the same. It shall be a valuable resource for me. Wanted to explore a possibility, as written earlier we are aiming to have integrated GIS portal - which aims to provide integration of spatial and non-spatial data on varied topics in a systematic format. We are identifying some pilot institutions to help us develop the portal, would you like to help us with the spatial and non-spatial data on no-tillage farming on the same? We would capture all efforts on no-tillage farming across the globe with local data, maps, best practices etc. and make it available for preview in an integrated form.

Megha Phansalkar, Pakistan. drmegha@hotmail.com

080229

Dear Samran

The book arrived today. I am making copies of the CD and will be mailing it to people. Really good. No other like it.

Ken Hargeshimer, USA. minifarms@gmail.com

080227

Dear Mr. Samran

I did read the book "No-Till Farming Systems" and I am glad to spread these worthwhile ideas as far as I can. I will bring three copies of the book to the University of Upper Nile at Renk, Sudan. Please send them to my address. I'd like to become a member of WASWC category 1 (individual membership).

Also my employer, Onesystem AG in Switzerland (www.onesystem.ch), would like to become a member category Organization membership. Please send an invitation to rolf.gerber@trefinass.ch

Ernst Frischknecht, Switzerland. biofrischi@bluewin.ch

080224

Hello P'Samran,

I just received the book yesterday afternoon. I am very happy receiving the book; it will be very useful for me when I go back to my work. Thank you very much. I am very grateful to you.

Dolores Mae Gicana, AIT, Thailand g5water@yahoo.com

080204

Hello Samran,

I have been enjoying the "No-Till" book immensely. This is a marvelous credit to you and all the team who have put it together. This is what the idea needed as it is sort of declining here due to the drought and no one has any residues to leave. Every scrap of fodder has been used to feed stock to keep them alive.

Cyril Ciesiolka, Toowoomba, Aus. cciesiolka@bigpond.com

080128

Dear Samran,

I was delighted to receive the book and CD which arrived today and for which I am most grateful. It came far quicker than I had expected. I am already enjoying the book.

Stephen Carr, Malawi. scarr@sdp.org.mw

080127

I am Taimur from Pakistan. I have been involved in R&D for Sustainable Development & Bioenvironmental Management for the last 25 years in many parts of Rural Pakistan. Our major field of research has been agriculture and intensive horticulture.

We use compost as a soil amendment and prepare it through bioaugmentation. I think No-Till is the way to go, provided you can get the soil soft enough to sustain seeds and seedlings till they can root. We use natural rooting and fruiting hormones to increase the length of roots and "drought proof" the plant in this manner.

In inorganic soils, especially those rich in clay content, how can I go for No-Till? At present I am involved in rehabilitation of villages affected by the recent earthquake in NE Pakistan. I am based in Abbottabad District of the North West Frontier Province in what used to be Hazara Division. I am gathering information and software to enable me to display data on the map and build up a Natural Resource data base as a GIS.

I need input and am willing to try No-Till for farmers who have had their water channels disrupted since 3 years ago and not had them repaired as yet. They mostly used bullocks for plowing their terraced land. Now, however, they have mostly been disposed and thousands of acres are lying fallow. Do I get technical support as backstopping to my aim?

Do let me know if anyone is interested?

Taimur Hyat-Khan, Pakistan. timurhyat@gmail.com

080126

Dear Samran,

Tom Goddard came to my office a few days ago and gave me a copy of your book "No-Till Farming Systems". Last week I had the opportunity to review it. I am impressed. My comments on the book can be summed up as follows:

"An invaluable international reference book for individual interested in no-till farming"

Yash P. Kalra, Canadian Forest Service, Canada. ykalra@nrcan.gc.ca

080125

Dear Samran

Received today, 25 January the No-Till Farming Systems Monograph. The book looks great and very interesting and look forward to study it and hope to later send you my comments.

Charles van Santen, Indonesia. cvsanten@indo.net.id

080125

Dear Samran,

Yesterday I received the new Book No-Till Farming Systems. **Congratulation!!!** It is an excellent material for all No-Till friends.

Samran, please can I order 60 books as soon as possible, we have on February 21 our annual congress. I will present and sell the new books. Please send me the invoice of the 60 books to my address or write me an e-mail.

Jana Epperlein, GKB, Berlin, Germany. www.gkb-ev.de, jana.epperlein@gkb-ev.de

080124

Dear Samran,

The "No-till" book has arrived – thanks! This work seems a real model-example of fruitful team-work (almost "titanic"). I find there, inter alia, useful material from Mediterranean-type climate regions (like West Australia, and others - quite limited in world area extent) specially relevant to this country; besides the lot of other no-less relevant information. The variety of worldwide sources constitutes a special bonus - instructing the reader that ideas and technologies can and do cross continents and oceans, given one absorbs the understanding of basic principles, and the technical adaptation needed to accommodate those principles for varying conditions encountered elsewhere.

The eternal problem is always time - to read, mark and note the most important & relevant passages etc. - that's life (that shortens by one day everyday!)

So, what can I say - appreciation, cheers, take care, take a breath but never stop!

Arie' Shahar, Israel. a-shahar@inter.net.il

080123

Dear Samran,

Thank you for the book which I received this morning. UK farmers are not interested in no-tillage or conservation tillage. I think the 45% adoption of CT measures in the UK given in the table on page 161 of the book must include areas set aside for wildlife conservation for I have seen no evidence of any soil and water conservation techniques being practiced anywhere in the UK (arable, grazing or forest land).

I found the book very informative giving a broad view of what is going on this field of endeavor worldwide. I wish you and WASWC all good fortune in the future.

Henry Elwell, UK. henry.elwell@virgin.net

080123

Dear Samran CC to No-Till editors and Reicosky, Benites and Crovetto:

I agree with what John Landers and Rolf Derpsch said earlier in response to your email. GIS tools are great to characterize spatial or temporal entities but it often leaves you with a "so what?" question. There are very few farmers that use GIS/GPS tools for decision making regarding No-Till applications. However, there are some No-Till farmers that use GIS/GPS technologies to manage their agronomic practices. For example, they might alter their fertilizer rates or blends depending upon location within a field (locations usually related to soil differences). I cannot think of how, at a farm or field level, application of GIS would change how No-Till is done. A farmer would already know where the different soils and landscapes exist on the farm and adjust the cropping system, no-till opener depth, etc.

We use GIS/GPS for such things as creating "as-applied" pesticide application maps for custom applicators billing farmers or for certified production systems and this is independent of no-till. GIS is very useful to map soils, ecosystems and derivative products such as risk maps, consequence maps, potentials, etc. We have used them here effectively in creating both large- and small-scale map

products. We use spatial analysis tools to be able to assign soil names and properties to landform facets (e.g. hilltop, mid slope, etc.) from our conventional digital soil map products. Colleagues here are at the forefront of digital soil mapping and cooperate with scientists in Europe and Australia. The USA is now interested in adopting some of the new technologies but it is a mind-shift for them compared to how they operate now. Interesting stuff though!!

A recent comprehensive book with geographical as well as agricultural applications is: Hengl, T. and Reuter, H.I. (eds) 2007. *Geomorphometry: concepts, software, applications*. Office for Official Publications of the European Communities, Luxembourg, EUR 22670 EN. The lead author, Tomislav Hengl (with the European Joint Research Commission, JRC) also has a website with a lot of information and many links <http://spatial-analyst.net/>

A question for us in WASWC to ask is do we only look at (publish) existing applications that work on the farm or in the field or, do we look at items that might have promise in the future?

Beyond no-till, the GIS/GPS technologies have lots of applications in soil and water conservation. There has been a term "site-specific conservation" appear in the research world the last few years. Perhaps WASWC should explore that topic? Are some using those tools to assess risk, design programs, implement conservation, evaluate projects, etc.?

Tom Goddard, Edmonton, Alberta, Canada.

tom.goddard@gov.ab.ca

080121

Samran,

I fully agree with Rolf. My position is that the principles are universal, the solutions are local.

However, in that sense we might see some benefit from cataloguing which solutions work under which conditions, e.g. planter configurations: double disc openers for seed work under which conditions and where do you have to resort to tines.

With the Semeato guillotine a large size is better on sandier soils, a small size on clayey. What levels of infiltration rate eliminates the need for contour bunds for what level of design 24 hr and max hourly precipitation rate and return period.

The 70% cover rule appears to be pretty universal, but at what level of slope and ramp length this breaks down? However, I shy away from mapping this, that makes errors all too easy because mapping units are not homogeneous, especially at higher scales - the final decision must be the technician's judgment, if he has the experience. But there must be room for some practical guidelines summarized in an easy

reference handbook. But I have no free time to do this; who has?

John N. Landers, OBE, Diretor da APDC, Relações Internacionais / Novos Projetos, Brasília, Brazil. john.landere@uol.com.br

080121

Dear Samran,

There have been many efforts around the world to restrict the use of the no-tillage system to certain soil types or groups and the big efforts have taken us nowhere, at least what I am trying to say, is they have not advanced in the use of the technology. Remember that we have now around 100 million ha of no-tillage applied worldwide on a huge variety of soils, climates, latitudes and altitudes. More than soils, minds are restricting the use of the technology worldwide.

Rolf Derpsch, Senior Technical Advisor/International Consultant, No-tillage and Conservation Agriculture, C.C. 13223 Shopping del Sol, Asuncion, Paraguay. rderpsch@telesurf.com.py, www.rolf-derpsch.com

Membership affairs

080120

Dear Samran

We are now in a process of making at least 2-3 Life members this month. Hope the number will increase in future.

Shabbir Shahid (s.shahid@biosaline.org.ae)

MEMBERS' CONTRIBUTIONS

Adaptation desirable, complete control unattainable

The *IPCC on Global Warming* report misses one major point (April 2007): On the bigger geological time scale the current warming only postpones the coming glacial cycle. As a young earth scientist, many years ago, the ongoing discussion was when the next, i.e. how soon, a new glacial cycle will begin. During the last million years we had at least ten such natural glacial periods - distance of the planet earth orbit from the sun directed cycles. The *interglacials*, like the current one, were always shorter in comparison to the much colder *glacial periods*. There is no doubt that *humans* rather than natural occurrences are responsible for the current problematic warming and extreme regional events, thus really only postponing the coming cooling.

The carbon dioxide (and methane) triggered warming has started even before the industrial age (when we began and continue polluting the air by using huge amounts of fossil energy or cool it by spreading dust into it). The spread of agriculture in historical times, causing gradual destruction of about half of the preserved organic matter (humus carbon) of the arable soils and mature vegetation by forest clearing, large fires and tilling the soil, passing CO₂ into the atmosphere, started the same process centuries earlier. Industrial pollution and cars dominate the process from 1920s.

The main question is thus - have we decided, how and on what grounds, that the current climate is the ideal one and needs to be preserved? If there is a general decision and consensus on this – it can be done but at considerable efforts and costs, as outlined, and there are many other possible lines of action besides those listed. My suggestion thus is to start a serious discussion: why do we want to conserve and by what right to control the current global climate conditions (or of the last century) when the big picture tells us that there were always climate changes. Adaptation yes, strongly desirable; complete control – unattainable.

Prof. (emer.) Dan H. Yaalon

Institute of Earth Sciences, Hebrew University Givat Ram Campus, Jerusalem 91904, Israel

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International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)

May 2, 2008

Dear Editor,

Not sure if you are aware of the IAASTD initiative (<http://www.agassessment.org>). They have released their reports on their website. I thought we should have a review/announcement on the WASWC newsletter to ensure members are aware. Is this something the WASWC should provide an opinion on or comment to? Following is some background for you to consider.

- Tom Goddard, Alberta Agriculture and Rural Development, Edmonton, Alberta, Canada (tom.goddard@gov.ab.ca)

=====

In 2005 an international initiative was started, "International Assessment of Agricultural Knowledge, Science and Technology for Development" (IAASTD). Workshops were held, experts consulted. The global assessment is now completed and draft reports have been produced for various regions of the globe. Eight chapters were done for the whole globe by topic category. Five summary reports were done by global region summarizing all topic areas. Two summary reports were done for the whole project. I attach the 23 p. summary document for North America and Europe (NAE). Following are my observations:

The North America - Europe (NAE) report lists 5 key messages (pp. 7-8)

1. Agricultural knowledge, science and technology (AKST) have successfully enhanced land and labor productivity but gaps exist.
2. A paradigm shift is needed to meet development and sustainability goals. This involves multi-functionality in agriculture and adaptation to local environmental and sociopolitical contexts.
3. Global issues will impact agriculture in NAE. E.g. climate change, energy, diseases, land ownership, agribusiness control, trade rules.
4. Continued emphasis on productivity with a greater emphasis on environmental, social and economic sustainability and explicit focus on health is needed to contribute to meeting goals.
5. Successfully meeting development and sustainability goals will rely on 3 basic enabling strategies:
 - a. Reshaping knowledge systems
 - b. Improving policy and governance
 - c. Increasing overall public and private investment in AKST. Public investment is especially expected to support public goods and reshape agricultural knowledge.

Several pages of the NAE summary report are devoted to the 3 enabling strategies (pp. 16-22).

- + interdisciplinary research is needed and better linkages between the lab and the field. Create a learning agricultural society.
- + the structure of agrifood systems has changed - larger, vertically integrated. Calls for food sovereignty in some areas.
- + increasing disturbances and rigidity of centralized food systems suggest need for decentralized decision making.
- + agriculture's negative environmental externalities have led to impetus to integrate environment into agricultural policy.
- + increasing private investment has been for the private good. Public investment in R&D needs to increase.

I would recommend that you take time to skim this summary (esp. pages 16-22). It applies to us and our biggest markets/competitors.

Only a few Canadian academics were involved in the report writing. I make the observation that with one exception, none appears to be from the agriculture sector (training or activities). I suspect there was more agricultural expertise represented from other countries. This brings up the question: Are non-agriculture specialists analyzing agriculture and making recommendations or, is it a reflection of cross-disciplinary science...? Here are the Canadian authors I found involved in the 10 reports I looked at:

JoAnn Jaffe, sociologist, U of Regina
Michael Haywood, policy head, Biodiversity International
Monirul Mirza, climate scientist, Env Can
Jackie Alder, fishery biologist, UBC
Morven McLean, Agbios Inc. (ex-CFIA), Ontario
John Stone, retired Env Can director (ex-NRC chemist), Ottawa

IAASTD homepage: <http://www.agassessment.org>

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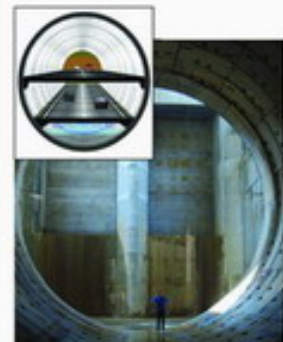
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FEATURES

SOIL SCIENCE Highlight

Martian soil appears able to support life

From: Reuters; Published June 27, 2008 09:43 AM



"Flabbergasted" NASA scientists said on Thursday that Martian soil appeared to contain the requirements to support life, although more work would be needed to prove it. Scientists working on the Phoenix Mars Lander mission, which has already found ice on the planet, said preliminary analysis by the lander's instruments on a sample of soil scooped up by the spacecraft's robotic arm had shown it to be much more alkaline than expected.

"We basically have found what appears to be the requirements, the nutrients, to support life whether past, present or future," Sam Kounaves, the lead investigator for the wet chemistry laboratory on Phoenix, told journalists.

"It is the type of soil you would probably have in your back yard, you know, alkaline. You might be able to grow asparagus in it really well. ... It is very exciting for us."

The 1 cubic centimeter (0.06 cubic inch) of soil was taken from about 1 inch below the surface of Mars and had a pH, or alkaline, level of 8 or 9. "We were all flabbergasted at the data we got back," Kounaves said. Pressed on whether there was still any doubt that life existed on Mars in some form, Kounaves said the results were "very preliminary" and more analysis was needed. But he added: "There is nothing about the soil that would preclude life. In fact, it seems very friendly ... there is nothing about it that is toxic." The \$420 million Phoenix lander touched down in the north pole region of Mars on May 25 after a 10-month journey from Earth. It is the latest NASA bid to determine whether water – a crucial ingredient for life – ever flowed on the planet and whether life,

even in the form of mere microbes, exists or ever existed there. Scientists said last week they had definitive proof that ice was on the planet after eight dice-sized chunks were seen melting away in a series of photographs.

Analysis in the past 24 hours of soil placed in the spacecraft's wet chemistry laboratory showed it to be less acidic than many scientists expected. It also contained traces of magnesium, sodium, potassium and other elements, they said. When told the pH levels, one colleague "jumped up and down as if he had the winning lottery ticket," mission soil analysis specialist Michael Hecht told a telephone news conference.

"It is a huge step forward," Hecht said, adding the "wet chemistry" technique, which involves mixing Martian soil with water brought from Earth, was aimed at discovering what native Martian microbes might be able to live, survive and grow in the soil.

The mission scientists said levels of salt were reasonable and the calcium levels appeared to be low but they warned that the composition of the soil could change at deeper levels below the surface. They also would not be drawn on what form of life the Martian soil might have supported.

CC & CI (Climate Change and Carbon Issues) Highlight

G8 environment ministers: halve emissions by 2050

From: Reuters; Published May 26, 2008 02:45 AM by Linda Sieg



KOBE, Japan (Reuters) - Environment ministers from the G8 rich nations on Monday urged their leaders to set a global target to halve greenhouse gas emissions by 2050, a small but vital step in the fight against climate change. But they stopped short of suggesting specific interim targets ahead of 2050, a key demand of developing countries in tough U.N.-led talks to forge a new treaty on global warming by the end of next year. Germany's secretary of state for the environment, Matthias Machnig, said the ministers had sent an important signal to their leaders on the direction in which talks needed to go.

"We made a step here today, a small one, but a very important one," he told a joint news conference.

About 190 nations have agreed to negotiate by the end of 2009 a successor treaty to the Kyoto Protocol, which binds 37 advanced nations to cut emissions by an average of 5% below 1990 levels by 2008-12. But wide gaps exist inside the G8 and between rich and poorer nations over how to share the burden for fighting the climate change that causes droughts, rising seas and more severe storms.

Ministers from the Group of Eight and major emerging countries had sought in weekend talks in western Japan to build momentum ahead of a July summit in Toyako, northern Japan.

The G8 agreed last year in Germany to consider halving global emissions by mid-century, a proposal favored by Germany, France, Britain, Italy, Japan and Canada but opposed so far by the United States and Russia.

"On climate change, we strongly expressed the will to try to come to an agreement at the Toyako summit (in July) so we can have a target of at least halving emissions by 2050," Japanese Environment Minister Ichiro Kamoshita told a news conference.

"To halve emissions, advanced countries should exercise leadership to achieve major cuts."

Emerging and developing countries want the G8 to take the lead by setting numerical targets for emissions cuts by 2020, a stance also backed by the European Union.

WHO GOES FIRST?

"As for mid-term targets, it is necessary to set effective targets and advanced countries should lead the way," Kamoshita said, but he added it might not be appropriate to specify numbers now and added that developing countries with rapidly increasing emissions also needed to curtail their increases.

How far G8 leaders will be able to go in July, when they get together with leaders from big emerging countries, is still in some doubt given that the United States insists that major emerging economies like China and India help curb emissions.

"For these goals to have meaning, we need to include not just the G8 countries but all countries that have significant emissions," said Scott Fulton, deputy head of the U.S. Environmental Protection Agency.

Bickering over who goes first raises the danger that the planet will run out of time, said British Environment Minister Hilary Benn.

"If we play who goes first, we are sunk," he told Reuters in an interview, noting that U.S. climate change policy was likely to change after a new president is elected in November.

Some environmental activists said the ministers had made progress - but not very much.

"We're at the point where there needs to be a very ambitious message out of the G8 summit for international talks on climate change to move forward," said Mika Obayashi of the Institute for Sustainable Energy Policies, an NGO.

"So in that sense, this meeting was just a quarter of a step forward. They didn't specify where they would set targets in the long term, nor did they go beyond saying that mid-term targets should be effective."

The G8 ministers also stressed the need for funds to help developing countries adapt to climate change and limit their emissions.

But they said private sector investments were needed in addition to government funds to pay for efforts that top U.N. climate negotiator said would require "hundreds of billions of dollars a year" would be needed over the longer term.

"Finance will help to unlock contributions from developing and emerging economies to solving the problem, without which we can't do it for reasons of the science and the maths," Benn said.

BIOFUEL Highlight

Abandoned, Marginal Farmlands Key to Sustainable Bioenergy, 080711

Biofuels can be a sustainable part of the world's energy future, especially if bioenergy agriculture is developed on currently abandoned or degraded agricultural lands, report scientists from the Carnegie Institution and Stanford University. Using these lands for energy crops, instead of converting existing croplands or clearing new land, avoids competition with food production and preserves carbon-storing forests needed to mitigate climate change.

The report, *The Global Potential of Bioenergy on Abandoned Agriculture Lands*, asserts that sustainable bioenergy is likely to satisfy no more than 10 percent of the demand in the energy-intensive economies of North America, Europe, and Asia. But for some developing countries, notably in Sub-Saharan Africa, the potential exists to supply many times their current energy needs without compromising food supply or destroying forests.

Elliot Campbell, Robert Genova, and Christopher Field of the Carnegie Institution's Department of Global Ecology, with David Lobell of Stanford University, estimated the global extent of abandoned crop and pastureland and calculated their potential for sustainable bioenergy production from historical land-use data, satellite imaging, and ecosystem models. Agricultural areas that have been converted to urban areas or have reverted to forests were not included in the assessment.

The researchers estimate that globally up to 4.7 million sq km (approximately 1.8 million sq miles) of abandoned lands could be available for growing energy crops. The potential yield of this land area, equivalent to nearly half the land area of the United States (including Alaska), depends on local soils and climate, as well as on the specific energy crops and cultivation methods in each region. Still, the researchers estimate that the worldwide harvestable dry biomass could amount to as much as 2.1 billion tons, with a total energy content of about 41 exajoules, nearly 7 billion barrels of oil, or about 8% of the world's energy demand.

"At the national scale, the bioenergy potential is largest in the United States, Brazil, and Australia," says lead author Campbell. "These countries have the most extensive areas of abandoned crop and pasture lands. Eastern North America has the largest area of abandoned croplands, and the Midwest has the biggest expanse of abandoned pastureland." The authors say that using these lands would generate about six percent of the nation's energy needs, though larger opportunities exist in other parts of the world. In some African countries, where grassland ecosystems are very productive and current fossil fuel demand is low, biomass could provide up to 37 times the energy currently used. "Our study shows that there is clearly a potential for developing sustainable bioenergy, and we've been able to identify areas where biomass can be grown for energy, without endangering food security or making climate change worse," says Field, director of the Department of Global Ecology.

The results of the study were published in the June 25 online edition of *Environmental Science and Technology Journal* and are available by [Clicking Here](#).

CROP PRODUCTION HIGHLIGHT

Agriculture Secretary Takes Stand Promoting Food and Fuel (080523)

USDA released economic data this week that shows high energy prices, increasing global demand, drought and other factors? not biofuels? are the primary drivers of higher food costs. During a media briefing on the case for "food and fuel" Monday, Agriculture Secretary Ed Schafer drew a line in the sand, stating: "The time has come for USDA to join in the public conversation about the relationship between food prices and biofuels."

In offering the department's "perspective on what has happened in the marketplace," Schafer pointed to International Energy Agency data that show global biofuels production has cut consumption of crude oil by 1 million barrels a day, offering savings of \$120 million dollars a day.

USDA Chief Economist Joe Glauber said all commodity prices have risen in the past year. "We certainly don't want to minimize what's going on with ethanol, because it is a very important factor in today's market, but it's important to discuss it in its proper context," Glauber said. He cited a rise in all commodity prices over the past

year ending in April of 47%, while food prices rose 46% and the price of oil went up 68% during the same 12-month period.

Schafer and Glauber said higher food prices are the result of economic growth in India and China where food demand is on the rise; weather problems in major wheat and rice exporting countries; export restrictions imposed by countries reacting to commodity shortages; higher food marketing and transportation costs; along with increases in biofuels.

The secretary and his chief economist also cited a Council of Economic Advisers estimate that shows the total global increase in corn-based ethanol production accounts for only about 3% of the recent increase in global food prices. The agriculture secretary also took note of oil prices that have broken through a series of price ceilings this year. "Developing diversity in our portfolio of fuels is, if anything, an even more urgent matter than it has been in the past," Schafer said. He said biofuels also contribute to the nation's energy security and national security. "The policy choices we have made on biofuels will deliver long-term benefits," he said.

The agriculture secretary criticized efforts to repeal biofuels policy but urged the focus to stay on long-term solutions. He pointed to the benefits of work to increase global agricultural productivity, which is important to developing countries' food and energy needs. "The need for food and fuel is only going to grow," Schafer said. To access a transcript of the Schafer's Food and Fuel Media Briefing, and to read and download supporting USDA documentation, go to <http://www.usda.gov/wps/foodfeedfuel.xml>.

In a related development last week, Sen. Charles Grassley (R-IA) disclosed a campaign by the Grocery Manufacturers Association to discredit biofuels, calling the GMA's attempts to blame biofuels for food price increases "outrageous and misplaced." He blasted the plan as an "effort to undermine and denigrate the patriotic achievement of America's farmers to reduce our dependence on foreign oil while also providing safe and affordable food."

Agroforestry Highlight

Alley cropping (hedgerow intercropping)

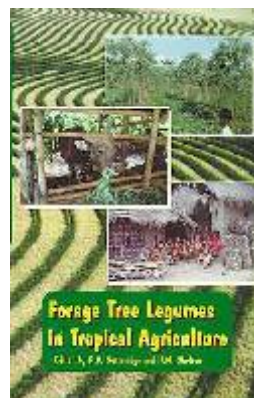
B.T. Kang and R.C. Gutteridge (Excerpted from The Overstory #172)
(<http://www.fao.org/ag/AGP/AGPC/doc/Publicat/Gutt-shel/x5556e00.htm>)

Alley cropping or hedgerow intercropping is an agroforestry practice in which perennial, usually leguminous trees or shrubs are grown simultaneously with an arable crop. The trees, managed as hedgerows, are grown in wide rows and the crop is planted in the interspace or 'alley' between the tree rows. During the cropping phase the trees are pruned and the prunings used as green manure or mulch on the crop to improve the organic matter status of the soil and to provide nutrients, particularly nitrogen, to the crop.

The hedgerows are allowed to grow freely to shade the inter-rows when there are no crops. Alley cropping retains the basic restorative attributes of the bush fallow through nutrient recycling, fertility regeneration and weed suppression and combines these with arable cropping so that all processes occur concurrently on the same land, allowing the farmer to crop the land for an extended period.

An important benefit of alley cropping is the addition of large amounts of organic materials from the prunings as mulch or green manure, which can have favorable effects on soil physical and chemical properties, microbiological activity and hence soil productivity. Factors such as C:N ratio, lignin and polyphenol contents influence the decomposition rate of the mulch, the subsequent release of nutrients and their uptake by the crop. Mulches from *Sesbania sesban*, *gliricidia* and *leucaena* were effective sources of N for maize growth while those from *Calliandra calothyrsus*, *Acacia cunninghamii* and *A. fimbriata* were ineffective in the short term. This may have been due to the high polyphenol and/or lignin content of the latter species.

The efficiency of utilization of N from the prunings can often be improved by incorporation. Hedgerows have the ability to recycle nutrients, although this aspect has not been widely studied. The significant role of alley cropping in reducing runoff and soil erosion is now fully documented. The germination and growth of most weed species are usually stimulated by exposure to light. Thus some control of weeds may be effected if a closed canopy can be maintained during the fallow period in an alley cropping system. There also appears to be a shift in weed composition following alley cropping. In most alley cropping systems, the weed suppression effect of the hedgerows is not fully exploited and further studies of the effect of different hedgerow species, fallowing and manipulation of cutting regimes may improve the effectiveness of the system in reducing weed infestation.



WASWC members are requested to send news about anything concerning SWC, e.g. funds, awards, publications, websites, exhibitions, technical meetings, to publish with us by sending to sskukal@rediffmail.com, aroraspa@yahoo.co.in, rmfowler@iafrica.com and sombatpanit@yahoo.com.

Vetiver Highlight

International Vetiver Handicraft Training Course, Longshen, Guangxi Province, China, October 21-November 6, 2007

Liyu Xu, Coordinator, China Vetiver Network, 71#Beijing Donglu, Nanjing 210008, China, P.R., Tel. +86-25-86881269, Fax: +86-25-86881000, vetiver@jlonline.com, www.vetiver.org.cn

It was a dream for China Vetiver Network to organize a vetiver handicraft training course for years. As early as in 2002 when China Vetiver Network was implementing China Vetiver and Agroforestry Technology Project in the Dabie Mountains supported by the Salvation Army, China Vetiver Network prepared to organize the training course and submitted a proposal as an additional component of the project to the Salvation Army. The program finally came true through multiple parties' joint efforts.



At the end of 2006 when a project titled Poverty Reduction and Resource Protection in a Guangxi Province Minority Area launched in Guangxi Province as supported by EED of Germany, A handicraft training proposal prepared in 2006 was submitted to Ms. Stefanie Elbern of EED and Richard Grimshaw of The Vetiver Network International (TVNI) in June 2007 who accepted the proposal. A color newsletter was prepared to introduce vetiver handicraft production and distributed to local farmers in order to let farmers know vetiver handicraft and generate their interest in participating in the training. Local project partners were asked to prepare for the training few months earlier, including: the organization of the training course, selection of training location and trainees, preparation of handicraft materials (vetiver grass) and tools. A field survey was investigated in

Jiangxi Province to prepare vetiver pruning to transport to Guangxi in order to fill the gap of the shortage of vetiver pruning. Since China did not have any experience in vetiver handicraft, China Vetiver Network contacted the Royal Development Projects Board of Thailand for assistance in training the Chinese.

To guarantee the training to be effective and successful, a Leading Group consisting of directors of institutions and governmental bureaus from Guilin City, Longsheng County, and Sishui Township government was established. Besides, an Implementation Group from the Township Agriculture Extension Station and County Agriculture Bureau were organized. Each of them had its detailed responsibility.

All of the attendants expressed high enthusiasm in the training course. The head of Thai delegate Mr. Pitaya Srijamlong briefly introduced vetiver handicraft production in Thailand, including post-harvest treatment of vetiver leaves, training in vetiver handicrafts, animal figures made from vetiver leaves, Department of Industrial Promotion (DIP)'s '96 and '99 vetiver handicraft contests, the exhibitions of vetiver handicraft products development, Bureau of Cottage and Handicraft Industries Development. To guarantee the training to process more smoothly, the Thai delegate brought tools, materials and sample products from Thailand to China, including some CDs and printed materials. To introduce Vetiver System (VS) more systematically and vividly, a poster exhibition was prepared and shown at the training site. The exhibition was divided into four parts: (1) General introduction of VS; (2) VS for sustainable agriculture; (3) VS for engineering and environmental protection; and (4) Bilateral visits between China and Thailand. It contained plenty of pictures; most of them were taken in China and attracted many people from both nearby villages and visiting tourists.



The selected 25 trainees from 23 to 67 years of age held a meeting to arrange details about the training course, including the location, logistics arrangement, time schedule, and regulation requested, etc. Most of the trainees were minority women. Few male farmers who had experience in bamboo handicraft also participated in the course. The trainees were demonstrated the grass cutting, suitability and processing of leaves for handicrafts. While the farmers were busy with leaf treatment, the head of Thai delegate Mr. Pitaya Srijamlong designed and made models with foam materials. The trainers first introduced general methods and then hand-to-hand teaching to individual farmers. Since there were few old male farmers who had experience in bamboo handicraft they could learn much faster than others and act as assistants of trainers. In addition, they helped to find local

materials (bamboo) as supplemental materials (skeleton) for making handicrafts. However, few days later young

minority women grasped basic method and practiced much better than the old men. At the end of the training course almost all of the trainees could produce at least three different products. Most of them could design and create new products based on their own use and local markets.

Every 3-4 days, there was a short meeting held in the afternoon before finishing one-day's work, aiming to solve problems and improve training process. To improve technology, trainers led trainees to compare their products and pointed out the good points and shortcomings of typical examples so that trainees could understand which is good and which is bad and why. Through comparison the skill of trainees improved very quickly. All products were exhibited in the workshop to let people to compete with each other and to push trainees to join competition.



In the end, an Evaluation Committee consisting of 3 Thai trainers, 1 from Township Government, 2 from County Agriculture Bureau, 2 from China Vetiver Network, and 1 from local farmers, was constituted. A guideline for final evaluation and awarding was prepared by China Vetiver Network. Of the 40 products exhibited, 21 were selected for final evaluation and later 10 products were selected for final evaluation. The first award (200 Yuan) went to Ms. Wu Songlian, the 2nd award (two persons, 100 Yuan each) was bagged by Ms. Zhong Bizhen and Ms. Hou Shizhen, while the 3rd award (3 persons, 50 Yuan each) went to Ms. Hou Lianfen, Mr. Shi Xianzhou and Ms. Shi Lingyan. Some consolation prizes were also distributed to the contestants. Prof. Wang Haoqing of China Vetiver Network presented a keynote. He pointed out that the handicraft could generate direct profit for farmers and will promote further vetiver

applications for soil erosion control. Everybody felt the training to be the best and the most successful. At the beginning of the training course, an organization was established that consisted of many important people from multiple cooperation parties. Each person of the Leading Group had its detailed responsibility. Everything was planned and arranged very clearly and implemented smoothly. Around 10 key persons from various institutions were actively involved in the organization and in-course service, of which 4 scientists from China Vetiver Network worked at the training site.

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This workshop held in Kochi (Cochin) from February 21-23, 2008 was ably managed by the Indian Vetiver Network with support from Tata Tea Co. Ltd., KDHP Co. Ltd., and The Vetiver Network International. Some 300 participants showed up for the inaugural session and there were about the same number at the workshop's closing, a good indication of participants' interest. The workshop brought together farmers, engineers, NGOs, private sector and government agencies from all over India, as well as some who came from abroad.

India is facing, at urban and village level, very serious water quality problems due to uncontrolled and untreated domestic and industrial wastewater. As a result of the Cochin workshop and the one before in Chandigarh, decisions have been made to go ahead with wastewater treatment applications in Punjab and Haryana States. There is overwhelming data and experience that the Vetiver System (VS) can handle domestic wastewater and sewage effluent at small and medium scale. The VS can deal with industrial wastewater where large areas of land are available. For example, cleaning up to EPA standards of 1.5 million liters per day of effluent from a gelatin factory in Australia required 80 ha of land. This might be possible in India only if wasteland was utilized.

The workshop was able to bring vetiver oil growers together with potential VS users, and an informal market emerged whereby the oil producers will sell plant material. If fully involved they could produce annually a total of



15-30 billion slips at a cost of just cutting off the roots and the leaves from the vetiver crown and bundling the slips together. Erosion is not a serious problem in oil producing areas except on steep lands, where it can easily be controlled by planting vetiver for oil between vetiver hedgerows. There is one 35-ha vetiver oil farm in Tamilnadu; when well managed, it caused no erosion, and produce sterile domesticated vetiver cultivars that could be used as plant material for vetiver applications.

Coastal beach and river erosion are problems that can be reduced using VS and have been aptly demonstrated in Chennai (Madras) and of course on many rivers in East Asian countries. Authorities in Kerala

see these as important areas of applications. India is planning massive highway and railway infrastructure developments. Under these investments contractors will be responsible for design, construction and maintenance for 20 years. Thus there is every incentive to use technologies that will improve quality and reduce maintenance costs. Vetiver Systems is well placed to do just this when it comes to slope stabilization. Engineers from a large highway firm working out of Delhi attended the workshop and showed great interest in the use of VS for this purpose. India Vetiver Network should work with construction companies to develop appropriate workshops that target the engineers. The VS could be used most effectively to help rehabilitate waterlogged and saline areas as found in central Haryana. Under such conditions vetiver could be grown as a high yielding forage (70 tons ha⁻¹) that could form a basis for an expanding dairy industry. The same might apply to Punjab and parts of UP where salinity is a problem.

India should carry out research relating to the carbon sequestering capability of vetiver grass (all indications are that it can) because its deep and massive root systems sequester large amounts of atmospheric carbon. Once criteria are properly identified and modeled, it is probable that vetiver growers could benefit from carbon exchange credits. The latter would provide added incentive to farmers to grow vetiver for soil and water conservation purposes. The India Vetiver Network can play an important role in expanding the technology in India. The Network could play an important role in linking vetiver plant suppliers with potential users, establishing guidelines for quality plant production, certifying growers who meet prescribed standards, coordinate vetiver handicraft training, and help set research priorities. It has an important role in expanding awareness of the VS by organizing special one-day workshops for different sectors, and to focus on areas of immediate need, such as highway and railroad stabilization and pollution control. The VS requires that vetiver grass be planted as a dense and continuous hedgerow on the contour so that it forms an effective barrier that functions with properties as described above. I believe that once people understand these principles and benefits many of the objections to its use will fall away. India is facing major problems that include soil erosion, rapidly declining groundwater, and water pollution. The Vetiver System has been proven as a very good technology that when used correctly can deal with many of these issues at one time and at a low cost!

WOCAT Highlight

Revised WOCAT Tools

The WOCAT Technology (QT) and Approach (QA) questionnaires have been adjusted to a modular system with the revised basic questionnaires as a core piece (compared to the professional version) in order to keep the framework more flexible and open for supplementary topics such as watershed management. The basic questionnaires were completely revised and represent now the standard WOCAT questionnaires. Some questions

were newly added related to current global issues such as ecosystem services, biodiversity, desertification or tolerance of SLM Technologies to climate change, whereas some questions were omitted entirely. QA basic was revised and improved to emphasize gender and poverty alleviation issues.

The 4-page summary format used in the WOCAT book **'where the land is greener'** can be used as an attractive output format, including all questions from the revised basic questionnaires. With this development, WOCAT responds to requests of a clear and compact display format giving the reader a quick impression of SLM Technologies or Approaches. In future, the summary format can be generated automatically from the WOCAT database after entering the data from the questionnaires.

First two pages of the WOCAT 4 page summary format. (WOCAT, 2007)

Apart from the main questionnaires about Technologies and Approaches, the new Mapping Questionnaire (QM) was also released recently. QM is a collaboration project of LADA, WOCAT and DESIRE. The WOCAT-LADA-DESIRE mapping tool is based on the original WOCAT mapping questionnaire (WOCAT, 2007).

It has been expanded to pay more attention to issues like biological and water degradation and place more emphasis on direct and socioeconomic causes of these phenomena including its impact on eco-system services. It evaluates what type of land degradation is actually happening where and why and what is done about it in terms



of Sustainable Land Management (SLM). Linking the information obtained through the questionnaire to a Geographical Information System (GIS) permits the production of maps as well as area calculations on various aspects of land degradation and conservation. The map database and mapped outputs provide a powerful tool to obtain an overview of land degradation and conservation in a country, a region, or worldwide (WOCAT, LADA, DESIRE 2008).

QM is currently introduced and tested in different LADA countries (e.g. Senegal, Cuba). In a later period further evaluation and adjustment of the new mapping tool will be made.

Picture from a training workshop on implementation of new mapping methodology in South Africa, October 2008 (Photo: Hanspeter Liniger)

The revised WOCAT tools are all available on the internet (www.wocat.org). For all WOCAT partners, please start using the new versions of the questionnaires.

WOCAT Symposium: Promoting Sustainable Land Management (SLM) for its Local and Global Impacts, Monday, October 20, 2008, Berne, Switzerland

WOCAT is pleased to announce a Symposium on **Promoting Sustainable Land Management (SLM) for its Local and Global Impacts**. The Symposium will take place in Berne, Switzerland. It will bring together various partners and donors, and those interested in SLM and natural resource management. International development and agricultural professionals and institutions as well as the public are invited. As the symposium will take place on the first day of the 13th WOCAT Annual Workshop and Steering Meeting (WWSM), the main WOCAT partners will be present, thus offering an exceptional chance to meet and exchange experiences and visions. For more information and a detailed program refer to www.wocat.net.

13th WOCAT Annual Workshop and Steering Meeting (WWSM)

October 20-25, 2008, Berne and Gwatt, Switzerland

The 13th WWSM will be held in Switzerland. The first day of the WWSM will be an open symposium for the main WOCAT partners and all participants of the WWSM. The symposium will take place in Berne (Hotel Bern) whereas the following days of the WWSM will be spent in Gwatt.

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SUMMARY REPORTS

International Conference on Conservation Farming Systems and Watershed Management in Rainfed Areas for Rural Employment and Poverty Eradication (ICON-FARM) February 12-16, 2008, New Delhi, India, Suraj Bhan, President, Soil Conservation Society of India (SCSI), bhan_suraj2001@yahoo.com

This conference sponsored by the Ministry of Agriculture, Government of India and organized by the Soil Conservation Society of India was held at New Delhi, India during February 12-16, 2008. Over 300 delegates from India and abroad attended the Conference. The delegates comprised soil and water conservationists, researchers, farmers, executives, students, planners, scientists, engineers, extension workers, NGOs and others. In the Inaugural Session, Dr. Suraj Bhan, President, Soil Conservation Society of India extended a

formal welcome to all the participants. He stated that conservation farming systems and watershed management would not only save soil and water resources, but also provide enhanced production on sustained basis. While we must continue to defend the gains in the irrigated areas, the additional food supplies would come from productivity increases in the rainfed areas. Hence rainfed areas need special attention. The rural poor mostly depend upon these areas. Their livelihood comes from them. Soil and water conservation is the “irrigation” of the rainfed areas and thus acquires special significance. If we conserve the rain where it falls through the technologies of soil and water conservation, we can have multiple cropping even in the so-called “dry farming” areas.

In his inaugural address, Honorable Union Minister of Rural Development, Dr. Raghuvansh Prasad Singh, said



that there was a great need to implement the best available technology on rainfed as well as irrigated areas so that people may not only get enough employment opportunities but may also increase the productivity and augment food supplies. Land degradation, he continued, was damaging our natural resources and a sound program of soil and water conservationists could play a great role in reversing land degradation and revitalizing the agricultural development of the country. The minister made special mention of organic farming, rainwater harvesting, recharge of groundwater, construction of dug wells, protection of natural resources and integrated watershed development backed by value addition through processing of bio-products and for better marketing. Dr. Samran Sombatpanit presided over the Inaugural

Session. He emphasized that natural resources need to be protected and scientifically managed for the livelihood support of the rural people. He thanked the Society for inviting him as the representative of the WASWC. He felt the world needed to be saved from degradation of natural resources on which the world food supplies depended.

It was recommended in the conference that the mass awareness should be made about value of our natural resources like soil, water, energy and biodiversity and about disastrous consequences of their misuse. Generation of nationally accepted database on soil resources in different agro-ecological environment along with their potentials and constraints to facilitate priority assignment, resource allocation, soil health monitoring and scientific management is extremely important.

Bottom up approach for rainwater conservation should start with the individual farm based interventions to undertake in-situ conservation and not directly with ex-situ runoff harvesting structures. Once farm based interventions are implemented the excess runoff water need to be taken out safely from the fields minimizing soil erosion. Efficient use of water resources is extremely important to manage the water demand rather than only augmenting the water resources through shifting non-productive evaporation to productive evapotranspiration. Resource conserving technologies (RCTs) involving zero or minimum tillage with direct seeding and bed planting with residue mulch should be advocated as the alternatives to the conventional rice-wheat systems and improving the sustainability. There is a need to build on the scientific and technological gains recently made by various national and international partners in integrating all available rice and wheat production technologies, evaluating them in farmer's fields and promoting the successful ones to farmers in general.



There is a strong need to prioritize the action outlining the research, development and extension to make horticulture a key driver in rural and regional economic development. Diversification to horticulture crops is the best option to improve livelihood, enhance employment opportunities, to attain food and nutrition security and increased income through value addition. Efficient, balanced and integrated use of chemical fertilizers, organic/green manures and soil amendments especially gypsum for degraded alkali soils and lime for acid soils is extremely important for sustaining crop productivity and maintaining soil health. The permissible limit of soil loss due to water erosion in major soil groups of the country under different agro-climatic situations needs to be evaluated. Assessment of groundwater recharge through different water harvesting structures and its utilization in potential zones of the country needs priority.

Appropriate capacity building has been the weakest link in the IWSM program implemented by various agencies in the past. Therefore, this activity requires utmost attention at all levels of state holders. Monitoring and evaluation of training programs are the basic issues to be addressed on priority for sustainability of IWSM programmers in the country. Subsequently, **New Delhi Declaration 2008** was also read by Smt. Mridula Singh, VP, SCSI. The Chairman highlighted that “New Delhi Declaration” needs to be further examined critically and information may be presented in three parts, i.e. research, extension and policy.

WASWC members are requested to send news about any meeting event, e.g. congress, conference, symposium, seminar, workshop, to publish with us by sending to sskukul@rediffmail.com, aroraspau@yahoo.co.in, rmfowler@iafrica.com and sombatpanit@yahoo.com.

International Centre for Integrated Mountain Development (ICIMOD) successfully completed for the second time a Training Course on “Low Cost Soil and Water Conservation Techniques and Watershed Management Activities” ICIMOD, Kathmandu, Nepal, March 31-April 22, 2008, Isabelle Providoli, ICIMOD. iprovidoli@icimod.org

The training was attended by 18 participants from 7 different countries. This includes 5 from Afghanistan, 6 from Bhutan, 2 from China, 1 from Finland, 1 from Lesotho, 1 from Nepal and 2 from Pakistan. The training has enhanced the theoretical and practical knowledge and skills of the participants in identification and designing of low-cost soil and water conservation techniques and watershed management activities in addressing different land degradation problems. The training covered 28 different conservation techniques and 9 different watershed management activities. The training was an intensive, field based and real hands-on practice. To implement the learning into the ground in their respective country the participants also prepared action plans. See more details in <http://waswc.soil.gd.cn/TRAINING%20COURSES.html>, which includes [Brief report](#), [Detailed report](#), [Presentation](#) and [Schedule](#).



In the photos, field exercise for the check dam construction at the ICIMOD's Demonstration Site, Godavari, Kathmandu, Nepal.

MISCELLANEOUS

▲ Song: [On May Morning](#), by [John Milton](#) (1660) from F. X. Browne, Inc. website www.fxbrowne.com

NOW the bright morning Star, Dayes harbinger,
Comes dancing from the East, and leads with her
The Flowry *May*, who from her green lap throws
The yellow Cowslip, and the pale Primrose.
Hail bounteous *May* that dost inspire
Mirth and youth, and warm desire,
Woods and Groves, are of thy dressing,
Hill and Dale, doth boast thy blessing.
Thus we salute thee with our early Song,
And welcom thee, and wish thee long.

▲ ENERGY HISTORY MILESTONES

Before 1700? A Renewable Energy World: Biomass, Wind, Hydro. (SEE NOTE BELOW).

1698 Thomas Savery Steam-driven pump

1711 Thomas Newcomen Atmospheric piston-driven steam engine for a pump

1785 James Watt More efficient, higher pressure, separated steam engine? First to produce sufficient power for broad scale use.

1862 Beau de Rochas Four-stroke reciprocating piston, spark-ignited internal combustion engine

1876 Baron Otto Improved four-stroke reciprocating piston, spark-ignited internal combustion engine

1881 Brush Electric Light Co., First electric power plant Philadelphia

1892 Rudolph Diesel-Diesel engine

1896 Henri Becquere; Discovery of natural radioactivity
1903 Fisk St. Sta., Commonwealth First steam turbine-driven electric power plant, Edison Co., Chicago
1932 James Chadwick Discovery of the neutron
1933 Irene and Frederic Joliot-Curie Discovery of artificial radioactivity
1938 Otto Hahn, Lise Meitner and Discovery of neutron-induced fission Fritz Strassmann
1942 Enrico Fermi First man-made critical nuclear reactor
1951 Howard Zinn First nuclear electricity produced, by EBR-1
1954 Hylan Rickover First nuclear submarine, USS Nautilus
1958 Atomic Energy Commission First commercial nuclear electric power plant, Shippingport.
- Sid Clouston, CloustonEnergy@aol.com

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▲ SCIENTIFIC AMERICAN MIND

The Orgasmic Mind: The Neurological Roots of Sexual Pleasure

Achieving sexual climax requires a complex conspiracy of sensory and psychological signals-and the eventual silencing of critical brain areas

▲ FEW NICE / WISE WORDS

"There are only two ways to live your life. One as though nothing is a miracle. The other as though everything is a miracle" (*Albert Einstein*)

The Book is written; the die is cast,
Let it be read now; or by posterity, I care not which (*Kepler*)

Happy is the Man, who has built the real Foundation of those stones, which were thrown to him by the People
(*Kukul*)

Words are very poor vehicles to express the vacillations and emotions of the Heart (*B. Cartland*)

Look not mournfully to the Past – It comes not back;
Wisely improve the present – It is thine'
Go forth to meet the shadowy future without fear; and with a manly heart (*Longfellow*)

No Child, no Sire, no Kin had I
No Partner in my misery; I thought of this
And I was Glad (*Byron*)

Thou art the ruins of the noblest Man that ever lived in the tide of times (*Shakespeare*)

Grass does not grow on the gallows (*Churchill*)

Love is the business of idle;
But idleness of the Busy (*Shakespeare*)

You may access WASWC websites at **WASWC China**: <http://waswc.soil.gd.cn> (for WASWC Newsletter, HOT NEWS and others); **WASWC Japan**: www.waswc.org (Journal and Proceedings of WASWC); **photo websites**: <http://community.webshots.com/user/waswc> and <http://community.webshots.com/user/waswc1>

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Note: For the convenience of all parties you are advised to sign up as a Life member or to pay for several years (e.g. 4 years and get 5 years) in one time. Contact sombatpanit@yahoo.com if you have any problem or for more information..

1. **Individual membership:** US\$5/yr for developing countries; US\$10 for developed countries and persons working in international organizations worldwide. Payment of the fee for 4 years at the same time will enable the membership to be valid for 5 years.

2. **Life membership:** US\$80 for developing countries; US\$160 for developed countries and persons working in international organizations worldwide

3-1. **Organization membership (OM):** For universities, research and implemental institutions, government agencies, NGOs, societies, associations and international organizations, etc. Persons belonging to an Organization member will receive the same online products and services as the other two above categories: \$100/ yr for an organization with up to 150 persons; \$150/ yr for an organization with up to 300 persons; \$200/ yr for an organization with up to 500 persons; and \$10/ yr for an additional 100 persons or part thereof. Local organizations in developing countries can request to pay at a lower rate.

3-2. **Organization subscription (OS):** is the same as the **Organization membership** but the organization wants to limit its involvement only as a subscriber.

3-3. **Organization cooperation (OC):** is the same as the **Organization membership** but the organization wants to limit its involvement only as a cooperator, without paying a fee. Any organization can be a cooperator for 1-2 years before deciding to join as OM or OS if desired.

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