



Science story of the week

Bamboo planting can slow deforestation ■

Condensed from Voice of America's interview of Professor Chin Ong - aired on 29th August 2006

Scientists may have found a way to slow deforestation. Fast growing bamboo can help quickly replenish a forest stripped of timber. Forests are shrinking globally as people in developing nations seek wood for fuel and more land for farming. The Worldwatch Institute in Washington says Earth has lost one percent of its woodlands in the past five years, an area about the size of Germany.

Ecologists say the environmental damage is alarming. Overlogging and failure to replant cause widespread soil erosion and loss of wildlife habitat. Deforestation also affects global climate. Trees absorb carbon dioxide, a greenhouse gas. Burning trees and rotting wood left by loggers are thought to add to global warming by emitting more of the gas into the atmosphere, where it traps the sun's heat. Experts say the loss of forests will continue unless alternatives to wood are found. "Most of the forested areas have gone down by 70 to 90 percent, so we need a sustainable form of farming timber," said water specialist, Chin Ong, at the International Center for Research in Agroforestry in Nairobi, Kenya.

He says one promising substitute for wood is bamboo, a grass with a tree-like appearance. Some varieties grow more than 25 meters tall and 20 centimeters thick. Ong points out that bamboo can be grown all over the world and has advantages over timber. One is its speedy growth. "You can harvest after three or four years and then every year after that because it is a grass," he explained. "So when you cut a bamboo down, it will produce another shoot and it is ready for harvest in one or two years. Whereas if you grow a eucalyptus tree, you need five to 10 years before you can harvest again. Another reason is that bamboo has a very high water use efficiency, which is double that of any tree species."

Ong says the plants can be an additional cash crop in areas where sugar cane and coffee are already established. He estimates that in the Lake Victoria region of Kenya, Tanzania, and Uganda, as many as 150 million people can benefit economically. Plant biologist David Midmore of the Central Queensland University in Australia says bamboo also has environmental benefits. "In Taiwan, bamboo is grown on the hillsides along the edge of the mountains - it is sustainably harvested for its shoots and for its timber, and it is an environmentally friendly species because it is also preventing any erosion," he noted. Midmore says bamboo shoots are also an important source of nutrition and can withstand harsh climates. "It is one of the few species that will produce during typhoons, whereas most vegetable species will get blown away or washed away or rot," he added. "Bamboo shoots continue to thrive in hot and wet conditions."

In addition to providing lumber and food, bamboo plants can clean the environment. Chin Ong is studying how bamboo groves could remove toxins from dirty waters. Ong says there is an unfulfilled potential for bamboo to protect forests and improve agriculture.



Full interview script: <http://www.worldagroforestry.org/news/default.asp?NewsID=7EE5F6E0-0182-4992-B033-CC130C609082>

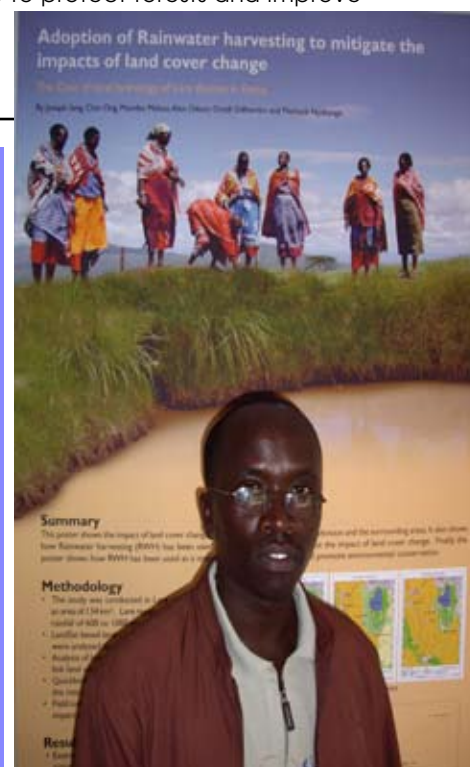
Listen to the interview: http://www.worldagroforestry.org/downloads/audio/VOA_Chin_Bamboo_Deforestation_Interview.mp3

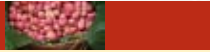
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Feast your eyes on:
The best poster at the World Water Week this year!

For the 3rd time in a row, the RELMA poster won the best poster award at the World Water Week, held in Stockholm in August 2006. The poster was titled "Adoption of rainwater harvesting to mitigate water shortage due to land use change". Joseph Sang (in the foreground) received the award at the closing ceremony.





Strategic tree planting could save water in dry areas ■

Condensed from a story in SciDev.Net

Researchers say that planting trees in dry regions of the world could make better use of scarce water resources. They warn, however, that planting the wrong species could worsen the problem. ICRAF findings, based on 20 years of research in Kenya, were announced at the World Water Week meeting in Stockholm on 22 August.

Many African countries have large plantations of pines or eucalyptus. But ICRAF scientists advise against planting these fast-growing evergreen trees because they need a lot of water. Instead, they recommend planting deciduous trees in integrated 'tree-crop' systems, in which agriculture and forestry are practised on a single piece of land. Such trees shed their leaves for up to six months of the year, nearly halving the amount of water they need. This enables them to cope with long dry spells and also means they won't compete with crops for water.

"Trees are not able to adapt quickly over such a short period," Chin Ong, a plant physiologist at ICRAF who led the research, told SciDev.Net, "We must select trees that are more efficient in their use of water and that can cope with the changing rainfall." He said that without action, 70 per cent of rivers would dry up. ICRAF is trying to encourage policymakers and communities who continue to plant evergreen trees — as sources of pine resin or pulp for paper production, for example — to change their practices.



Some species like this eucalyptus are more 'thirsty' than others, requiring more water.

Full story: <http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=3067&language=1>

Hillary Kipruto successfully defends his M.Sc thesis ■

Ramni Jamnadass

Mr. Hillary Kipruto has successfully defended his M.Sc thesis entitled: Comparative Study of Statistical Association in Datasets with reference to Molecular data, Phenotypic trait data and Geographic data.

Hillary was registered with Kenyatta University and supervised by Ric Coe, Dr. Njenga of Kenyatta University and myself. His work was funded by Dr. Jean Hanson of GRU/ILRI. Heartiest congratulations Hillary for taking on a challenging project, especially using molecular data for the very first time - and doing a marvelous job of it.

VERY WELL DONE indeed!



ICRAF in the Media: Reflectance Spectroscopy still a hot topic ■

The August 2006 issue of *Frontiers in Ecology and Environment* ran a story on Reflectance Spectroscopy (titled 'Scanning Soil Health'), by Virginia Gewin. The article highlighted the advantages of reflectance spectroscopy over conventional methods of soil analysis.

Dr. Keith Shepherd, Principal Soil Scientist at ICRAF, and Rattan Lal, soil scientist at Ohio State University (Columbus, Ohio), were interviewed for this story.

To read the full story: http://www.frontiersinecology.org/current_issue/augustDispatches2006.pdf

Dates for your diary

- 13th PhD workshop on international climate policy
27 - 28 October 2006, Leeds, UK

<http://www.scidev.net/events/index.cfm?fuseaction=readevents&itemid=982&language=1>

- Science and Technology Policy Research and Statistical Indicators: International Conference
8 - 10 November 2006, Colombo, Sri Lanka

<http://www.scidev.net/events/index.cfm?fuseaction=readevents&itemid=984&language=1>

- The 5th Asia-Pacific Symposium on Press and Scientific and Social Progress
4 - 6 November 2006, Beijing China

<http://www.scidev.net/events/index.cfm?fuseaction=readevents&itemid=985&language=1>

Ahmed's Farewell ■



Tony conducts a farewell song for Ahmed Salim at morning tea on 25th August. The choir all had pink cheeks - to 'pay tribute' to Ahmed's incessant and pronounced blushing! Ahmed, who leaves ICRAF after ten years of service, also received a long service award at the same ceremony.

Library tip of the week

Gateway to Global Open Access Journals

Jacinta Kimwaki

Through the Open J-Gate, an electronic gateway to global journal literature in open access domain, you will have seamless access to millions of journal articles available online. Open J-Gate is also a database of journal literature, indexed from 3000+ open access journals, with links to full text at Publisher sites.

To visit the gateway through the library web-page, click on:

<http://intranet/Library/ViewLibList.asp?letter=&Category=20&page=2>

Launched in 2006, Open J-Gate is the contribution of Informatics (India) Ltd to promote Open Access Initiative.

Queries? Contact Jacinta Kimwaki, jkimwaki@cgiar.org

Bearing Fruit: Kenyan School's mango nursery

A mango nursery established at Lwak Girls school in Western Kenya - an ICRAF Farmers of the Future Initiative - aims to extend future harvest seasons by raising 2,000 grafted mango trees - which would go a long way in improving nutrition and reducing Vitamin A deficiency.

To read the full story: <http://www.teachamantofish.org.uk/bulletin/august2006.php#cotton>

New Library Publications

By Caroline Mbogo & Humphrey Keah

Publications by ICRAF Staff in bold

Budidarsono, S., Burgers, P. 2005. **Forestry and local communities of Java in times of and turmoil, 1942-2000.** In: Boomgaard, P. et al. (eds.). *Muddled waters: historical and contemporary perspectives on management of forests and fisheries in island Southeast Asia*. Leiden: KITLV Press, p. 351-369.

Jha, P.K., Dhakal, L.P., Kjaer, E.D., Lillesø, J-P, B. 2006. **Improving productivity of *Bauhinia purpurea* for tree planting farmers in Nepal.** *Agroforestry Systems* 67: 273-278.

Full Text: <http://intranet/downloads/publications/PDFs/JA06130.PDF>

Kindt, R., Damme, P. van, Simons, A.J., Beeckman, H. 2006. **Planning tree species diversification in Kenya based on differences in tree species composition between farms. I. Analysis of tree uses.** *Agroforestry Systems* 67:215-228.

Full Text: <http://intranet/downloads/publications/PDFs/ja06125.pdf>

Kindt, R., Damme, P. van, Simons, A.J., Beeckman, H. 2006. **Planning tree species diversification in Kenya based on differences in tree species composition between farms: II. Analysis of tree niches.** *Agroforestry Systems* 67: 229-241.

Full text: <http://intranet/downloads/publications/PDFs/ja06126.pdf>

Kiptot, E., **Franzel, S.**, Hebinck, P., Richards, P. 2006. **Sharing seed**

and knowledge farmer to farmer dissemination of agroforestry technologies in western Kenya. *Agroforestry Systems* [original paper], 13p. Full Text: <http://intranet/downloads/publications/PDFs/ja06129.pdf>

Lengkeek, A.G., Mwangi, A.M., Agufa, C.A.C., Ahenda, J.O., Dawson, I.K. 2006. **Comparing genetic diversity in agroforestry systems with natural forest: a case study of the important timber tree *Vitex fischeri* in central Kenya.** *Agroforestry Systems* 67 p. 293-300. Full Text: <http://intranet/downloads/publications/PDFs/ja06128.pdf>

Malayang III, B.S., Hahn, T., Kumar, P., Maharaj, S., Bohensky, E., Domingos, T., Filer, C., Agard, J.B.R., Blanco, H., Dong, S., Espaldon, M.V., Christo, F., Gokhale, Y., Hefny, M., Lundberg, J., Patwardhan, A., Ramirez, E.C., Talukdar, B., **Tomich, T.** 2005. **Responses to ecosystem change and to their impacts on human well-being.** In: Capistrano, D. et al. (eds.) *Ecosystems and human well-being: multiscale assessments, volume 4*. Island Press: Washington, p. 205-230.

For a full list of library publications, click on :- <http://intranet/News/default.asp?NewsID={8162E933-2EF1-4CEE-BE01-5BFA5C5D2195}>

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For more information, visit our library site: <http://worldagroforestry.catalog.cgiar.org/library/>

Staff Member of the Week

Name: Claudette Disii
Title: Senior Administrative Assistant
Unit: Office of the Director General & Director of Strategic Initiatives
Station: Nairobi
Years at ICRAF: 2
Favourite Book/Magazine: How to be a People Magnet/ Vogue
Favourite Movie/Music: Neo-Soul
Hobbies: Working out and dancing salsa
I've always wanted to... manage people



Want to nominate next issue's staff member?
Email suggestions to: Transformations@cgiar.org



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TRANSFORMING LIVES AND LANDSCAPES

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