

# Transformations

A WEEKLY PUBLICATION OF THE WORLD AGROFORESTRY CENTRE

World Agroforestry Centre  
TRANSFORMING TREES AND LANDSCAPES

## Science story of the week

### Africa needs agroforestry to cut forest emissions

Condensed from an article by F.K. Akinnifesi, B. Muys and O.C. Ajayi, posted on scidev.net, July 8, 2009

The conflict between conserving environments and improving livelihoods is constricting efforts for reducing emissions from deforestation and forest degradation (REDD) in Sub-Saharan Africa. But agroforestry — managing trees with agricultural production — could help.

The Financial Times calls the carbon market the world's fastest growing commodity market — with agriculture, forestry and other land use playing an increasingly important role. The idea behind REDD is simple — pay countries to reduce carbon emissions from deforestation and degraded lands.

But working out practical solutions that meet key Millennium Development Goals — namely, to end extreme poverty and hunger, and ensure environmental sustainability — remains difficult.

Developing countries' quest for food security through agricultural expansion often leads to deforestation and forest degradation. The main challenge for much of Sub-Saharan Africa is how to design agricultural landscapes to resolve livelihood-environment conflict and maintain forests' ecosystem benefits such as water storage, erosion control, biodiversity conservation and soil rehabilitation.

The way forward is to integrate climate and livelihood, adaptation and mitigation, REDD and agriculture. Agroforestry should be a key component of this approach. Integrating trees into agricultural landscapes on a massive scale would create an effective carbon sink while ensuring sustainable food production, and would help adapt to climate change in other ways too.

Tree and carbon experts from the World Agroforestry Centre suggest that a billion hectares of farmland (much of it in developing countries) could be turned into carbon-rich agricultural landscapes, potentially sequestering 50 billion tonnes of carbon dioxide — a third of the carbon reduction challenge.

Of course, saving carbon is not usually the top priority for small-holder farmers — but agroforestry can contribute many of the other benefits farmers want too. For example, a meta-analysis of 94 scientific publications — conducted by World Agroforestry Centre researchers and published in *Plant and Soil* in 2008 — indicates that using 'fertiliser trees' that capture nitrogen from the air and transfer it to the soil can reduce the need for commercial nitrogen fertilisers by 75% while doubling crop yields. If combined with other soil fertility management, such as conservation agriculture, fertiliser trees can significantly boost sustainable soil health and increase food security. A diverse tree cover can also increase agroecosystems' resilience towards drought, pest and disease and other threats on food production induced by climate change.

If REDD — or indeed, any other effort to mitigate climate change — is to succeed, it must recognise rural livelihood priorities and focus on providing a 'stream of benefits'. Agroforestry tree planting offers this, from tree products such as fruits, medicines and wood to ecosystem benefits such as pollination, water storage and erosion control.

Deliberately creating opportunities for non-timber tree products is a robust way of reducing risks and diversifying options for agroforestry. But this will require putting the right trees, markets, policies and institutions in place.



Another challenge for local communities in the South is getting paid for the carbon they sequester. Experience shows that qualifying and registering for initiatives such as the Clean Development Mechanism (CDM) — and, more likely than not for REDD — involves technical hurdles that hinder wide participation by land users from the South. Excellent toolkits, such as the EU-funded project for designing CDM forestry projects, ENCOFOR, can help. The World Agroforestry Centre is also helping develop capacity to use satellite data and new hi-tech measurement techniques to remotely calculate carbon stocks across millions of square kilometres of agricultural land and forests. Nevertheless, the challenges remain.

Carbon off-setting schemes such as REDD could both improve the environment and generate income. We believe the sustainable landscape of the future in Sub-Saharan Africa will have to be tree-based to guarantee achieving the dual goals of sustainable livelihoods and environments. But we must urge policymakers to recognise agroforestry as an important win-win solution.

The first steps will be to scale-up existing proven and integrated tree-based practices such as combining conservation agriculture with agroforestry on farmlands — what we now call "evergreen agriculture" — to achieve 'high carbon stock' and sustainable food security and livelihoods. This will need sound decision support mechanisms from researchers — supported by policymakers for effective implementation — that build on knowledge, partnerships and capacity at all scales. It also involves providing start-up inputs of quality seeds, nursery, training and extension materials, product markets, carbon credits, payment for environmental services and other financial stimuli for farmers.

*F.K. Akinnifesi and O.C. Ajayi are researchers at the World Agroforestry Centre. They are based in the Southern Africa Programme, at Chitedze Agricultural Research Station in Malawi.*

*B. Muys is a professor at KLIMOS (Research Platform Climate & Development), Katholieke Universiteit Leuven, in Belgium.*

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### Terra Viva Grants Information on over 300 grant providers

Jan Laarman, former DDG at the Center, visited ICRAF's Nairobi campus from 29-30th June 2009. He was able to connect with many former colleagues, and to meet a few new ones.

The previous week, Jan facilitated a workshop at Jomo Kenyatta University of Agricultural and Technology - on the development of grant proposals for agricultural research, and where to look for grant funding.

Participants in the workshop were young agricultural researchers from several institutions in Kenya. Sponsoring the event was YPARD (Young Professionals in Agricultural Research for Development). J

Since departing ICRAF at the end of 2007, Jan and his spouse have established an NGO called Terra Viva Grants ([www.terravivagrants.org](http://www.terravivagrants.org)), which is registered in both France and the USA.

Terra Viva Grants is an information source on over 300 grant providers in agriculture, energy, environment, and natural resources. Each grant provider is profiled in a systematic way. The website also features a calendar of application deadlines, as well as other funding news.

Jan explains his objective as wanting to help grant finders search for funding within an organized framework. According to Jan, the website is intended to contribute towards efficiency (saving time) and democracy (global free access). In the language of the CGIAR, this can be regarded as an international public good.

For comments and questions, Contact Jan Laarman, [terravivagrants@gmail.com](mailto:terravivagrants@gmail.com)

### Robert McNamara, CGIAR visionary, dies at 93

From an email by Katherine Sierra, Chair, CGIAR

Robert McNamara who served as president of the World Bank from 1968 to 1981, died at his home in Washington, D.C., early Monday, July 6, 2009 at the age of 93. I bring this news to your attention because of the central role McNamara played, starting immediately after his appointment as Bank president, in creating the CGIAR to provide adequate financial support for international agricultural research. In a complementary move, McNamara also succeeded in expanding World Bank lending to agriculture in developing countries.

McNamara pursued a vigorous campaign to convince the World Bank's Board and others of the need to promote "the agricultural research of today that will be the foundation of greater agricultural growth tomorrow." He did so at a time of high and unstable prices for staple foods, the result of agricultural stagnation across the developing world.

In confronting a similar crisis today - one greatly magnified by the challenge of climate change - we would do well to reflect on McNamara's vision and determination to bring the CGIAR into being. Our role and relevance live on.

But we must renew our commitment to agricultural research, if our efforts to defeat hunger, poverty and environmental degradation are finally to succeed.

The CGIAR celebrates McNamara's legacy of making a real difference in the lives of the poor.

May He Rest in Peace.

### Special issue on sustainable consumption and production - Call for papers

Natural Resources Forum (NRF) is a special Journal, published by the UN Division for Sustainable Development. It will publish a special issue on Sustainable Consumption and Production in February 2010.

Articles submitted for this special issue should consider sustainable consumption and production, with a sustainable development perspective, i.e. one that focuses on economic, social, and environmental aspects in an integrated way. The aim is to highlight the need for drastic changes in consumption patterns and spur the discussion on policies necessary to achieve them, based on sound quantitative analysis.

The deadline for the special issue is **15 August 2009**.

More details:


[http://www.un.org/esa/dsd/resources/res\\_pdfs/publications/NRF/CallsforPapersFeb2010.pdf](http://www.un.org/esa/dsd/resources/res_pdfs/publications/NRF/CallsforPapersFeb2010.pdf)

### PACO News June edition available

The June Edition of PACO news is now available. This is an online bulletin of the International Union for Conservation of Nature (IUCN). IUCN helps the world find pragmatic solutions to the most pressing environment and development challenges. It supports scientific research, manages field projects all over the world and brings governments, non-government organizations, United Nations agencies, companies and local communities together to develop and implement policy, laws and best practice.

To read the newsletter, visit:

[http://www.iucn.org/fr/propos/union/secretariat/bureaux/paco/res\\_pub\\_paco/paconews/](http://www.iucn.org/fr/propos/union/secretariat/bureaux/paco/res_pub_paco/paconews/)



**Embracing Change update:**

### TMT Journal Update from CGIAR Director Ren Wang

As our Chair Katherine Sierra noted in the last TMT journal update, the Executive Council (ExCo) gave a green light at its June meeting for implementation of the CGIAR Change Initiative to continue. I was very pleased with this signal, which came with an acknowledgement that much work remains to be done. The Transition Management Team met immediately after the ExCo meeting in Cali and via a subsequent teleconference to synthesize key conclusions and plan the way forward.

We have begun to weave together the different elements of the new CGIAR -- the Consortium, Fund, Strategy and Results Framework, Accountability Framework and Global Conference on Agricultural Research for Development -- into a coherent and cohesive entity (scheme). ExCo members had flagged integration of these various work streams as a high priority.

To read more:

<http://cgiarchangemanagement.wordpress.com/2009/07/02/tmt-journal-update-6-from-cgiar-director-ren-wang/>

### DATES FOR YOUR DIARY

#### Climate Impact Summit

Accra, Ghana, 12 - 24 August 2009

<http://www.scidev.net/en/events/-climate-impact-summit-i-12-14-august-2009-accra-g.html>

#### World Climate Change Conference

31 August - 4 September, Geneva, Switzerland

[http://www.wmo.int/wcc3/conf\\_en.php](http://www.wmo.int/wcc3/conf_en.php)

## New Publications

By Carole Mbogo and Keah Humphrey

### Journal articles

**Kiwi, A., Imo, M., Jama, B., Okalebo, J.R.** 2009. **Coppicing improved fallows are profitable for maize production in striga infested soils of western Kenya.** *Agroforestry Systems* 76 : 455-465.

### Annual reports

World Agroforestry Centre (ICRAF-WCA). 2009. **Annual Report 2008: Improving livelihoods through agroforestry.** ICRAF-WCA Annual Report 2008. Yaounde: World Agroforestry Centre (ICRAF-WCA), 38p.

### OTHER PUBLICATIONS

#### Books

Meunier, A. 2005. **Clays.** New York: Springer Science + Business Media, 485p.

#### Theses

Ali, J. 2009. **Deforestation in the Himalayas: mainstream views, institutional failure and "alternative systems" - a case study from northern Pakistan.** PhD Thesis number 2009:10. Ås: Norwegian University of Life Sciences (UMB), 380p.

#### Conference proceedings

[ACT] African Conservation Tillage Network. 2008. **Linking production, livelihoods and conservation.** Nairobi: African Conservation Tillage Network (ACT). **Proceedings of the Third World Congress on Conservation**

**Agriculture, 3-7 October, Nairobi - African Conservation Tillage Network,** 124p.

#### Technical manuals

Mery, G., Galloway, G., Sabogal, C., Alfaro, R., Louman, B., Kengen, S., Stoian, D. 2009. **Making Latin American forests work for people and nature: essential forest policies for Latin America.** CATIE Technical manual no. 88. Turrialba: Tropical Agricultural Research and Higher Education Center (CATIE), 21p.

#### Briefs

von Braun, J., Meinzen-Dick, R. 2009. **"Land grabbing" by foreign investors in developing countries: risks and opportunities.** IFPRI Policy brief no. 13. Washington, D.C.: International Food Policy Research Institute (IFPRI), 4p.

Nelson, G.C. (ed.) 2009. **Agriculture and climate change: an agenda for negotiation in Copenhagen.** IFPRI 2020 Vision for Food, Agriculture and the Environment. IFPRI 2020 Focus 16. Washington, D.C.: International Food Policy Research Institute (IFPRI), v.p.

#### Bulletins

Miyagawa, S. 2007. **Food regulation on agrochemicals for ensuring quality and safety of food supply in Japan.** Food and Fertilizer Technology Center Extension Bulletin 589. Taipei:

Food and Fertilizer Technology Center (FFTC), 10p.

#### Discussion papers

Hansen, H.; Headey, D. 2009. **The short-run macroeconomic impact of foreign aid to small states: an agnostic time series analysis.** IFPRI Discussion Paper 00863. Washington D.C.: International Food Policy Research Institute (IFPRI), 25p.

#### Journals

*Economist* 392(8638), 2009

*New Scientist* 202(2714), 2009

*Organic Farmer* 50, 2009

*Science* 324(5934), 2009

For a full list of this week's publications, visit:

[http://intranet/News/default.asp?NewsID=\(B2D80AD3-9EE4-4644-BFA7-7041EC12BEC2\)](http://intranet/News/default.asp?NewsID=(B2D80AD3-9EE4-4644-BFA7-7041EC12BEC2))

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

### Staff Member of the week:

**Name:** Sabra Idha Salim

**Title:** Assistant travel and conferences officer

**Unit:** Operations

**Station:** Headquarters-Nairobi

**Years at World Agroforestry Centre:** 10 months

**Favourite Book/Magazine:** *Oliver Twist*

**Favorite Music:** *Rythm and blues*

**Hobbies:** *Swimming and hiking*

**I have always wanted to...** *perform the arts (singing, acting) but I'm way too shy. So this is usually done in the safety of my home.*



Transformations is the weekly newsletter of the World Agroforestry Centre in Nairobi

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Submitting a story for Transformations Weekly? Please email to [Transformations@cgiar.org](mailto:Transformations@cgiar.org) by Wednesday 5pm; or reserve space by Monday 5pm, and submit the article by Thursday 4.30pm. We look forward to receiving your submissions. Thank you, the Editor.