



IUFRO World Congress Bulletin

A Daily Report of the XXIII IUFRO World Congress

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XXIII IUFRO WORLD CONGRESS HIGHLIGHTS: TUESDAY, 24 AUGUST 2010

On Tuesday, participants continued discussing forestry issues of every hue, beginning with a plenary keynote speech by CIFOR Director General Frances Seymour on past and future challenges of forest research. The day continued with three sub-plenaries on urban forests, the next generation of forest research, and forests and climate mitigation. Additionally, 38 technical sessions met, covering all nine Congress themes, along with multiple side and business events, as well as the first of two official poster sessions.



IUFRO theme banners prominently displayed in the exhibition hall.

PLENARY SESSION

Niels Elers Koch, Forest and Landscape Denmark, chaired the plenary and introduced keynote speaker, Frances Seymour.

Frances Seymour, CIFOR, began with a retrospective talk on forest and communities research aimed at gleaning lessons for the multiple challenges of integrating climate change into future research. After commending progress made on understanding effects of rights and market constraints, and highlighting the importance of institutions, she warned against the “tyranny” of the case study, the proliferation of which has created an excess of objectivity, allowing scientists to build scientifically supported arguments to corroborate any normative position on the effects of community-based forestry. To move away from the “it depends” conclusion on this effectiveness, Seymour

highlighted that the inclusion of a more open, political economy approach is needed to account for the multiple, often competing, interests involved in, and served by, forest policy-making.

Seymour then highlighted key aspects that must be included in future climate change-related forestry research. First, noting that communication with the “climate world” is imperative, what may be conventional wisdom to some is novel information to others. Second, she urged that new research agendas must build on what is already known about creating effective, efficient and equitable outcomes. Third, she called for forest scientists to commit to “big science,” as too much “small think” can impede evidence-based rural policy-making. She stressed that much is to be gained by investing in global comparative



Frances Seymour, Center for International Forest Research (CIFOR),

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Frances Seymour, CIFOR Director General

studies, but because no single organization has the capacity to undertake such an operation on its own, collaborative research must be pursued now more than ever.

Responding to questions from Koch, Seymour noted that IUFRO will play a valuable role in the adaptation of big science through its promotion of interdisciplinarity and cooperation.

SUB-PLenary SESSION

PROMOTING URBAN FOREST SERVICES IN PARTNERSHIP BETWEEN SCIENTISTS AND COMMUNITIES:

Chair Cecil Konijnendijk, University of Copenhagen, summarized changing urban trends affecting urban forestry: demography, lifestyle, information and entertainment, urbanization, and changes in the wider environment. He continued by presenting characteristics urban forestry should embody, namely: integrative, strategic, inter- and multi-disciplinary, participatory, and adequate in meeting urban demands, since foresters' "customers today are primarily urban."

David Nowak, US Forest Service, discussed partnering with urban communities to secure data and promote urban management of forest services in the United States using the iTree tool. He described how this free software provides the US Forest Service with free data on urban forests and helps cities better understand the functions and needs of their urban forests.

Kjell Nilsson, University of Copenhagen, introduced the Peri-urban Land Use Relationships - Strategies and Sustainability Assessment Tools for Urban-Rural Linkages Project (PLUREL), which had the participation of 14 European countries and China, and analyzed challenges and consequences of urbanization. The results of the project recommended response strategies including: improved governance and integrated territorial policy approaches; urban containment; the creation of new urban landscapes and a green compact garden city; preservation of green infrastructure and green areas; better understanding the urban-rural interface; and strengthening public sector control over urban sprawl.

Jay Bolthouse, University of Tokyo, illustrated how forests can bridge the urban/rural divide and that managing urban forests can be treated not only as work, but a leisure activity as well. He presented the results of a study on a new Japanese urban forest paradigm characterized by volunteer management of urban and peri-urban woodlands, focusing on the role of scientists in establishing and strengthening community forestry networks that link disperse and fragmented volunteer groups.

Michelle Gautier, FAO, joined the panelists for the discussion. In contrast to panelists' focus on wealthy nations, she said requests are increasingly coming to the FAO from less wealthy countries to assist with rural-urban linkages primarily

related to chronic urban watershed mismanagement, leading to sinking water tables, desertification and landslides. Discussions focused on: the importance of partnerships; the need to develop internationally standardized assessment tools; the focus on matching policy to the needs and aspirations of the public; and integrating forestry issues into school education.

CAN FORESTRY AND FOREST SECTOR ACTIVITIES CONTRIBUTE TO MITIGATING CLIMATE CHANGE?:

Werner Kurz, Natural Resources Canada, moderated the session and emphasized the importance of educating policy-makers about the forest sector's contributions to climate change mitigation. Additionally, he warned that oversaturating forest carbon sinks beyond tipping points could negate mitigation effects. He also highlighted the substitution benefits of using wood rather than energy-intensive materials.

Frank Werner, independent consultant, explained a model for effective long-term forest and wood management for GHG mitigation, emphasizing that an optimized life cycle of wood products should include a maximum but sustainable increment of harvestable wood, continuous downcycling through a use "cascade" terminating as fuel for bioenergy.

Reid Miner, National Council for Air and Stream Improvement, reviewed the global forest industry's impact on GHGs, highlighting that increasing the use of forest products can produce large benefits to society via GHG reductions. He lamented a lack of quantitative data on forest carbon stocks and landfill design and management.

Ben de Jong, El Colegio de la Frontera Sur, reported on the readiness of Mexico to begin carbon accounting based on REDD assessments. He revealed that a national REDD scenario and robust monitoring system are forthcoming, and concluded by elaborating on ten elements necessary to create Mexico's REDD profile and monitoring system.

Richard Harper, Murdoch University, spoke on bio-mitigation and, noting that forestry alone will not be able to solve carbon imbalances, he proposed research on using abandoned farmland for mitigation to avoid the problem of the food versus fuel debate.

William Keeton, University of Vermont, introduced a new study on the carbon storage potentials of temperate old growth forests based on an aggregated global dataset, saying there is a high potential for their conservation to increase carbon storage with a variety of ecosystem co-benefits, but that variability in stand structure must be noted.

IUFRO AWARD WINNERS – THE NEXT

GENERATION: Co-chair Su See Lee, IUFRO, introduced this year's awardees, remarking that female and developing-country students were well represented. Co-chair, Michael Rivoire, International Forestry Students' Association, moderated a discussion on the students' research.



Kjell Nilsson, University of Copenhagen



Winners of IUFRO's Student Award for Excellence in Forest Science and Outstanding Doctoral Research participated in a panel discussion on their motivations, challenges and experiences in conducting their research projects.

There were three recipients of the Student Award for Excellence in Forest Science. Lee Hong Tnah, Forest Research Institute Malaysia, won for her work on a DNA database designed to help stop illegal logging. Macro Contreras, University of Montana, won for using an innovative optimization technique to determine least-cost and environmentally friendly routes for wood transportation. Mahbuhul Alam, Ehime University, won for work characterizing the ecology and significance of "home gardens" in Bangladesh.

There were eight Outstanding Doctoral Research Award recipients. Guillermo Gea Izquierdo, Swiss Federal Research Institute, won for research advancing an ecosystem model in the silvopastoral system of West Iberian open woodlands. Finnvid Prescher, Svenska Skogplantor AB, won for research on the genetic functions and management of seed orchards and procurement. Jürg Andreas Stückelberger, EcoEng Ltd., won for work on optimizing road networks for ecological and economic priorities in mountainous European areas. Guillermo Trincado, Universidad Austral de Chile, won for a dynamic model capturing branch and knot formation in Loblolly pine. Jiali Jiang, Research Institute of Wood Industry, China, won for work on the effects of temperature, time and frequency of the dynamic viscoelasticity of wood. Feng'e Yang, Ontario Ministry of Natural Resources, won for work on the welfare and competitiveness impacts of Ontario's stumpage pricing system. Marieka Gryzenhout, University of Pretoria-FABI, won for evaluating the taxonomy of a group of important tree pathogens. Andreas Schindlbacher, Federal Research and Training Centre for Forests, Austria, won for work on the effects of global warming on carbon turnover in a limestone forest soil.

In the discussion, the awardees stressed the value of international collaborations.

TECHNICAL SESSIONS

CHALLENGES AND ISSUES OF FOREST MANAGEMENT AND UTILIZATION IN ASIAN COUNTRIES:

Matti Palo, independent scientist, discussed deforestation and poverty challenges in the Democratic People's Republic of Korea, Mongolia and tropical Asian countries. He reviewed a theoretical model of deforestation drivers and an empirical model assessing poverty and ecological drivers, and stressed the difficulty of acquiring relevant data.

Ho Sang Kang, Seoul National University, delineated multiple threats to Indonesia's ecologically significant forests. He discussed an ecotourism training programme developed

by the School of Environment Conservation and Ecotourism Management as one possible approach to address these challenges.

Dar-Hsiung Wang, Taiwan Forestry Research Institute, discussed the history and evolution of Japanese cedar plantations in Taiwan, linking them to Japan's occupation of Taiwan and a forest management paradigm prioritizing the replacement of "unproductive" native forests with "productive" plantations. He ended by noting that degradation in their quality has necessitated proposals to replace them.

Shirong Liu, Chinese Academy of Forestry Sciences, reviewed China's forest resources, legislation, production and trade. He highlighted 2003 forest governance reforms, including transforming collective ownership into individual ownership, and underscored China's low forest productivity and forest area per capita, and the damages caused by pests, diseases and invasive species.

Juan Chen, University of British Columbia, discussed China's national forest protection and conversion of cropland back to forest programmes. Despite successes with afforestation of degraded lands, she noted challenges regarding unemployed forest workers and in ensuring the longer-term vitality of planted forests.

Nabaghan Ojha, Regional Centre for Development Cooperation, India, discussed the evolution of Indian forests and forest laws, including provisions for participatory forest management and the Forest Rights Act that recognizes rights of forest dwelling peoples, stressing implementation challenges.

Mohammad S.H. Chowdhury, Shinshu University, Japan, discussed medicinal plants and forest protection in Bangladesh. He described their use in 36 villages surrounding the Rema-Kalenga Wildlife Sanctuary, and closed with recommendations on balancing community and conservation needs.

BIODIVERSITY AND CLIMATE CHANGE: DIRECT AND INDIRECT LINKAGES IN ADAPTATION AND MITIGATION: M. Danesh Miah, University of Chittagong, presented challenges of harmonizing requirements of the Kyoto Protocol's Afforestation/Reforestation (A/R) Clean Development Mechanism (CDM) and those of the CBD. Bangladesh, he said, with a gross plantation carbon stock of 190 tons of carbon per hectare, has great opportunity to benefit from A/R carbon credits, but that this will come at the cost of introducing alien species in the plantation process.

Similarly, Jürgen Bauhus, University of Freiburg, noted conflicts between silviculture strategies that change ecosystem structure to maintain select functions, and nature conservation that maintains historical conditions. He indicated that a focus on desired ecosystem functioning may reduce these conflicts.



Participants looking at posters submitted to the IUFRO XXIII Congress.

David Flaspohler, Michigan Technical University, spoke on intensive forest management for bioenergy. He noted that expanding markets for plant-based biofuels have the potential to intensify forest management in ways that harm native species, but said other models exist in which intensively managed forests sustain many ecosystem services furnished by unmanaged forests.

Eckehard Brockerhoff, New Zealand Forest Research Institute, said impacts of climate change on forest biodiversity include range-boundary changes and phenological shifts of 279 species, causing increased breeding cycle frequency, population booms and migration. In turn this creates new patterns of invasive species. He highlighted the value of mixed stands for climate adaptation and mitigation.

Chan Ryul Park, Korea Forest Research Institute, presented research on changing bird distribution patterns caused by climate's effect on metabolic rates. He said forest declines also influence distribution and that eco-tourism may enable habitat transition.

Alexander Belokurov, WWF, stressed that, though the potential of protected areas has only partially been realized, they remain the most important tool for biodiversity conservation and provide vital climate change mitigation and adaptation benefits.

HEALTH BENEFITS OF FORESTS: Won Sop Shin, Chungbuk National University, facilitated the session.

Si Hyung Lee, Research Institute for Korea Natural Medicine, proposed that a 2-3 day wilderness retreat positively increases levels of human serotonin, a neurotransmitter which reduces depression, eating disorders, and aggression.

Kjell Nilsson, University of Copenhagen, presented on the role of the environment in healthy lifestyles. He mentioned that several international working groups are looking at research on the prevention of illness, the importance of green spaces, and the effect of the environment on mental status.

Tatsuya Kushida, NalaPro Technologies, summarized biochemical research on flavonoids, substances contained in tree bark, which have been seen to improve human immune functions.

Nor Azah Mohamad Ali, Forest Research Institute Malaysia, presented on her institute's work on bioprospecting, i.e. the search for applications, processes or products in nature with useful health benefits. She said her team assists in the

development, and quality and safety assurance, of products for cosmetics and toiletries manufacturers, especially lotions and creams, anti-inflammatory agents and mosquito repellants.

Julius Adebayo John, Forest Research Institute, Nigeria, talked about perceptions and use of traditional herbal medicines in Nigeria, the popularity of which is returning as health risks of fake pharmaceuticals become more apparent. He recommended that policy-makers take steps to formally recognize herbal medicines to encourage their use.

INNOVATIVE APPROACHES TO FOREST

ECOSYSTEM RESTORATION: The session was moderated by Stephen Syampungani, Copperbelt University.

John Stanturf, US Forest Service, said that forest landscape restoration can serve to restore forest functions and meet human needs, but that there has so far been little success in systematically integrating these two complementary aims. He reviewed existing research and suggested ways to integrate social and natural science approaches with a resiliency science framework, such as reconstructing biotic/abiotic thresholds, colonization and afforestation, and repairing watershed functions.

Ekeoba Isikhuemen, Ministry of Environment and Public Utilities, Nigeria, discussed a pilot study on reversing biodiversity loss and degradation of agricultural lands in southern Nigeria. He said the project demonstrated that with appropriate eco-friendly cropping mixtures and agroforestry practices, degraded forest land can recover from a disturbed state.

Keiko Nagashima, Kyushu University, presented on a study examining abandoned plantation clearcuts on Kyushu Island of Japan to understand early stage vegetation recovery processes. She said deer browsing was the main factor inhibiting tree species recovery, and that slope form, adjacent natural broadleaf forests and abandoned sites influence vegetation types that emerge.

Arno Thomaes, Research Institute for Nature and Forest, Belgium, introduced a research project examining tree species as "ecosystem engineers" for restoration. He explained the specific influence of oak and poplar species on soil pH, which shapes the abundance of ancient forest herbs in post-agricultural forests.

Coert J. Geldenhuys, University of Stellenbosch, discussed a forest rehabilitation approach that emulates natural disturbance regimes and utilizes the benefits of secondary forests and locally developed slash-and-burn agriculture systems. Drawing on examples from the Congo Basin and South Africa, he used species richness in secondary forests as an indicator of recovery and explained how such recovery could serve as the basis for restoration projects matched with local agro-forestry systems.

Participants heard presentations on two related posters and in the ensuing discussion, considered, *inter alia*: appropriate measures of biodiversity, such as richness and endemism; and how the session informs discussions about REDD.