

THE ONLINE INFORMATION BULLETIN OF THE GLOBAL FOREST SCIENCE NETWORK*A merger of IUFRO News and IUFRO E-Notes distributed by e-mail 10 times a year.*

Mangrove Forests Reduced Impact of Tsunami

*John Parrotta, DC 1.00.00 Silviculture**Brad Walters, C 1.07.08 Ecology and Silviculture of Tropical Forested Wetlands*

The tsunami catastrophe of 26 December 2004 following the severe earthquake off the coast of Sumatra caused incomprehensible suffering and devastation. The question as to how the impact could have been mitigated and how lives could have been saved is being discussed throughout the region, and indeed throughout the world.

The example of the Pichavaram mangrove wetlands that cover an area of about 1400 ha and are located about 280 km south of Chennai in the Indian district of Cuddalore offers one answer to this question.



*Photograph from Pichavaram region,
by courtesy of John Parrotta*

According to information from the M. S. Swaminathan Research Foundation MSSRF, out of the 17 hamlets in the Pichavaram area, 6 were protected by dense mangrove forests and suffered no damage at all, whereas 5 hamlets located near the open beach were totally destroyed. The remaining hamlets were farther away from the coast and mangroves.

In its report, the MSSRF stated that mangrove forests reduced the impact of the tsunamis in two ways: the velocity of the water decreased due to friction with the dense mangrove forest, and the volume of water from the waves reaching inland areas was lowered due to the distribution of the water in the many natural canals in the mangrove ecosystem.

The mangroves themselves, in fact, did not suffer much damage. According to scientists from the MSSRF, the tsunamis may have had even a positive effect on the mangrove forests by washing away the hydrogen sulphide loaded soil and debris deposited on the forest floor. Thus, fresh sea water can enter the mangroves more easily and enhance their healthy growth by decreasing the salinity level.

Mangroves with their complex, above-ground root structure have again proved to be an effective shield against strong waves, as they had done before in storms and similar natural disasters. In addition to their role in protecting inland areas from otherwise devastating impacts of natural disasters, they provide nurseries for economically important fisheries and habitat for threatened wildlife species, yield valuable wood products and plants used in traditional herbal medicine, and act as natural filters for water-borne and marine pollution.

In many parts of the world where these unique forests are found, they are being degraded or cleared, often for short-term, unsustainable uses. For communities struggling to earn their livelihoods while conserving mangrove forest resources for future generations, practical solutions are needed that use the best available science to restore mangrove forest health and productivity and to generate local incomes. The conservation, sustainable management, and restoration of mangrove forests is therefore an important long-term measure to protect coastal areas and their inhabitants from heavy devastation and to sustain, and rebuild, their livelihoods.

Scientific information on mangroves and their management is prerequisite for this measure. In IUFRO, Working Party 1.07.08 on Ecology and Silviculture of Wetland Forests aims at contributing to a better understanding of the best management practices for mangrove forests and promoting interactions among ecologists, social scientists and foresters working in saltwater wetlands. Working Party Coordinator Brad Walters from the Canadian Mount Allison University in New Brunswick is an acknowledged expert in the subject, who may be contacted for further information:

<bwalters@mta.ca> .

Economics and Management of High Productivity Plantations

Juan Gabriel Álvarez González, Universidad de Santiago de Compostela

Chris Goulding, C 4.04.02 - Planning and Economics of Fast-growing Plantation Forests

Klaus von Gadow, C 4.00.00 - Inventory, Growth, Yield, Quantitative and Management Sciences

Intensification of wood production and expanding areas of planted forests, are both a source of conflict and opportunity. Planted forests have the potential to improve the economic welfare of the communities in which they occur. At the same time, intensively managed industrial forest plantations arouse much controversy as to their real benefits for the local community and the natural environment.

The global area of timber plantations has dramatically increased by an average of 14 million hectares per year between 1990 and 2000, reaching a total of 187 million hectares. Only a small proportion of this area consists of high productivity plantations, with mean annual increments between 10 to 40 m³/ha/yr or more. These plantations are becoming very significant in terms of world wood supply. The increase in wood supply may be underestimated, perhaps leading to over supply, price competition and a reduction in profitability.

Social and environmental needs are increasingly affecting planning decisions and management methods applied to plantations whose original primary objective was the production of industrial wood. Multiple use, demands for increased biodiversity, attractive landscaping, and social acceptability come increasingly to the fore.

Unlike the corn field, a planted forest is capable of delivering both a multi-habitat forest and a productive tree crop producing essential raw materials with an economic return on investment. Using ecological jargon: plantation forests can have a lot of beta-diversity.

The conference on "The Economics and Management of High Productivity Plantations" demonstrated ways of how these objectives could be achieved, using examples from different parts of the world. Scientists from Asia, Africa, Oceania, the Americas and Europe participated in the proceedings, which featured three days of oral and poster



Photograph from the field trip, provided by Juan Gabriel Álvarez

presentations and a field excursion, including contributions in social and economic disciplines; inventory, growth and yield; and silviculture and management.

"Productive plantations, whether for industry or energy, need not be ecological deserts devoid of wildlife or an unwanted landscape, but efficient wood-growing crops managed so as to enrich diversity, development and their desirability as a land use. With plantation forests 'you can have your cake and eat it', generating win:win situations. This, I believe, is the future direction for the great bulk of planted forest". (Julian Evans)

The conference "The Economics and Management of High Productivity Plantations" held in Lugo, Spain, from 27-30 September 2004, was attended by 71 scientists from 19 countries and featured 3 days of oral and poster presentations and a one-day field trip. The event was organized by the Escola Politécnica Superior of the University of Santiago de Compostela and sponsored by [IUFRO 4.04.02](#), Division 4.

Meetings

Find these and other IUFRO meetings on our [on-line calendar!](#)

Biodiversity and Conservation Biology in Plantation Forests

Bordeaux, France, 26-29 April 2005

Jointly organized by IUFRO Divisions 1 & 8, INRA, IEF and WWF. [IEFC web-site](#). E-mail: herve.jactel@pierroton.inra.fr

I Reunión sobre ecología, conservación y uso de los bosques de ciprés de la cordillera

Esquel, Chubut, Argentina, 28 – 30 April 2005

Organized by: CIEFAP, CRUB, Dept of Forest Engineering of UNPSJB, Esquel; E-mail: ecipres@ciefap.cyt.edu.ar
Web site : www.ciefap.org.ar/novedades/ecocipres

7th International Symposium on Legal Aspects of European Forest Sustainable Development

Mt. Zlatibor, Serbia, 11 – 15 May 2005

IUFRO RG 6.13.00: Forest Law and Environmental Legislation. Contact: Dragan Nonic, Kneza Višeslava 1, SCG-11030 Belgrade, Serbia and Montenegro
Fax: +381 11 54 54 85 ; Email: dnonic@eunet.yu ;

Small-scale Forestry in a Changing Environment

Vilnius, Lithuania, May 30 to June 2, 2005

IUFRO RG 3.08.00 Small-scale Forestry

[Meeting homepage](#)

Contact: Stasys Mizaras, Conference Chair, Lithuanian Forest Research Institute, Liepu 1, Girionys, LT-53101, Kaunas distr., Lithuania
Fax: +370 37 547446 ; E-mail: ekonsk@mi.lt

Courses

Planned Training Course on Health of Tropical Forest Trees

Kepong, Malaysia, 4-8 April 2005

IUFRO WP 7.02.07 - Diseases of Tropical Forest Trees.
Contact: Dr. Lee Su See, e-mail: leess@frim.gov.my

New One-year Master Programme in Urban Forestry & Urban Greening

To start on September 1, 2005

Deadline for applications: April 15, 2005.

The programme is located at the Swedish University of Agricultural Sciences in Alnarp (Sweden) and the Royal Veterinary and Agricultural University in Copenhagen Denmark. Visit: www.nova-university.org/ufug

Web sites

[Knowledge Reference for National Forest Assessments](#)

FAO-FRA had worked together with IUFRO Division 4 and SLU in Umeå, Sweden, to develop this source for capacity building activities in FAO's work, as well as for general teaching material for forestry courses at universities. It shall be further developed and made available in several languages.

IUFRO Distinguished Service Award to Professor Moiseev

On the occasion of the celebration of Professor Nikolay A. Moiseev's 75th birthday on 14 December 2004, Professor Victor K. Teplyakov presented the IUFRO Distinguished Service Award to Professor Moiseev on behalf of the IUFRO President, Secretariat, members of the IUFRO Board and colleagues.



Professor Moiseev, born on 13 December 1929, is well known in Russia and abroad as a forest scientist, educator, public man and administrator. He was Director of the All-Union and then All-Russia Research Institute of Silviculture and Forest Mechanization (1977-1996), an IUFRO member since 1976. He was one of the key organizers of IUFRO meetings in the USSR and Russia (1976, 1979, 1985, 1992, 1994), and served as a member of the IUFRO Enlarged Executive Board twice (1977 -1981, and 1982 – 1986). He also was the IUFRO International Council representative of the USSR from 1987 - 1990. Professor Moiseev expressed his deep gratitude to IUFRO and was very pleased to mention especially his many good friends in IUFRO.

Obituary

On October 21, 2003, **Professor Yoshihiro Toda**, Ph.D. in the field of cytogenetics and Deputy Coordinator of the IUFRO Cytogenetics Unit 2.04.08 passed away after long illness. According to Japanese custom, one year had to pass before condolences could be accepted. Despite his poor health condition, Professor Toda was very active in his IUFRO Unit in the planning of a meeting that should have taken place in Japan in 2003. Unfortunately, fate had brought his plans to a halt.

Y. Toda, born in 1943, graduated from Miyazaki University and was Professor at the Graduate School of Agriculture in Kyushu, Tokai University. His scientific interest was mainly focused on cytogenetics of conifers. To broaden his knowledge and scientific findings, he researched also in Alaska, the Amazon region and Tasmania. In 1995 he moderated the Cytogenetics Meeting at the IUFRO World Congress in Tampere, and in 1996 he organized the 47th Annual Meeting of the Society of Chromosome Research, as one of the leading Japanese chromosome experts.

Professor Toda was truly devoted to his profession, and one of the most liked professors at the Graduate school of Agriculture in Kyushu. His close friends will remember that he liked to sing, and that he always had this unforgettable smile on his face. His colleagues and friends will remember him as a great scientist and an always welcome and active participant in their scientific gatherings.

(Zelimir Borzan, C 2.04.08; abridged)