Scientific summary

International conference

Multipurpose Forest Ecosystem Management in a Changing Environment

23- 25 November, 2011 | Nanning, Guangxi, China

Sponsors:

- International Union of Forest Research Organizations (IUFRO)
- Chinese Academy of Forestry (CAF)
- University of Freiburg
- Dresden University of Technology
- Association of Forest Ecology, Chinese Society of Forestry

Organizers:

- Guangxi University
- The Experimental Center of Tropical Forestry, CAF

Multipurpose Forest Ecosystem Management in a Changing Environment

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Over the past few decades the societal expectations from forests have changed fundamentally. It is well recognized that forests have a very wide range of ecological, economic and societal functions that can be broadly classified as supporting (nutrient cycling, soil formation, primary production), provisioning (food, fresh water, wood, fiber and fuel), regulating (climate, flood, plant disease regulation and water purification) and cultural (aesthetic, spiritual, educational and recreational). Increasingly societies, particularly those which are better off economically, demand more from forests than mere forest products, thus bringing about a huge challenge to the forest scientists and managers on account of the enormous complexities that multipurpose forest ecosystem management imposed on the practitioners. And these complexities will be even accompanied by great uncertainties under a sharply changing environment. Enhanced vitality and resilience of forests are needed to better serve not only the forest owners but the society as a whole. The new imperative is to promote multipurpose forest ecosystem management by taking into account ecological, economic consideration, and societal needs as well. For this, an International Conference on *Multipurpose Forest Ecosystem Management in a Changing Environment* was held in Nanning, Guangxi, China, during 23-25 November 2011, sponsored by IUFRO, Chinese Academy of Forestry (CAF), Association of Forest Ecology, Chinese Society of Forestry (CSF), Guangxi University, State Key Laboratory for Conservation and Utilization of Subtropical Agro-bioresources, SFA Key Laboratory of Forest Ecology and Environment, Freiburg University, Dresden University of Technology and Sino-Panel (Guangxi) Forestry Co., Ltd., and organized by the College of Forestry of Guangxi University and the Experimental Center of Tropical Forestry of CAF. The Conference was attended by over 160 participants from Germany, Sweden, Canada, South Korea and China as well.

The conference showed the benefits of multidisciplinary dialogue and multiple scale approaches from combining knowledge from biology, ecology, forestry, climatology,

socio-economics and political sciences to address the challenge of multipurpose forest ecosystem management in response to rapid changing environment, and to elaborate adaptive management measures. Main discussion points and highlights of the conference included (i) concept and models of multipurpose forestry; (ii) adaptive forest management strategies and techniques for multipurpose land use; (iii) dynamic monitoring and modeling of forest management; (iv) forest carbon sequestration and nutrient cycles, forest carbon accounting and monitoring; (v) ecological and socio-economic evaluation of land use and forest management. A total of 42 presentations including 4 plenary keynotes were made during the conference.

The conference highlighted the fact that changes in the environment are not only due to changes in the ecological environment but also due to the changing human perspective and that has serious implications for forest ecosystem management. A multipurpose forest ecosystem management would be one effective option for the forests of the future and that science should form the bedrock of the forest ecosystem management. Besides having strictly protected forest ecosystems and plantation forests, multipurpose forests can fulfill local needs of people and society and improve ecosystem services as a whole, while increasing forest productivity with valuable wood production. It can reduce the risk of biotic as well as abiotic disturbances. Multipurpose forest management with site adapted tree species has better adaptive capacity to the changing environmental, economic and social conditions. This would be possible if the understanding of effects of forest management on forests at multiple scales, such as forest stand, ecosystem and even landscape level, is greatly enhanced and elaborate operational guidelines for adaptive forest management are developed for this purpose. The consensus was that there is still a knowledge gap in multipurpose forest ecosystem management and the Conference recommended that further research is needed for developing scientific adaptive measures for multipurpose forest management in a changing environment that has unknown challenges.

The Conference was promoted by IUFRO 4.00.00, 9.04.02, and 9.04.01. Selected papers are expected to be published in a special issue of a peer reviewed scientific journal.

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