

Sustainable Forest Management in the Context of Global Change

Report about the International Symposium on Sustainable Forest Management in the Context of Global Change (ISSFM-CGC) in Harbin, China, on 1-3 August 2017, by Shirong Liu, IUFRO President's Nominee and Deputy Coordinator Division 8 Forest Environment

The Symposium that was organized by IUFRO Division 8, supported by Division 1 and Research Group 1.06.00, and hosted and sponsored by the Northeast Forestry University and the Ecological Society of China, was attended by 123 participants from 22 countries. The conference program comprised a total of six plenary keynote presentations, 29 presentations in concurrent sessions and some posters. Information about the meeting was widely disseminated by the Northeast Forestry University and other forest research institutes and universities, IUFRO, and the Ecological Society of China. IUFRO, especially Division 8, was well exposed to a wider range of forest scientists through the meeting. It was considered to hold such symposia on a regular basis in the future.

Against the background of global climate change, the restoration of forest resources, the enhancement of ecosystem functions of existing forests and the sustainable management of forest ecosystems are environmental issues that need to be resolved worldwide. Consequently, the discussions focused on the following themes:

Restoration and rehabilitation of forest ecosystems in the context of global change:

The conifer-oriented forest management vs. broadleaf forests decreases biodiversity and ecosystem resilience and increases the likelihood of both yield and economic losses.

Sustainable management of forest ecosystems in the context of global change:

Adaptation strategies should be developed at different management levels to appropriately modify genetic properties, tree species, stand structure, growth/yield models, and rotation length.

Forest ecosystem services and functions in the context of global change:

The growth response to climate warming is significantly dependent on tree species and geographical location. Trees growing in the southern boundary are more susceptible to drought stress caused by rapid warming. Young trees of *Pinus koraiensis* are more likely to decline than older ones under climate warming, but it is not identified in other species.



*Participants of ISSFM-CGC .
Photo by courtesy of Northeast Forestry University.*

Participants concluded, among other things, that it is vital to understand the short-term/long-term environmental and societal impacts of planted forests in order to find ways of achieving desired goods and ecosystem services while improving their vitality, resilience and sustainability. There is a need to set up long-term silvicultural trials where the dynamics of planted forests can be monitored and adjusted over time.

Forests are facing numerous challenges caused by various environmental, social economic and political factors, including but not limited to climate change, loss of biodiversity, emerging and invasive forest pests and disease, land erosion and loss of soils, illegal logging and trade of wood, and land use changes. It is crucial to adopt site-appropriate measures to facilitate forest management under global change. The measures include training, surveillance on high-risk activities, monitoring of forest practices and revenue, and development of legislation for forest practices.

In China planted forests are increasingly managed for achieving multiple purposes including wood production, non-wood products, and other ecosystem services. Rather than focusing on continuous area expansion, higher priority should be given to the improvement of productivity and quality, which contributes to increasing the value of planted forests. Monoculture plantations especially of exotic trees should be converted into mixed planted forests to avoid negative consequences. A landscape design approach should be applied for meeting diversified services and achieving landscape sustainability.

Read the full report with thematic background information, more photos and a list of participants at: <https://www.iufro.org/science/divisions/division-8/80000/activities/>