

Sustainable Forest Operations in Mountainous Terrain

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Growing demands for forest products and services, accentuated by political goals of increased utilization of renewable resources, imply that pressure on mountain forests is likely to intensify considerably in the future. This increased demand will be met by innovation and intervention in the form of forest operations.

However, the economic marginality of forest operations in steep terrain, together with their isolated location, make mountain forests particularly vulnerable to management practices with little scientific basis. This Conference aimed to reiterate the need to use and expand the existing science base in order to contribute to the sustainable utilization of forest resources.



Strong research networking

The Conference of IUFRO Research Group 3.06.00 “Forest Operations In Mountainous Conditions” took place on June 2-5, 2013 in Honne/Lillehammer (Norway). It was sponsored by IUFRO Division 3, the Research Council of Norway and the Norwegian Forest and Landscape Institute. The programme included 39 presentations, grouped into 7 thematic areas, and it involved 60 participants from 19 Countries (Austria, Brazil, Canada, Finland, France, Germany, Iran, Ireland, Italy, Japan, New Zealand, Norway, South Africa, Sweden, Switzerland, Thailand, Turkey, United Kingdom, United States).

The fact that participants from many parts of the world attended the conference despite the present effects of the global economic downturn, which are certainly felt in academia and research around the world, underlines the great interest in the topic of mountain forest operations.

Hot research issues

Sustainable interventions in mountainous forest areas represent a key issue and demand a deep understanding of the relationship between products, management practices and site susceptibility. Forest operations in mountainous terrain need to apply production systems which are adapted to specific local conditions and match the existing infrastructure, while minimizing negative externalities (e.g. soil, water and CO₂ fluxes, visual impacts, ecosystem stability) to the environment and society.

Impacts and effects of management options have to be considered as guiding lines to sustainably harvest timber resources in mountainous forests. This is of particular importance because of the strategic role these forests play in biodiversity conservation and in watershed hydrology. Considering the future energy constraints, changing paradigms must be envisaged to promote energy efficient systems for carrying out forest operations in steep terrain based e.g. on non-conventional sources of energy.

A proposal for a session to further disseminate this work at the IUFRO 2014 World Congress (Forest management in mountain communities) is currently being organized by IUFRO Units 1.01.05 and 3.06.00.

Photo by Lars Sandved Dalen / Norwegian Forest and Landscape Institute: Interested onlookers watch the brand new Zöggeler excavator-based yarder /processor in action near Vingrom, Norway.