Bridging the gap between hard and soft approaches for decision aiding

Teppo Hujala¹, Pekka Leskinen², Tuomo Kainulainen³ and Jukka Tikkanen⁴

¹ Researcher, University of Helsinki, Department of Forest Resource Management, Finland, teppo.hujala@helsinki.fi
² Senior Researcher, Finnish Forest Research Institute Metla, Joensuu Research Unit, Finland, pekka.leskinen@metla.fi
³ Researcher, Finnish Forest Research Institute Metla, Joensuu Research Unit, Finland, tuomo.kainulainen@metla.fi
⁴ Senior Researcher, Finnish Forest Research Institute Metla, Joensuu Research Unit, Finland, jukka.tikkanen@metla.fi

Abstract

Forest planning research has traditionally been concentrating on developing methods and applications for formulating optimised harvesting schedules. While multi-objective planning has caused computational procedures to become more demanding, decision aiding has been recognised as a separate topic inside forest planning research. Simultaneously, the research focus has been widened to cover both the modelling-based development of forest information systems and in-depth qualitative or experimental investigations on decision-makers' subjective perspectives. It can easily be seen that in the course of time these approaches may lose touch, since they evolve from different world views – to contrast: technocracy and phenomenology. Nonetheless, such separation is not desirable, because information systems will still be mediating the decision-making of real people. It would be enormously beneficial if we could combine hard systems (e.g. estimation of harvested yield, statistical modelling of preferences) with soft processes (e.g. cognitive economics, mental patterns of reasoning, socially reliant behaviour) in forest planning research. That means studying the social systems of forestry decision-making along with smooth calculation procedures in order to combine hard and soft decision support methods. Internationally emerging applications of mixed methods research will fruitfully facilitate these efforts. In this presentation, we will introduce some perceived challenges and methodological suggestions for conducting mixed decision support research in the context of forest planning in Finland. The case examples are eliciting private and public preferences for multi-objective planning, and facilitating regional forest program processes, i.e. intermediate-level policy-making. The results of the discussed research will fundamentally serve forest policy enhancement worldwide.