



Potentials of collaborative decision support methodologies to enhance reconciliation of competing forest uses—An action research on Regional Forest Programme in Finland



Jukka Tikkanen^{a,*}, Teppo Hujala^b, Mikko Kurttila^c

^a University of Eastern Finland, School of Forest Sciences, PL11, 80101 Joensuu, Finland

^b Natural Resources Institute Finland (Luke), Natural Resources Institute Finland (Luke), Bio-based Business and Industry, Koetilantie 5, FI-00790 Helsinki, Finland

^c Natural Resources Institute Finland (Luke), Bio-based Business and Industry, P.O. Box 68, FI-80101 Joensuu, Finland

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ABSTRACT

Compiling forest policy at national and sub-national levels is a participatory activity that aims to achieve balance between multiple forest-use alternatives. In Finland the effectiveness and acceptability of regional forest programmes has been doubted. The quest for collaboration among stakeholders towards consensus and commitment may be improved via the use of various group learning and multi-criteria decision-making methods. This study reports the phases, results and implications of an extensive action research project, applying soft systems methodology, which aims to enhance regional forest programmes by facilitating increased use of collaborative decision support methods. Stakeholder feedback from demonstration meetings suggested that discussing alternative futures and prioritizing action proposals in a multi-stakeholder group through a simple multi-attribute rating technique are the most promising immediate enhancements. An ex-post evaluation of the suggested “ideal process model” showed that the deliberative nature of regional forest programmes had strengthened and that strategic and regional choices had become more prevalent in Finnish processes. The evaluation further underlined the need for simple, easily adoptable qualitative methods, but results remained ambiguous regarding potentials of quantitative, aggregative methods. Methodological developments cannot alone unlock central problems of the programme process, namely weak political capital and propensity toward status-quo, but the programme organisation is to be redefined as well.

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1. Introduction

In the forest policy science, programmes have dual meanings. First they refer, in general, to all jointly agreed actions to achieve particular policy objectives (Krott, 2005), and second, to the specific policy instrument labelled as forest or forestry programmes, which are an evolving basis for implementing multi-level forest governance. For approximately two decades such forest programmes have been among the main policy instruments to enhance the sustainable use of forest resources within the global forest policy processes (e.g. Sepp and Mansur, 2006). Discussion on this topic has

been diverse, especially concerning National Forest Programmes (see e.g. Carbone and Savelli, 2009; Gislerud and Neven, 2002; Primmer and Kyllönen, 2006; Winkel and Sotirov, 2011; Vainio and Paloniemi, 2012; Valkeapää and Karppinen, 2013). The United Nation's Intergovernmental Panel of Forests has declared that national and sub-national forest programmes need appropriate participatory mechanisms (IPF, 1997, p. 6). A strong participatory process can result in sustainable and legitimate solutions for forest land use (Appelstrand, 2002), provided that the varying expectations of different stakeholders are taken into account.

Some countries, including Finland, have also launched statutory Regional Forest Programmes (RFPs) (Forest Act, 1996), also the concept of local forest programme has been proposed (Nuutinen et al., 2008). RFPs and National Forest Programmes form a hierarchical system in which the country-level forest use targets of the national-level programme (shaped by international agreements) are taken

* Corresponding author.

E-mail addresses: jukka.tikkanen@uef.fi (J. Tikkanen), teppo.hujala@luke.fi (T. Hujala), mikko.kurttila@luke.fi (M. Kurttila).

into consideration at the sub-national level. In turn, the RFPs provide information at the country level on the aims and possibilities of different forest uses in the regions.

Finland is one of the most forested countries in Europe and forest based industry's role in national economy has remained strong. In addition, forest amenities and tangible non-timber ecosystem services from forests have increasing importance to welfare. Different forest uses (e.g. bioenergy production and biodiversity protection) may compete with each other and when making decisions it is important to know how an increase in one forest use affects the other uses (e.g. Kärkkäinen et al., 2014). In these situations national and regional forest programmes can be, with the land use planning procedures, the other main instrument to reconcile and define goals and activities for different forest uses. However, about 60% of Finnish forest land is owned by private family forest owners (Karpinen et al., 2015). Thus, measures agreed along the forest programme process are ultimately dependent on decisions of more than 300,000 forest owners. Because forest management and related holding-specific plans are not mandatory in Finland, the programmes can only influence owners' decisions indirectly, through measures taken by forest administration such as subsidies and advisory activities (see Hokajärvi et al., 2009). In addition, the commitment of different actors within the forest sector is important when the aim is to achieve the commonly set programme objectives.

According to forest legislation in Finland, RFPs are to be prepared in close cooperation with regional stakeholders. To this end, the Finnish Ministry of Agriculture and Forestry (later: Ministry) has established Regional Forest Councils (RFCs) as a main stakeholder forum for forest-related collaboration in regions. The Ministry has also given guidelines on how to compile programmes and has taken a clear steering role in the process.

Results of earlier studies on RFPs in Finland have been ambiguous regarding their potential in balancing the multiple use possibilities of forests. RFPs have appeared rather weak in collaborative search for new measures related to forest-based entrepreneurship and innovation. Programmes have inevitably improved consensus oriented communication among stakeholders (Hiedanpää, 2005; Saarikoski et al., 2012), and also contributed considerably to innovative solutions to govern forest ecosystems in Finland (Hiedanpää, 2007). Anyhow, despite the inevitable advantages of RFPs, studies have mostly questioned both the legitimacy and the effectiveness of the Finnish participatory forest programme process (Hiedanpää, 2004; Primmer and Kyllönen, 2006; Saarikoski et al., 2012).

The main focus of the Ministry's supervision over the RFPs has been to look after how forest resource data are produced and utilized in forest programme processes, for example when preparing alternative future cutting scenarios. Mediated by timber-production-oriented forest resource data and the required cutting scenarios, the process has often focused more on conducting a timber production target programme and thus maintaining traditional coalitions and power structures (Tikkanen et al., 2003; Leskinen et al., 2004; Primmer, 2011). In some cases the organisation and management of RFP projects have not only been unable to create atmosphere for consensus building and incorporation of new objectives and measures, particularly biodiversity, into regional forest governance, but even escalated conflicts between coalitions (Saarikoski et al., 2012).

The weaknesses of the RFP as a policy tool call for properly designed and implemented participatory organisations and procedures followed along the programme preparation processes (Leskinen, 2004). For this purpose Hiedanpää (2005) proposed a "transactive" planning approach with a tripartite organisation for the RFPs, consisting of a collective assembly, problem-oriented and function-based task forces, and public workshops. Further-

more, Saarikoski et al. (2012) showed that functional taskforces should also, like a collective assembly, be inclusive to different interests related to the particular function. Otherwise a potential consequence would be frustration and sharpening positions, when merging the results of different taskforces in later phases of the process.

As a reaction to the multiple disadvantages of earlier RFP processes, people who have the responsibility to organise the programme preparation process have been encouraged to apply participation methodologies. Several researchers have developed, demonstrated and recommended the use of various methods and approaches to support collaboration in natural resources planning and programme processes (e.g. Hiltunen et al., 2009; O'Hara, 2009; Bruña-García and Marey-Pérez, 2014; Haatanen et al., 2014; Vacik et al., 2014; Kangas et al., 2015). Recently, Borges et al. (2014) mapped decision support methods (DSMs) used to support forest related decision making in European countries and worldwide. DSMs were defined to include simulation-optimisation methods and tools, and variety of methods to support multi-criteria decision making and collaboration therein. In this study the focus is on the last group of methods, i.e. collaborative decision support methods, later referred as C-DSMs. In addition to particular methods this paper considers also programme preparation methodology from a broader perspective, including decision making process and organisation where those methods are applied.

To date, it has been found that although there is a vast amount of potential methods (e.g. Vacik et al., 2014; Kangas et al., 2015), their use has been rather weak in past programme creation processes in Finland (Tikkanen, 2006). There seems to be a certain disharmony between the actual use and potentials of C-DSMs in these participatory policy formulation processes. The low attractiveness of the proposed collaborative procedures and C-DSMs among Forest Programme practitioners might signal either the unsuitability of the methodologies and procedures proposed for the societal situation of RFPs, or low awareness among forest professionals regarding C-DSMs.

In order to address this disharmony in Finland, an intensive action research study was organized in 2008–2011. The research aimed at gaining a better understanding of the RFP creation process as a planning and decision-making problem. This allowed the development of well-argued proposals for policy makers and practitioners on how the collaboration process could be developed by the use of collaborative decision support methodologies in the frame of the present RFP approach. Suggestions of the research were included to the guidance given to RFP practitioners by the Ministry when the RFP process was completed in Finland by 2012. After the process the Ministry organized a feedback questionnaire where RFP professionals and key stakeholders were asked to evaluate RFP practices and guidance. Based on the overall results of the action research and the ex-post evaluation, the main aim of this article is to consider if the enhanced use of different C-DSMs could improve the legitimacy and effectiveness of regional forest policy formulation processes in the present institutional framework of RFPs. To this end, the article addresses the following research questions:

- (1) How do Regional Forest Programme professionals perceive the programme process and collaborative decision support methodologies therein?
- (2) How feasible are different collaborative decision support methodologies for use in practical Regional Forest Programmes?
- (3) How could Regional Forest Programme process be methodologically developed in order to better support reconciliation of different forest uses and searching novel bottom-up solutions?

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