Socioecological tools for the planning of tourist destinations in Kainuu, Finland

Katja Kangas, Finnish Forest Research Institute, Finland, katja.kangas@metla.fi;
Anne Tolvanen, Finnish Forest Research Institute, Finland; **Liisa Tyrväinen**, Finnish Forest Research Institute, Finland;
Seija Tuulentie, Finnish Forest Research Institute, Finland; **Ari Nikula**, Finnish Forest Research Institute, Finland;
Marketta Kyttä, Aalto University, Finland

Introduction

The increasing importance of the amenity benefits of forests, such as biodiversity and recreation, has challenged the land-use planning of tourism areas. Planning and coordination of different land- use forms, such as nature protection, recreation and forest management, need a multidisciplinary approach, which in turn requires new tools to collect and administer increasingly multi-faceted information. Management planning should be targeted simultaneously at ensuring biodiversity, providing nature resources in an economically sustainable way, and ensuring the social acceptability of management actions. Close cooperation between researchers, administrators, planners, and local people is crucial. Planners and managers need new means to use and benefit from existing ecological information and knowledge of people's values, in land-use planning. Thus, there is a need for new operation models and new tools for collecting experiential knowledge from different stakeholders and translating this information into practice.

The availability of ecological information has been considered important in land-use planning, although the insufficiency of the ecological data and problems in interpretation may hinder their use in the planning process (Yli-Pelkonen and Niemelä 2006). Often, there are not enough resources to conduct detailed nature inventories. Ecological information with geographic reference is nowadays commonly collected in many organizations. Thus, there are several ecological databases with geographic information. However, there are no methods how all these databases could be combined and effectively used in sustainable land-use planning. Considerable amount of information is also available on the social sustainability or tourism in rural areas (e.g. Törn et al. 2008). The questions; how to involve 'silent groups' more in planning and how to combine social information with other information in land-use planning, have been raised. The values and preferences of local residents or visitors to an area, if gathered through surveys or public hearings, are typically not referenced to a spatial location, and are therefore difficult to integrate with other types of data sources. Therefore, approaches to locate public-perceived values of forests and other nature areas spatially have been introduced both in rural and urban areas (e.g. Brown 2006, Tyrväinen et. al. 2007).

The project "Socioecological tools for the planning of tourist destinations in Kainuu, VAAKA", aims to develop a new GIS-based operations model for land-use planning. The goal is to increase the social acceptability, ecological sustainability and attractiveness of nature-based tourism. The project's pilot areas are tourism resorts, located close to protected areas. The growing tourism industry requires a change in the current land-use plan. Therefore, the local authorities face the challenge of managing different land-uses, such as tourism, recreation, protection, forest management, and proposed mining, in the area.

Methods

In this project, we combine existing ecological data with new socio-cultural data to get socioecological knowledge with geographic information from the study area (fig 1).

The project consists of three parts:

1. *Compiling spatial data from pilot areas.*
   Existing spatial data on the ecology and urban structures of the pilot areas is collected . Ecological data is provided by local authorities. Data on bird species is also provided by external service.
2. *Collecting social and cultural knowledge from different stakeholders*
   Social and cultural knowledge of different areas as well as values related to different land-uses is collected from different stakeholders. All data is collected through internet-based SoftGIS -application and surveys. Soft-GIS is participative geographical information generated through the interaction between environment, individual and community (Kahila & Kyttä 2009). Soft-GIS has been developed for urban planning, and our project is the first one to apply the method to rural recreational areas and to combine collected data with ecological information.
   The softGISapplication is introduced to stakeholders in a workshop and the contents and appearance of the application is further customized based on the comments received from stakeholders.
3. *Piloting the new operations model: coordinating the different land-uses*
   Finally, data and information collected in parts 1 and 2 are combined and the distribution of ecological and sociological information in the map is examined. Through spatial data analysis we can pinpoint the ecologically and culturally valuable areas with possibly conflicting land-use pressures. As a result, a classification system that is based on ecological values of the area and the values of people is established. The new system can be used to rate different areas into different use classes based on their suitability. The second workshop is arranged to locate the ecologically and culturally valuable areas with possibly conflicting land-uses. The feedback

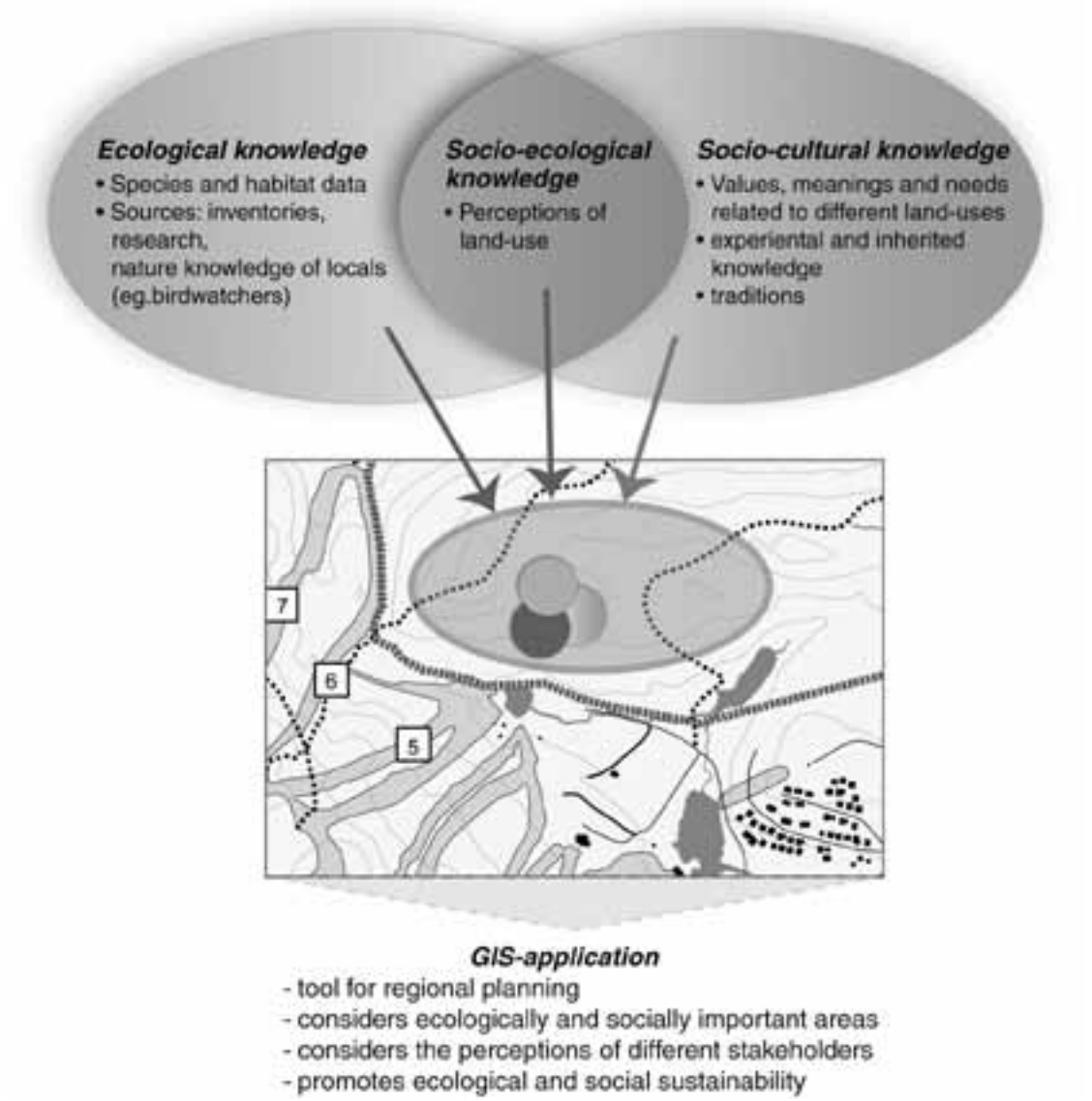

Figure 1. Combining the ecological and social knowledge to socio-ecological knowledge.

is used to improve the new pattern for land-use planning. The workshop results and future plans is presented in the closing seminar.

Expected results

1. Socioecological knowledge with geographic information.
2. New operations model with a classification system, which increases the environmental knowledge of stakeholders and promotes networking among tourist entrepreneurs in the Kainuu area.
3. Utilisation plan for the new operations model.

Project partners

The responsible organization is the Finnish Forest Research Institute. The project is conducted in cooperation with Metsähallitus and Aalto University. The project is mainly funded by European Regional Development Fund (ERDF) granted by the Centre for Economic Development, Transport and the Environment. Other partners include Kainuun Etu Oy, the Puolanka – Paljakka Travel Association, Ukkohalla Ltd, the Municipality of Puolanka.

Brown, G. 2006. Mapping landscape values and development preferences: a method for tourism and residential development planning. International journal of tourism research 8:101–113.

Kahila, M. & Kyttä, M. 2009. SoftGIS as a Bridge-Builder in Collaborative Urban Planning. GeoJournal Library, Vol 95: Part IV 389–411. Available at: DOI: 10.1007/978-1-4020-8952-7_19

Törn, A, Siikamäki, P, Tolvanen, A, Kauppila, P. & Rämet, J. 2008. Local people, nature conservation, and tourism in Northeastern Finland. Ecology and Society 13(1). 18 p

Tyrväinen, L., Mäkinen, K. & Schipperijn, J. 2007a. Tools for mapping social values of urban woodlands and other green areas. Landscape and Urban Planning 79(1):5–19

Yli-Pelkonen, V. and Niemelä, J. 2006. Use of ecological information in urban planning: Experiences from

the Helsinki metropolitan area, Finland. Urban Ecosystems 9:211–226.