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**Decision consultant and forest owner
as pragmatic, adaptive planners in their everyday task
environment**

Outlining the frame for ongoing research project

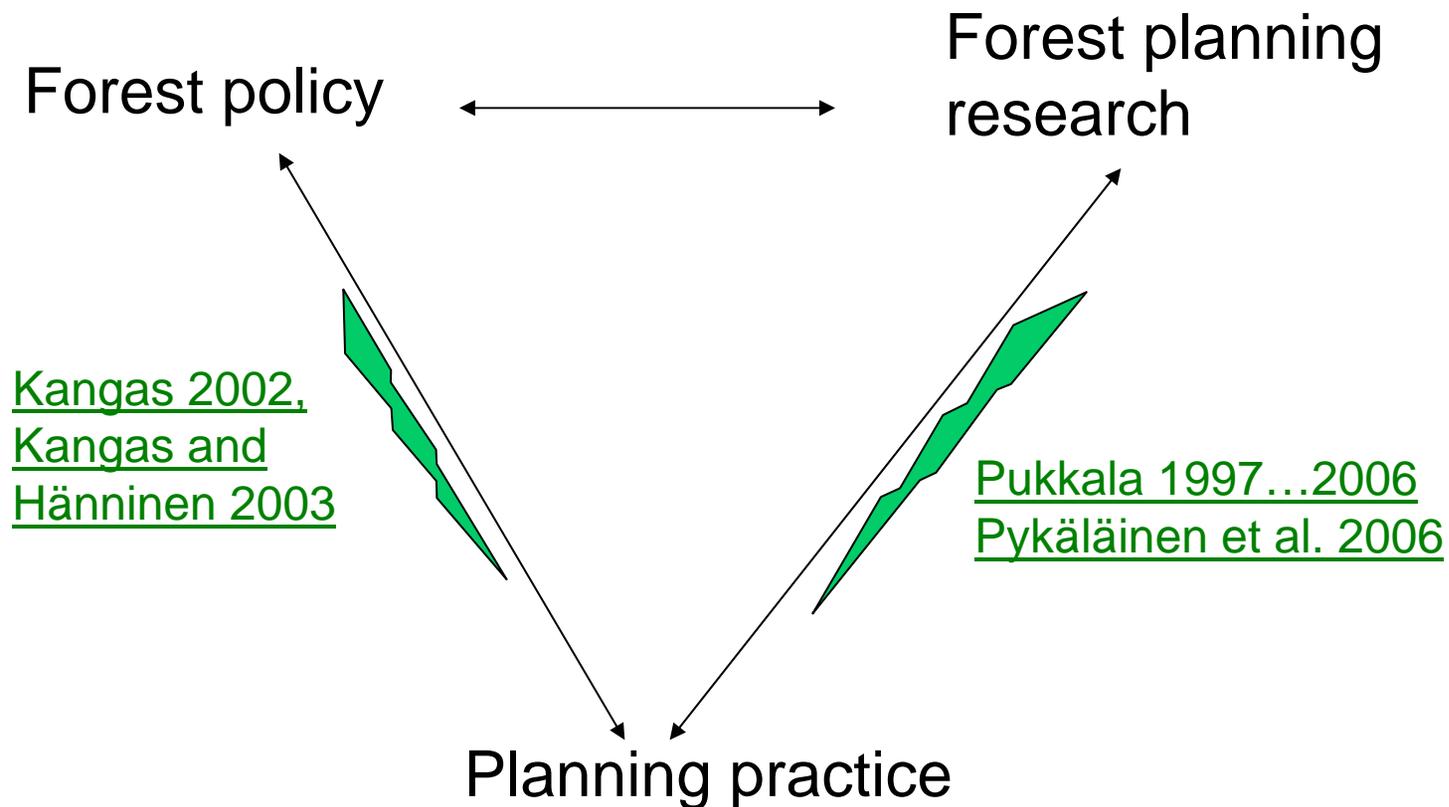
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Noticed gaps between forest planning research, policy and practice in Finland



A gap between forest policy rhetoric and planning practice

<i>Practice: Forest planning as forest policy tool</i>	<i>Rhetoric: Multi-objective forest management planning</i>
Planning and counseling interconnected as means to enhance forest policy objectives. The aim is to activate forest owners and same time, to support local forestry operations.	Planning as owner oriented decision support Distinct separation of planning and policy motivated counseling.



A gap between FMP-research and practice

- A forest planning research has produced impressive repertoire of multi-objective decision support tools, which are not much utilised in practice (In private forestry)
- What is essential in developing forest planning:
”That planners realise what forest planning is about?” (Pukkala 1997)



Dominant forest planning research

- Typically prescriptive science
 - Normative idea about what is good decision-making process and how it is best supported
 - Development of means
 - Case-study to test it
 - Verification of the results basing on the coherence of the procedure with pre-idea

A key advantage of all prescriptive models is that those carefully constructed theoretical frameworks have contributed development of consistent planning schemes, with detailed instructions on how planning should be done. On the other hand, the main challenge of those approaches is their weak focus on practical, everyday nature of planning work.

More practically oriented planning research emphasises on

- Description
 - What practical planning is about (instead of what it should be)
- Practical rationality
 - How everyday decisions are conducted in historically and socially constructed context?

Ongoing Projects:

- Adaptive decision analysis in forest management planning. (SA)
- Developmental Work Research of Customer-oriented Private Forest Planning. (MMM)
- Studies up to now:
 - Co-operation in private forest planning (Tikkanen 2006, Hokajärvi et al. 2006)
 - Forest owners decision-making modes, Communication needs, desire and distortions (Hujala et. al. 2007a,b,c)
 - Forest planning as cultural historical activity (Hokajärvi et al.)
- Task of the day:
 - How to contribute the development of practical decision aid procedures by research intervention?



Planning as adaptive everyday action

An adaptive planner

- The man is future oriented and purposive, on other words, a *planner* as a nature.
- Planning is a cognitive action guiding future behaviour;
 - a first order planner builds the plan from the scratch,
 - an adaptive (the second order) planner basis activities on plans constructed from previous activities
- In everyday world the man is pragmatic, “saving” mental resources by acting like second order planner. This mode of behaviour might not be optimal, but under the conditions of *everyday task-environment* it, inevitable, give benefits

(Alterman et. al. 1998, Bingle and Day 1996).

Forest consultant and owner as adaptive planners

	Forest consultant as an adaptive planner	Forest owner as an adaptive planner
Activity	Forest planning	Forest management and decision -making
Action	Constructing a plan for particular forest owner	Procuring aid for decision - making
Operations	Sequence of tasks to construct a plan	Sequence of tasks to get a plan
Outcome of the action	An outsourced model of behaviour of forest owner	Internalised model of wanted behaviour
Usage of the outcome		Instruction manual Used and situationally modified when conventional action plan need to be adapted

Process of matching

- The adaptation requires some sort of evaluation process where outcomes are matched with cognitive representations and information from environment
- When the mismatch (contradiction) is been perceived, the adaptation progress during the back-and-forth process of abstraction and specialisation.
 - During the abstraction the background knowledge associated with the pre-stored work-plans is made explicit, hence it becomes possible to [find and] reuse the pre-stored plan in a wide variety of situations;
 - During the specialisation solutions are concretized in terms of a work-plan and its implementation in a novel situation
 - Sometimes the change in action needed to solve the contradiction is simple and straightforward, not requiring high level of abstraction, but sometimes it requires much mental resources, to find such commonalities in abstract level which enables understanding a new solution

(Alterman 1988)

Abstraction levels

- There are no fixed number of such abstraction levels in mental structures, but, in terms of simplicity, a couple of researchers have labelled hierarchical structures, seen as determinants of behaviour
- Hugosson and Ingemarson (2004)
 - “ideas about concrete actions like to choose among different regeneration alternatives basing on knowledge about site quality,
 - ideas about types of actions, like about favour or disfavour certain action types, like conservation or intensive timber production,
 - ideas about actions in general terms, like mental tendency to favour e.g. better environment.”
- From adaptive planning view, inevitable, most interesting are abstraction levels constructed in learning theories (Bateson 1972, Argyris and Schön 1978, Argyris 1985).

Learning levels

- Argyris and Schön
 - Contradictions in I-level are solvable without changing the original goal of the actor. This level of learning (adaptation) enables actor to continue its performance in changing environment according to existing plan, achieving existing goals
 - In level II the solution requires the plan to be changed as well. This requires modifications in more abstract and fixed inner structures which are guiding action. The II-learning changes first goals then the action.
- Bateson
 - II-level learning is learning to learn in certain types of contexts.
 - Actually learning I necessities also learning II
 - For example, adopting behavioural tendency to avoid negative responses or to solve particular problem types with certain external aid is due to learning-II

Communicative defence mechanisms

- In practice, defence mechanisms are hindering intentional II- learning. Mechanisms are coupled with the structure, action culture and communication-principles of an organisation.
- Disclosure of this sort of distortions might lead to III- learning (Bateson), but it requires a new abstraction: explanation about premises learned during the II-level learning, so that the self is not any more a central element in the process of consciousness, but the focus is on the systemic relationship between the elements of the communicative system.

Systemic view

- Cognitive guidance is distributed in both the mind of the individual and the external world, in *task environment*.
- A great deal of information in task environment is intentionally constructed to aid action
 - Signs, user instructions, guidelines, rules
 - Aid and other reactions of others for completing tasks
- Adaptive actions are “joint”, with multiple actors.

(Greeno 1998, Engeström 2001, Alterman & Garland 2000)

Joint actions

- To be “joint” there has to be at least some objectives shared by actors
- The joint action proceeds through joint operations, which have entry and exit points and require coordination: request and responses.
- The same interactive item have different interpretations, depending on the different strategies (plans) of individuals and on the common ground
- Common ground includes for example presupposed roles (e.g. dominant-submissive, dependent-independent), in action.

(Alterman & Garland 2000)

Task of the planning study

- To understand the tacit assumptions of the present and desired practices, and to work with practitioners in continuous construction of the guiding representations and context

For

- Aiding practitioners to develop relevant service-protocols and products, which serve as instruction manuals to planners when they, adaptively, conduct their work

The design-based research

- **Design based** approach is proposed to strategy that fits particularly well with the “adaptive planner”-view
- Progressive refinement, where a well formulated construction, a design, is iteratively tested, evaluated and revised so that it eventually answers to questions arisen from the practice, but also advances the theoretical issues and knowledge in wider context

(Collins et al. 2004)

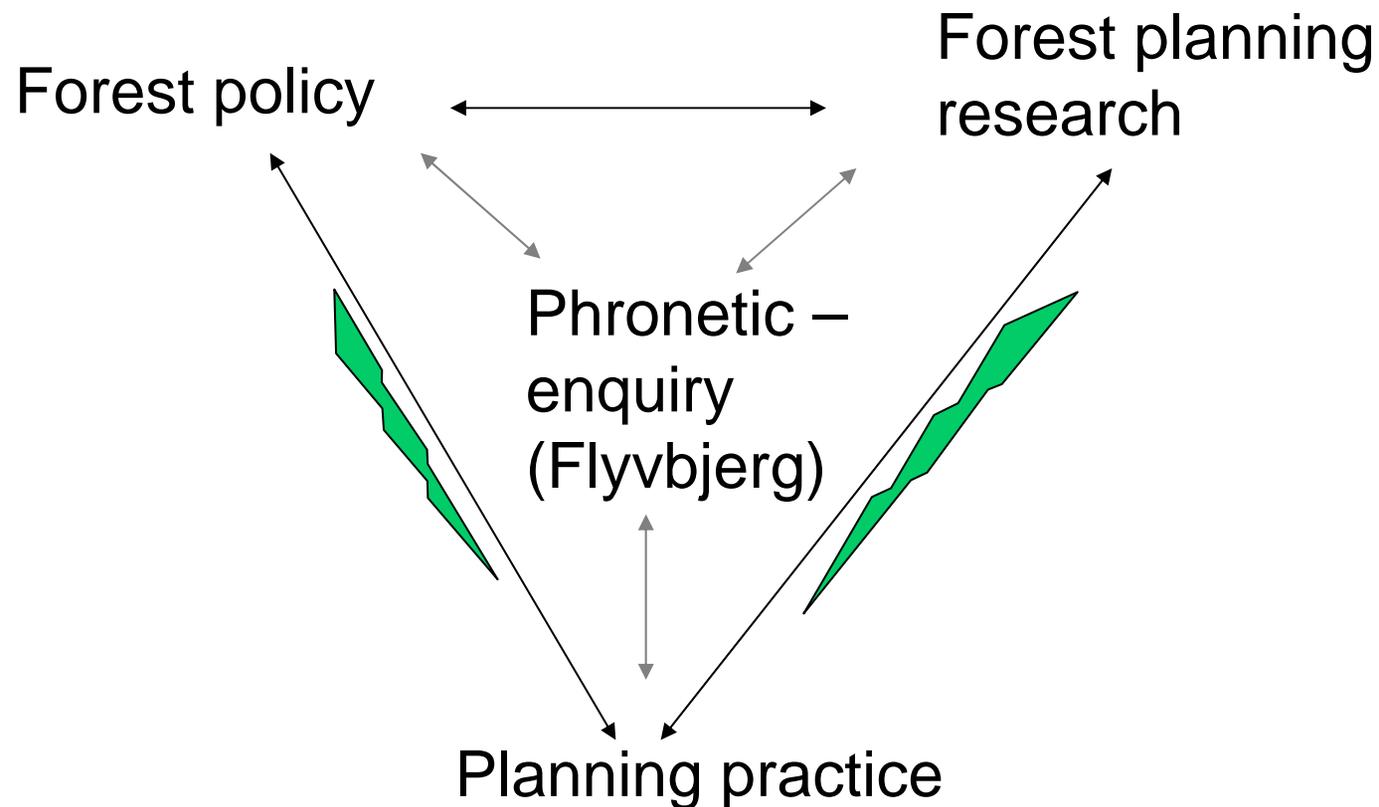
Framework of ongoing DBR-project

<i>Abstraction level</i>	<i>Structures</i>	<i>Learning</i>	<i>Research contribution</i>	<i>Questions</i>
Activity	Task environment - Motivation (inner) - Context (outer)	III-learning - Expanse and increase the in/of the task coherence environment	Explain action	Why the objectives?, What are signs and are they in consistence?
Action	Objectives	II-learning - Expanse a decision space in the task environment	Interpret action	What are objectives and constraints? What are options?
Operations	A plan	I-learning - Find a new plan in a decision space	Describe action in process terms about operations	How the interactive process progress? Initiations?, Responses?, Roles?

Study setting of ongoing project

- A planner and an observer
- A design to be improved is planner's "work-manual"
- Basic units of the study are consultancy acts, which are described by operations:
 - I-level adaptation improves the consistency of operations in terms of design
 - Pre-interview, observation, post-interview of planner and owner
 - Intermediate discussion between the planner and the observer
- Second level of analysis is focusing on the planning acts as a whole which is interpreted in terms of objectives
 - II-level adaptation considers objectives and develop design in consistent with them
 - After 3-5 consultancy acts, 3-5 cycles
 - A group discussion and research contribution: planner, planning manager, observer and researchers
- Third level of analysis is focusing on the activity:
 - To activate III-learning action is explained in terms of task environment (including motivation and context)
 - Researchers after the project
 - Discussion in professional-, policy- and scientific fields
- Research data:
 - Interviews, pre-post questionnaires, group-discussions; video-taping

Noticed gaps in forest planning debate



Concluding remarks

- The work oriented planning research might slacken the noticed gap between planning practice, policy and research
- Tasks of forest owners and a work of forest consultant can be seen as everyday action, where decisions are affected by previous and are following each other in sequences. Instead of trying to achieve optimal solution actors seek satisfactory, follows routines and partially “out-source” decision-making.
- Those two pragmatic actions overlap with each other to construct a plan for the forest owner. During this process both participants have to continuously adapt their behaviour for coordinating this joint action towards mutual goal they have.
- Planning action can only be understood and expanded by describing it as sequential communication operations, interpreting it in terms of objectives and explaining in systemic context.
- A design based research strategy might serve firm ground for such a research