Finland

Towards Transactive Scenario Planning - The river Kokemäenjoki and scenarios for Meri-Pori

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watersketch

Content

Abstract

There is a growing interest in environmental decision-making that uses a combination of future studies, multi-criteria decision-making and participatory processes. This paper describes one experience of applying this type of participatory process based on the approach of Transactive Scenario Planning. The purpose of the Meri-Pori process was to produce a collaborative and consensual Watersketch project. The main focus was placed on so called hotspots, the areas of multiple interests. Three such sites were identified: the delta of the River Kokemäenjoki, the combination of Yyterinniemi peninsula and Preiviikinlahti Bay, and the inshore waters of the city of Pori. Of these three hotspots the analysis concentrated on the delta of the River Kokemäenjoki. The significance of the expected consequences of various potential developmental activities were identified and assessed by applying the multi-criteria decision making method known as Web-HIPRE. In the other two hotspots the strategy of action research and qualitative methods in constructing the vision on desired future were applied. For the inshore waters hotspot general guidelines for stakeholder cooperation were developed. In the Preiviikinlahti Bay and Yyteri Peninsula hotspot the setting up of a governing committee was initiated that could guide the sustainable management of the area. As a general result, this process managed to involve governmental agencies and local stakeholders in a collaborative process of creating a consensual land and resource use plan of the area, the Watersketch.

1 Introduction

There is a growing interest in environmental decision-making that uses a combination of future studies, multi-criteria decision-making and participatory processes. This paper describes one experience of applying such a participatory process based on the approach of *Transactive Scenario Planning*. This case study is integrated in the collaborative European-wide Interreg III B project Watersketch – Strategies for a Sustainable River Basin Management (2004-2007). The Watersketch partners aim to develop strategies for sustainable River Basin Management in order to do justice to different economic, ecological and social functions (Watersketch 2006).

The coastal northwest corner of the city of Pori in SW Finland is well known for its nature, landscape and recreational use. There are several interrelated reasons for the area being ecologically and geologically significant, both nationally and internationally. The phenomenon known as land-upheaval causes the land surface to rise approximately 0,6 cm per year. Adding to the alluvial flow, the riverbed rises about one cm per year in the delta of the River Kokemäenjoki. Due to these natural processes and the shallowness of inshore waters, the delta has become the widest wetland mosaic in Finland and one of the largest in Scandinavia. Consequently, the wetlands and coastal meadows are important nesting and resting areas for birds. Also, as a geomorphological formation, the sand dunes of Yyteri, are significant and highly appreciated.

Because of the valuable natural assets and the close proximity of dense population of the city of Pori a multitude of recreation-related activities (including hiking, biking, boating, surfing, fishing, hunting, bird-watching etc.), housing (permanent and summer housing), and industrial activities (export harbor, chemical and shipping industries) are exercised in this rather small area. This leads to tension, conflicts, as well as coalitions between the stakeholders. A multitude of land and resources use related to social, economic, political, and cultural problems have emerged during the past years. Prior to this particular scenario process two reasons for this had already been identified: first, the formal relationships between the governmental agencies and municipal authorities have not been functioning well. Secondly, the ways in which the civic society has been integrated into the local land and resource use planning have not been considered sufficiently. Beyond these group-related and interest-bound local and regional tensions, the EU-regulation and various national policies have also caused disturbances. Public and private, entrepreneurs and public, private and private interests intertwine and interact in complex ways.

The purpose of the Meri-Pori scenario project is to construct a watersketch. In other words, to produce a collaboration based and consensual land and resource use plan for the area. The approach known as transactive planning will be integrated with collaborative planning, scenario analysis and multi-criteria decision-making (MCDM). In practice this means intensive work in small groups for the sake of identifying, articulating and ranking the intertwined consequences of human activities and natural processes.

2 Background information

2.1 General characteristics of the River Kokemäenjoki

The Kokemäenjoki catchment area is located in the boreal zone of the Fennoscandian eco-region in South-West Finland. The catchment area is the fourth largest in Finland and covers 8 % of the Finnish surface (Table I). The annual mean flow has stayed at 231 m3/s during 1961 – 1990 (Oravainen 2004). The main part of the drainage basin is covered by forest. In the upstream stretch of the river the soil is largely formed by clay. Downstream, the soil consists of gravel, sand and silt (Raunio 1992).

Area of drainage basin	27 040km^2
Area of lakes	2950 km^2 (11%)
Area under cultivation	4867 km^2 (18%)
Main channel length	112 km
Descent of main channel	57.5 m

Tab. I: Basic information on the River Kokemäenjoki.

The River Kokemäenjoki is one of the river systems in Finland with the highest loading. The quality of water was at its lowest in the 1970s (Oravainen 2005) and has been markedly improved since those days.

The nutrient flow (nitrogen 29 131 kg/d and phosphorus 940 kg/d during 2004) is carried via the stream and this leads to intensive eutrophication in the delta and nearby sea area in facing Pori (Oravainen 2005). In addition, the discharge contains toxic substances such as organic chloride, PCBs, and heavy metals (Raunio 1992). Especially, the levels of copper and mercury have been higher in the River Kokemäenjoki than in most Finnish river systems. Industrial waste waters are the main origin of metals, but seed disinfectants and agricultural fertilisers have also contained heavy metals (Häkkilä 1984). The metal load increased during the 1930s and the 1940s, reaching a peak in the 1960s and the 1970s (Häkkilä 1984). Nowadays, the heavy metal levels in the River Kokemäenjoki are much lower than in the previous decades. The metals have been sedimented in Pihlavanlahti Bay and the Ahlainen archipelago (Raunio 1992).

The city of Pori has suffered from occasional floods. Especially in winter, the dams of ice have caused a few deleterious situations for the settlements, agriculture, and industries. The risk of floods is connected to the high river flow, sudden freezing of the river, and the high sea-water level. A new flood-protection plan has been prepared recently (Koskinen 2005). Concerning the delta, as a partial solution to the problem, the dredging of the mouth of the River Kokemäenjoki is planned.

2.2 The Impact Matrix

The water quality of the River Kokemäenjoki affects the delta-area. For this reason, the impact matrix applies to the whole River Kokemäenjoki (Table II). There are several hydroelectric power plants along the River Kokemäenjoki triggering both hydrological and morphological pressures. Agriculture and forestry leak their nutrients and suspended matter into the river. In addition, there are also a lot of settlements and industries in the catchment basin, although these only showed to have a slight influence on the water quality related to the earlier periods. The impact matrix demonstrates the total effects of various pressures.

Impacts => / <= Pressure		Physico-chemical quality elements: Transparency	Temperature	Oxygen conditions	Conductivity	Salinity	Nitrogen	Phosphorous	Suspended solids	Diss. org. matter/Humic subst.	Acidification	Priority substances	Other pollutants	Biological quality elements: Phytoplankton	Planktonic blooms	Macrophytes	Benthic invertebrates	Fish	Hydromorphological quality elements: Hydrological regime	Morphology	River continuity	Tidal regime
Diffuse sources	Scattered settlements' sewage																					
	Agriculture diffuse																					
	Forestry																					
	Urban storm waters																					
	Atmospheric deposition																					
Point sources	Industrial wastewaters																					
	Municipial wastewaters																					
	Mining																					
	Contaminated sediments																					
	Animal husbandry																					
	Solid waste management																					
	Aquaculture																					
	Peat production																					
Abstraction	Raw water supply																					
	Agriculture																					
	Industry																					
	Fish farming																					
	Hydropower																					
	Open cast coal mining																					
Morphological pressures	Dams (transversal)																					
	Weirs (transversal)																					
	Longitudinal embankments																					
	Straightening																					
	Dredging																					
	Shore protections																					
	Urbanisation																					
Hydrological pressures	Flow regulation (rivers)																					
	Hydropeaking																					
	Level regulation (lakes)																					
	Change in riverprofile																					
Other anthropogenic pressures	Recreation																					
	Fishing/angling																					
	Climate changes																					
	Land drainage (forestry)																					
	Overgrazing																					
	Introduced species																					
	Introduced diseases																					

Not present
No effect
Low impact
Moderate impact
High impact

Tab. II: The Impact Matrix of the River Kokemäenjoki

3 Transactive Scenario Planning

The Transactive Scenario Planning approach is applied in this case study, which has its roots in institutional economics (Commons 1990; Hiedanpää 2005), the theory of transactive planning (Friedmann 1973), and pragmatism (Dewey 1954). In institutional economics, the unit of analysis is a transaction: an act in which the property or user rights are legally transferred from one partner to the other. A transaction is the transference of a right to future benefit streams. The Transactive Scenario Planning and scenario analysis both deal with the future benefit streams. However, scenario analysis does not tackle the problem of directing and redirecting the flow of benefit streams. It is only concerned with their analysis. As a pragmatic pursuit, the Transactive Scenario Planning attempts to influence the processes and restructure the structures that identify, articulate, create, and direct these benefit streams. The normative purpose is to change the existing formal and informal institutional circumstances by means of co-operation and participation.

Transactive Scenario Planning consists of seven overlapping stages, which a relatively small group of researchers, managers, policymakers, and other stakeholders explore through a series of workshops. The approach of this case study differs somewhat from that of Peterson et al. (2003) who focus more on the scenarios as end-products of the process, while we focus on purpose and collaborative procedures of scenario building (Bromley 2006; Hiedanpää 2002; 2005). The phases are: 1) the articulation of purpose, 2) the identification of hotspots, 3) the articulation of context, 4) the naming of drivers (attractors), 5) the creation of alternatives and scenarios, 6) the assessment and signification of futures, and 7) policy screening and policy formulation.

3.1 The Articulation of Purpose

The purpose of the first phase of Transactive Scenario Planning is to identify the main characteristics of the situation and to focus the collective will on the future. The task is to create a mission statement – a purpose for the scenario process.

In this particular case, a first meeting was held at the Satakunta Environmental Research Institute (SERI) (University of Turku) on December 3, 2004. The Institute is located on the island of Reposaari, which is part of the study area. Altogether, 11 people representing 7 stakeholders and regional authorities were present. In this meeting, the Watersketch project and the preliminary purpose of the Meri-Pori Scenario Process was introduced.

As result of workshop, the participants agreed on the purpose of this joint activity. In addition, general procedural rules of the process were discussed. One of the rules was integrated with the purpose. It was emphasised that because the process is orchestrated by SERI, the final product cannot be a formal plan, it can only be the sketch of a plan. This suited all the local Watersketch partners. The participants also pointed out the omissions in the current list of participants and requested that the list of participants be discussed and updated in agreement as the process proceeds.

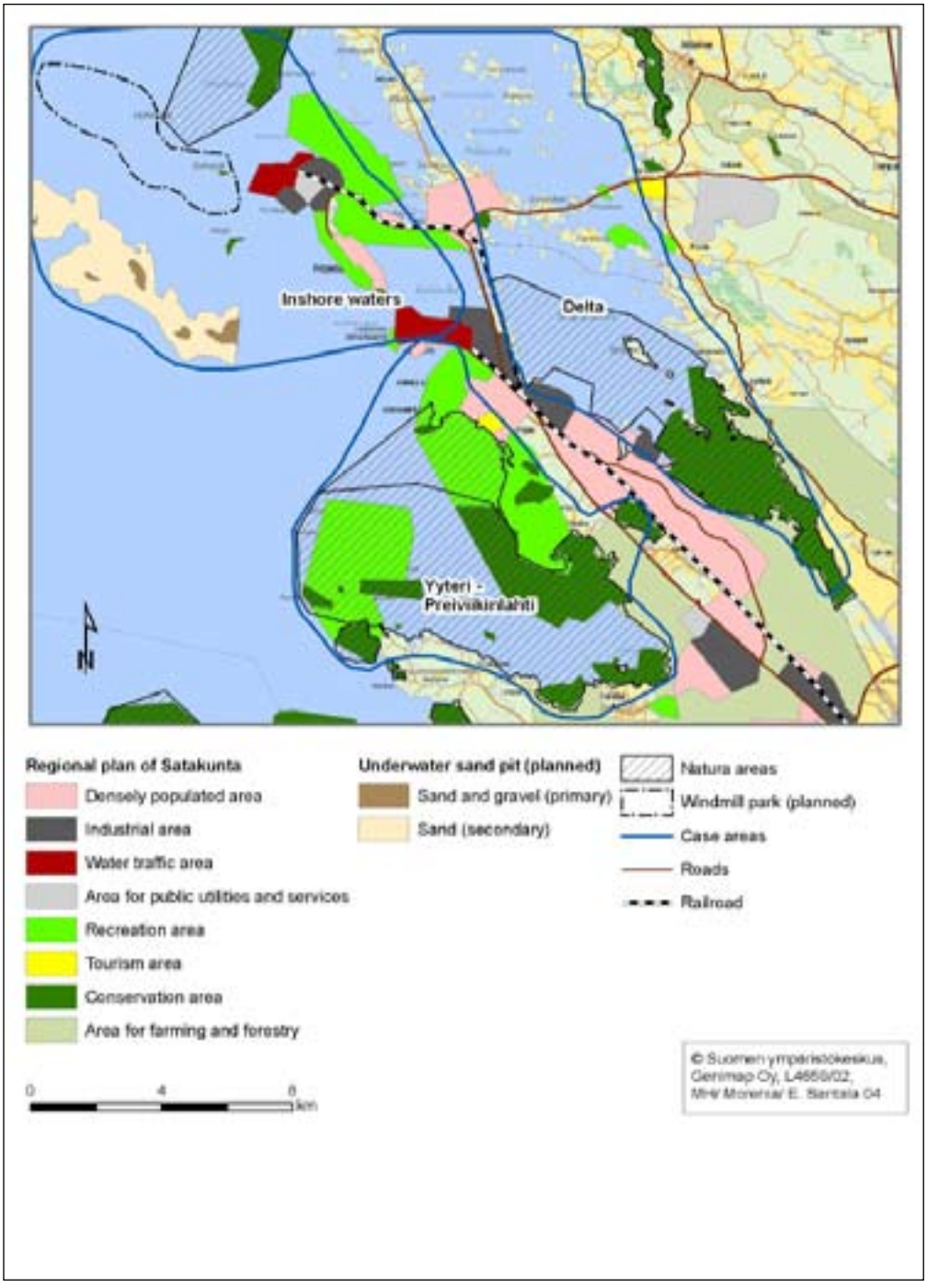

Fig. 1: The three hotspots in Meri-Pori.

3.2 The Identification of Hotspots

The purpose of the second phase of the scenario process is to identify those areas that are objects of multitude of interests. These areas are called hotspots.

The second meeting was held on February 15, 2005. Again, the meeting was held at SERI. The invitation list was extended according to the suggestions provided in the previous workshop. Altogether, 23 groups were invited who all had to work on the following task before the meeting: "The aim of the meeting is to identify areas of multiple interests in Meri-Pori. We hope that you can come up with 5 areas that are the most relevant from the point of view of the organisation or group you are representing. Please give reasons for your choice." On the basis of this task, the participants (14 persons from 10 different groups of interest) marked the areas of interest on the map and presented these on an overhead screen while giving reasons for their views and preferences. Consequently, the hotspots started to emerge on the overhead screen. The meeting was recorded using a digital video camera and a tape recorder. As the result of workshop, three hotspots were identified: a) The delta of the River Kokemäenjoki, b) Preiviikinlahti Bay and Yyteri Penisular, and c) Inshore waters (see Fig. 1)

3.3 The Articulation of Context

The purpose of the third phase of the scenario process is to identify the institutional, social and ecological contexts of each hotspot.

The method included to desk-based examination of the existing research materials, documents, plans etc. The period took place primarily between January – April 2005.

As a result, the ecological, social, and institutional vantage points of Meri-Pori were documented. The area of protected sites covers 8437 hectares in total; with 2885 hectares in the delta (Ympäristöhallinto 2006a) and 5552 hectares in Preiviikinlahti Bay (Ympäristöhallinto 2006b).

The delta of the River Kokemäenjoki is part of the Natura-2000 network and is one of the largest in the Nordic countries (Raunio 1992). Its wetland habitats are the most representative in Finland and include open water communities, areas in which scarce emergent macrophytes predominate and large common alder groves can be found. The broad vegetation of macrophytes is one of its characteristics. (Ympäristöhallinto 2006a.) Traditional biotopes exist along the southern shore, e.g. reconstructed pasture-meadows (Ympäristöhallinto 2006a). In total, 110 nesting bird species, have been recorded in the delta, of which 21 are waterfowl. The number of waterfowl pairs is approx. 700. In addition, there are plenty of waders, birds of prey and several rare passerines. The delta is an important moulting-site for waterfowl and also a resting place for migrant birds. (Ympäristöhallinto 2006b.)

For centuries the delta has been shaped by natural processes, the land-upheaval being especially important. The delta shifts gradually seawards due to land-uplift and sedimentation at a rate of approx. 30 meters per annum. During this process new stone boulders emerge from the sea. The communities of vegetation move gradually with the retreating delta. These rapid ecological processes provide a true challenge for the conservation of these habitats. (Ympäristöhallinto 2006a.) In addition, human activities have influenced the development of the delta areas, especially agriculture related activities (e.g. Jutila 1999, Laitinen et al. 1999, Louekari 2002, Ojala & Louekari 2002).

The Yyterinniemi Peninsula is significant in many respects. Its southern part, Preiviikinlahti Bay, is an important bay with significant ecological values (Manninen 1999). The area of Yyteri is located on Yyterinniemi Peninsula, and it is a valuable dune area incorporating e.g. camping areas, hotels, and various eco- and recreational businesses. Spare-time activities include sunbathing, swimming, surfing, Nordic walking etc. Local entrepreneurs are constantly developing their goods and services based on local ecosystem functions, which creates tension between the governmental agencies, the entrepreneurs, and the local users of the environment.

The Preiviikinlahti Bay is extensive and shallow. It belongs in its entirety to the Natura 2000 network. The whole area is protected under the Birds and Habitats Directives. Preiviikinlahti Bay belongs (partly) to the significant esker area. There are plenty of representative beachfronts, sandbanks and combinations of both of these. This area is one of the rare places where the whole process of dune development can be observed. Preiviikinlahti Bay is a very important resting place for migratory waterfowl and waders. In Preiviikinlahti the number of nesting waterfowl is also very significant. More than 350 pairs of waterfowl from approx. 20 different species are nesting here. Lake Enäjärvi, which is part of the Preiviikinlahti Natura 2000 complex, has plenty of pondweeds. Lake Enäjärvi covers an area of approx. 100 hectares. The nesting waterfowl community of Lake Enäjärvi is rich and diverse, and the area is a significant resting place for migratory and moulting waterfowl. The vegetation is variable and also covers a number of rare species. (Ympäristöhallinto 2006b.)

The inshore waters of the city of Pori are shallow, rich in gravel and fish, and heavily used for various kinds of boating and transportation. The wind conditions are the best in Finland. The nature and landscape of the inshore waters are important constituents of the cultural identity of coastal Finland.

3.4 The Naming of Drivers (Attractors)

The purpose of the fourth phase of the scenario process is to identify the most powerful drivers (attractors) of development. It was decided to emphasise the real-life interconnectedness of volitional and spontaneous powers of local development, therefore the term attractor was used in the meetings.

Three workshops were organised, one for each hotspot. The meetings were held in April and May 2005. The list of invited groups was again expanded, e.g. to include the delegates of residential associations. Again, a task was delivered to the invited participants as a prerequisite. This time three interrelated questions had to be considered: (i) which 5 of the following 14 activities will in actual fact become the most important constituents of the development, and (ii) from the point of view of your group, which ought to become the most important, and (iii) which administrative or managerial actions would guarantee the future as you preferred it. This period took place in April – May 2005.

As a result of these workshops, the actual and potential drivers concerning the future of each hotspot could be qualitatively identified. In the delta, the most important drivers of development were concerns regarding nature conservation, flood control, eco-tourism, boating channels, and landscape. In the inshore waters case, the most important drivers of development were concerns regarding nature conservation, sea-bed gravel extraction, off-shore wind-mill farms, recreation and eco-tourism, and sea-based logistics. In the case of Preiviikinlahti Bay and Yyteri the most important drivers of development were concerns regarding nature conservation, harbour and industrial activities, recreation, tourism, landscape, and motor-sports.

3.5 The Creation of Alternatives and Scenarios

The purpose of the fifth phase of the scenario process is to construct alternatives or scenarios for each hotspot. The difference is that the alternatives are specific, while the scenarios are general.

This phase was again a desk based, working on audio and video materials recorded during the workshops. The work was carried out between June – November 2005.

The challenges in the delta of the River Kokemäenjoki are complex, interrelated, and specific. Therefore, albeit was possible to create alternatives concerning its future. It was decided to construct a decision tree for the purpose of visualising the decision problem and then apply the multi-criteria decision making approach known as Web-HIPRE in weighing up and specifying a ranking order for the alternatives and their impacts. The purpose was to assess the significance of the constituent of each constructed future from the perspective of each participant.

The decision tree consists of alternatives, criteria 2, criteria 1 and the goal. In this case, the goal (purpose) was to find and create the best possible alternative future for the Kokemäenjoki river delta. The practical challenge of the assessment was that there are twenty different stakeholder views regarding the best possible futures. Criteria 1 were constituted by general value orientation. In this case, there were three value-orientations: (i) restoration, (ii) consuming use, (iii) and non-consuming use. Criteria 2 are, depending on the direction from which the decision tree is looked at, either the constituents of value-orientations (from left to right) or the impacts of different alternatives (from right to left). Restoration of the delta includes landscape, meadows, waters, and permission practice. Consuming use of the delta includes coastal construction, artificial channels, islands, and eutrophication. Non-consuming use of the delta includes hunting, fishing, boating, and aesthetics. The alternatives are conservation, recreation, and development. (Figure 2; see the article on Web-HIPRE elsewhere in this collection).

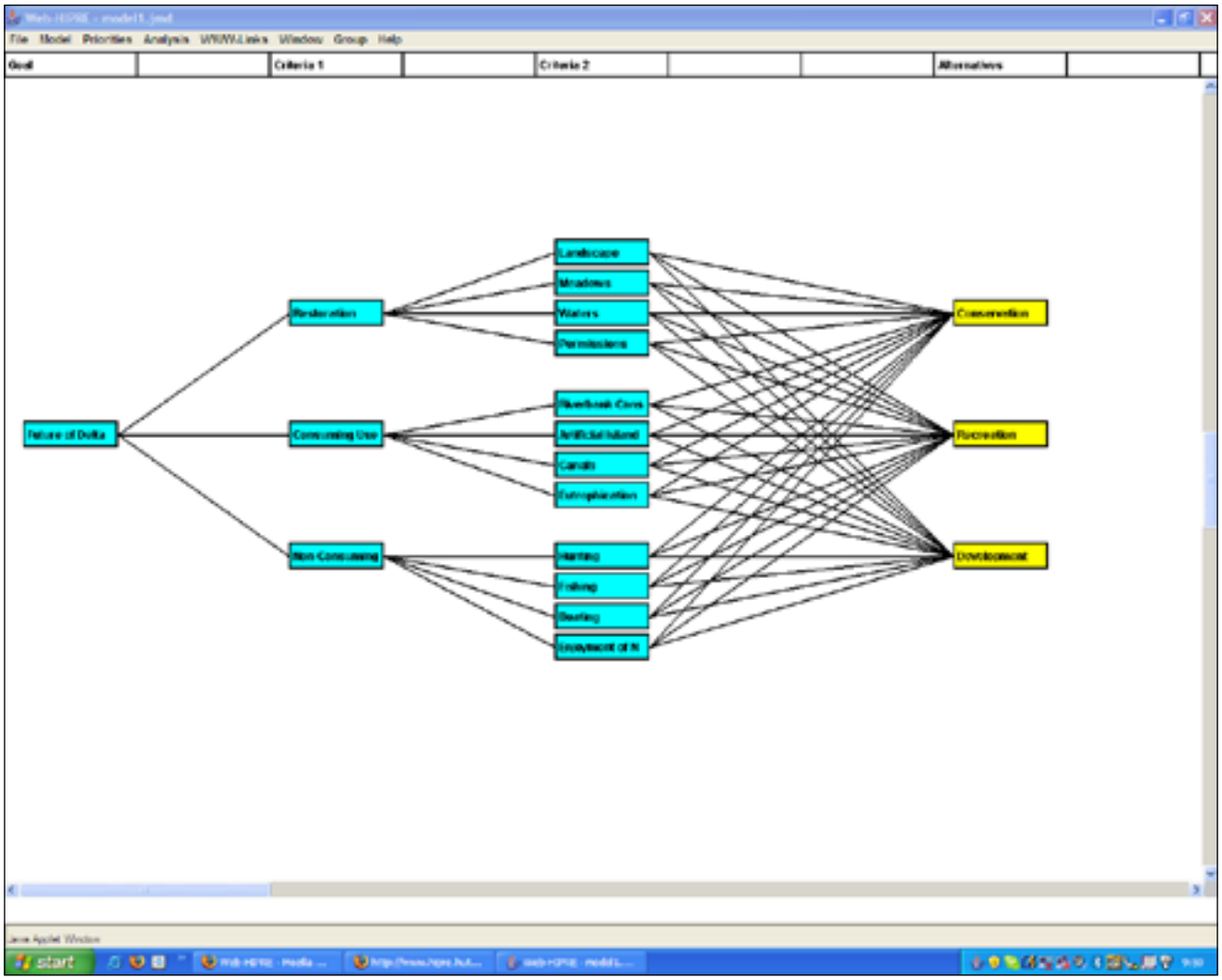

Fig. 2: The decision tree for the future of the delta of the River Kokemäenjoki.

The process proceeded as follows: Firstly, three researchers from SERI structured the problem and drafted an initial decision tree. Thereafter, three reference persons selected from the participants of the delta workshop commented on the decision tree. The researchers then finalised the tree according to those comments (see Figure 2).

The problems of *Preiviikinlahti Bay and Yyteri Peninsula* are severe and serious, and therefore also give rise to conflicts. The problems fuelling the controversies are due to the discrepancies between the existing set of use rights of the ecosystem services and new plans that challenge the status quo. The need to readjust the current user rights is shared by all stakeholders. However, the stakeholders do not agree on the details regarding which use rights should be changed, how much they should be changed, and according to which practical procedure the

change should occur. This being the case, the participants of the workshop did not recognise different alternatives concerning the development of the area, instead they recognised only one.

Specifically, the participants came up with the idea of the governing committee. According to the initial articulation of the idea, the committee would oversee the future planning processes as a semi-sovereign body, which is assigned with sufficient power to influence the substantive and procedural issues of planning, being resourceful enough to facilitate stakeholder cooperation, and capable of mediating any emerging tensions and conflicts. The governing committee would also mediate, guide and instruct future impact assessment and valuation processes. The idea is currently under further consideration.

The future of the *inshore waters* of the city of Pori is complex and uncertain. There are few processes simultaneously ongoing, all of which are kept separate from each other. These processes are: (i) the extraction of sea-bed gravel, (ii) the suggested marine wind-mill farms, (iii) the expansion of the population of *cormorant*, a recently established large fish-eating bird species, and (iv) the planning of the Selkämeri National Park, which will partly cover the area. All of these can have separate direct and indirect, positive and negative impacts on the ecological, social, economic and cultural environments of Meri-Pori. For the critical parts the details of impacts are still unknown. For this reason, Web-HIPRE could not be applied. Nor could a governing committee be initiated because of the multitude of scales of governance effective in this situation.

Instead, it was simply suggested to the officials and stakeholders to continue the dialogue that was started during the Watersketch process. It is believed that an ongoing dialogue between all the key interest groups and stakeholders would help to articulate, i.e. to actualise, the acceptable scenario in a communicative manner. This would happen if the Potential, the Possible and the Impossible aspects of the future are collectively scrutinised. This type of communicative collaboration was called the APPI-process (Hiedanpää 2003). The practical matters of this kind of dialogue are currently under further consideration.

(Mustajoki et al. 2004). This phase ran from October 2005 to February 2006.

As a result, the alternative futures of the delta were weighed up and placed in ranking order from the perspectives that were present in the scenario process. However, in this paper not all individual perspectives are documented separately. Instead, individual views have been clustered into so called functional groups and results have been documented accordingly. This was done because of the assumption that the diversity of functional groups may play a role in to the way the expected impacts of different futures are reacted to and acted upon. Each member group in a functional group serves a similar function in the system. For instance, Levin (1999) has argued that the more diverse the functional groups, the better the system is buffered against disturbances, perturbation, and emotional outbursts and conflicts. The diversity has a causal effect on the capacity of resistance, resilience, and adaptability.

Indeed, some interesting results were obtained in this respect. Four functional groups were set up: Conservation, Production, Authorities, and Use. In figure 3 below, the preferences for the alternatives from the point of view of the functional groups are shown. There are some surprises. For instance, the functional group of Production valued recreation high. This may be due to the fact that for the most part, future productive activities are expected to be related to the commercialisation of ecosystem services. However, the functional group of Use did not recognise the developmental of the delta as very significant. Instead, they considered recreation to be significant. In order to be acceptable, the process of commercialisation of ecosystem services must be moderate and based on the utilisation of local knowledge concerning the uses of the delta.

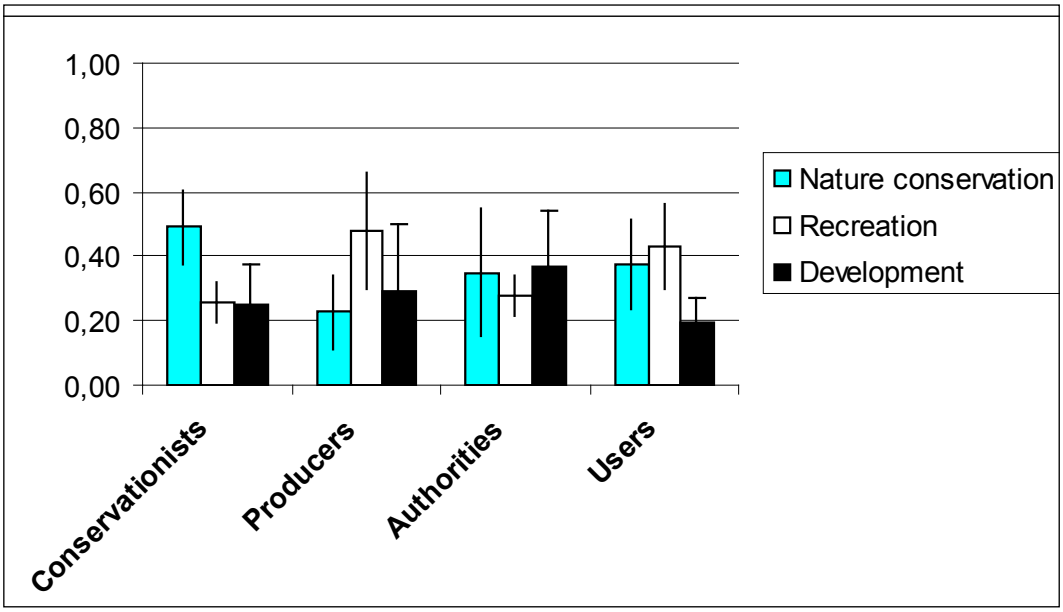

Fig. 3: Preferences concerning the alternatives of the delta from the functional groups' point of view.

3.6 The Assessment and Signification of Futures

The purpose of the sixth phase of the scenario process is to assess the alternatives and scenarios.

Assessment and signification were only applied to one hotspot, namely to the delta of the River Kokemäenjoki. Here, the problems were specific enough to apply the multi-criteria decision making aid Web-HIPRE in assessing and weighing up of the alternatives and their impacts from the perspective of each participant. The computer-aided interviews were conducted with 20 stakeholders. The Web-HIPRE software has already been successfully used in some complex river flow control cases

In Figure 4, preferences of the functional groups regarding the value-orientation of restoration can be seen. The elements of restoration are: Management of Landscape, Management of Meadows, Management of Waters, and Permission Practice. The functional groups of Use and of Production valued the Management of Waters over the Management of Landscape, the Management of Meadows, and the Permission Practice. This was somewhat surprising and shows clearly where the interests concerning the future of the delta are. As expected, the authorities place strongest emphasis on Permission Practice.

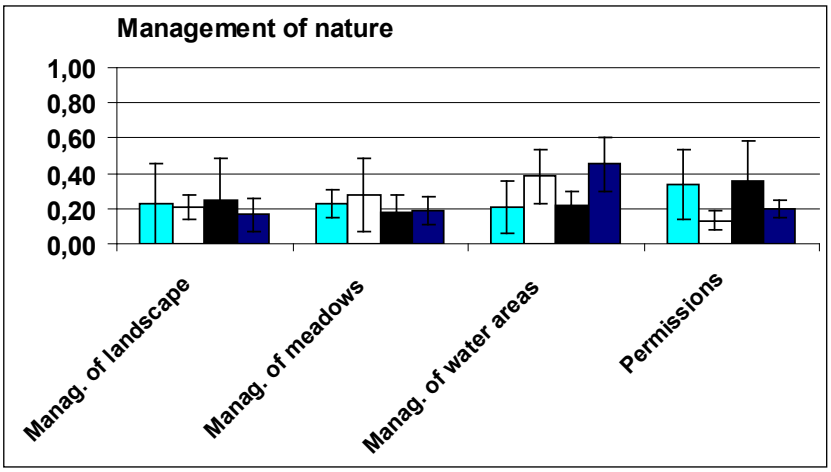

Fig. 4: Preferences concerning the value-orientation of restoration of the delta from the functional groups' point of view.

In Figure 5, the preferences of the functional groups concerning the non-consuming use values of the delta are presented. The elements are: Hunting, Fishing, Boating, and Aesthetics. Surprisingly and interestingly, all the functional groups valued Aesthetics the most, which speaks for the beauty of the area.

In Figure 6, the preferences of the functional groups concerning the consuming use values of the delta are presented. The elements are: Boating Channels, Coastal Construction, Artificial Delta-Islands, and Eutrophication. The functional groups did not feel that Coastal Construction or Eutrophication were significant. Boating Channels were important for the functional group of Production, again the potential and actual utilisation of the ecosystem services is the most likely reason for this.

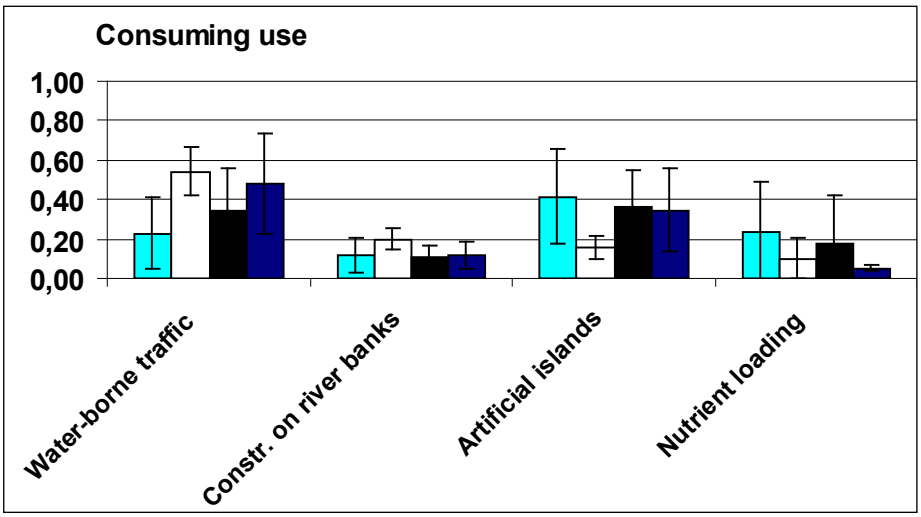

Fig. 6: Preferences concerning the value-orientation of consuming use of the delta from the functional groups' point of view.

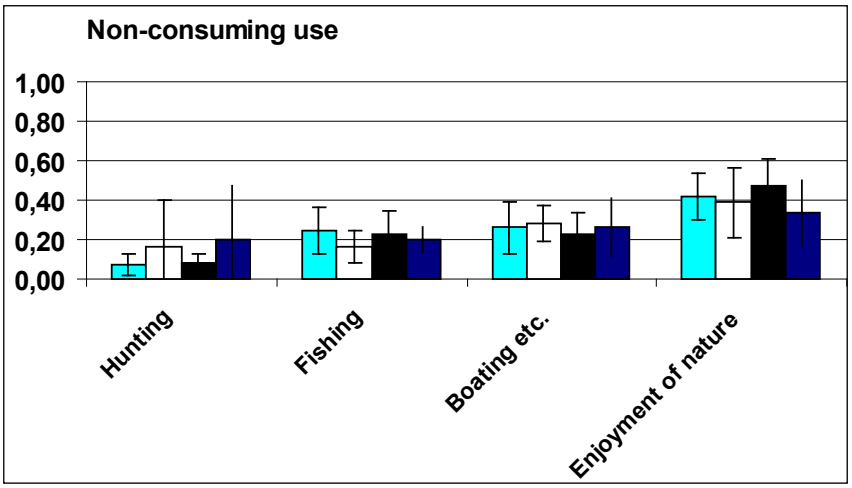

Fig. 5: Preferences concerning the value-orientation of non-consuming use of the delta from the functional groups' point of view.

3.7 Policy Screening and Policy Formulation

The purpose of the seventh phase of the scenario process is to help policy makers to compare old policies with new ones and to give and ask for reasons regarding the policy trend.

For this purpose, a concluding workshop will be organised in winter 2007. In addition, as a final result a consensual and voluntarily binding Watersketch policy document will be published.

4 Results

Identification of interested parties: According to the participants of the process, identification of the relevant parties concerning the future development of Meri-Pori was achieved. A large number of local governmental agencies, stakeholders and NGOs participated actively. This proved beneficial to the scenario process.

Mission statement: In the second meeting, the interested parties agreed that the final product of the Transactive Scenario Planning will be a consensual Watersketch programme. The participants also agreed upon the working methods according to which the final product will be produced. Remembering the tense relations between the various governmental agencies on the one hand, and between the combined agencies and local civic society on the other, this was an achievement in itself.

Activation of the parties: We managed to activate the parties. This was mostly due to the practical fact that the process was specific and problem-oriented. The participants truly contributed to the process by constructing future scenarios or alternatives for each individual hotspot. During the process, the participants started to show commitment to the process. This, the process produced social capital.

Identification of the hotspots: The participants identified the hotspots. The hotspots are the fields of interests and act as nodes trough which the governmental agencies and local stakeholders transact with each other when negotiating on the transference of the rights to the future benefit streams, i.e. current property and user rights on the Meri-Pori area. The hotspots are not the type of spots where different economic interest meet, but where a multitude of ethical, aesthetic and epistemic desires and concerns are communicated and collide. It was attempted to arrange a forum in which each hotspot could be identified, articulated and signified from various perspectives. According to the participants, this was achieved to a large degree.

Creating alternatives and scenarios: Throughout history, each official development plan for each of the hotspots has faced a serious amount of resistance. This specific scenario process tried to change the course of history by initiating a collaborative bottom-up process for drafting alternatives and scenarios. In this case, the partners identified and articulated future scenarios and discussed possible and potential pros and cons. The Transactive Scenario Planning succeeded in fulfilling the task. In the seminar organised in spring 2006, the results were discussed with a wider audience and the participants agreed upon the results, conclusions and suggestions concerning.

Assessment and signification of the articulated futures: Concerning the delta of the River Kokemäenjoki alternatives were developed and placed in a ranking order. Currently, the alternatives and the weighing of their impacts are under discussion in the various planning offices of the city. On the other hand, the inshore waters of Meri-Pori are far too complex for specific analytical methods, such as Web-HIPRE. Therefore, it was recommended that the open-ended collaborative process continued. In the Preiviikinlahti Bay– Yyteri area the problems are acute and serious and so intertwined that a new sovereign body for the governance of the area was established.

Practical arrangement of the workshops: We were aware that the combination of the representativeness of the participants, the consensual mission statement, the activation of the participants, and the identification of the hotspots brought forth requirements concerning the actual collaboration during the Transactive Scenario Planning. We hope we managed to face the challenge. Via the snowball-technique, we managed to cover all the interested parties. By arranging the workshops in the late afternoon, close to office-closing time, we managed to attract both governmental and non-governmental stakeholders. Perhaps the most important fact in activating the participants was the problem-oriented work throughout the scenario process. The influence of participants' confidence on the workability of the final product developed during the process itself must not be underestimated.

5 Conclusions

The purpose of this Transactive Scenario Planning was to create a collaborative process that could activate, empower, and encourage the governmental agencies, local stakeholders and citizens to engage in cooperation for the sake of changing the existing problematic formal and informal institutional circumstances in Meri-Pori. We managed to put the collaboration in motion, and, consequently, a collective will for cooperation has started to emerge. Also, early signs of procedural changes in the planning principles of various offices of the city of Pori are emerging. In general, the discussion on institutional circumstances is more open, reasons for any conflict of interest are better articulated, the development of a new organisational form of governance has been initialised, and the need for more quality collaboration is acknowledged. A sustainable future will not emerge spontaneously. It entails active, impartial, creative and organised collaboration and citizen involvement. We believe that the Transactive Scenario Planning has the potential to help in creating new standards, guidelines, and principles for this timely and important collective endeavour.

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