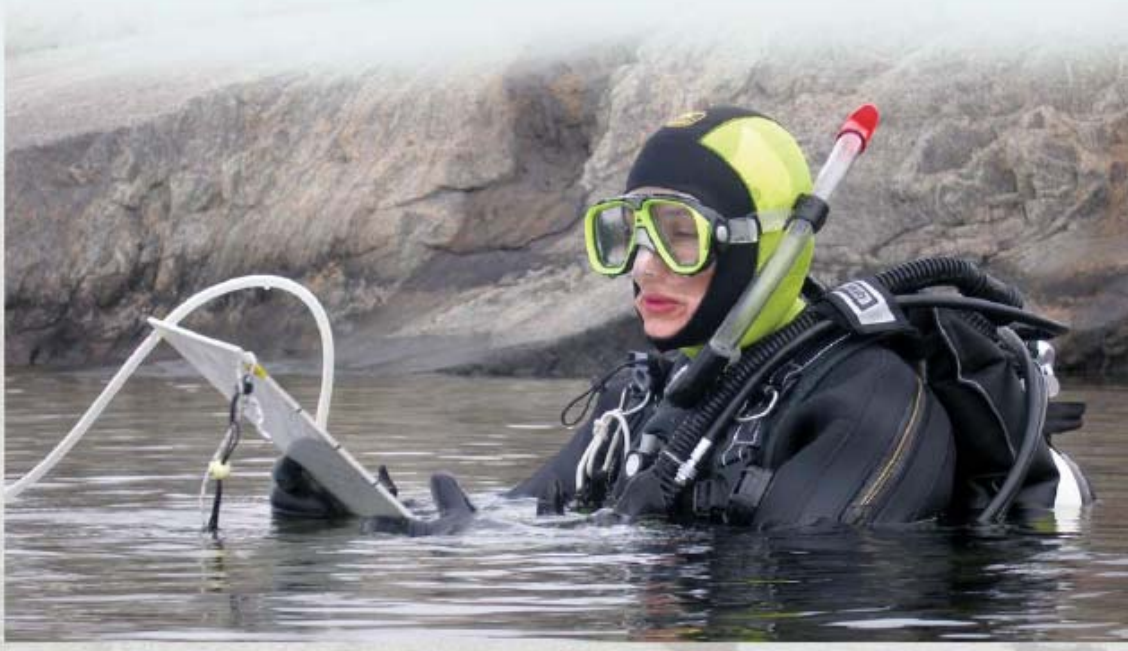
BALANCE Interim Report No. 22

E-participation as tool in planning processes



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Editors Christiane Feucht, WWF Germany Timo Pitkänen, Metsähallitus	Date 19 December 2007
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CONTENTS

0 PREFACE

This report focuses on stakeholder involvement and e-participation in regard to nature conservation and spatial planning. Public hearings and meetings are the most traditional form of public participation. Often required by law, meetings and hearings are easy, open forums for agencies to announce and defend proposals, and for citizens to learn about issues, express their views and possibly influence decisions. However, they tend to occur late in the decision-making process, and may be dominated by organized interests or outspoken individuals, often encouraging delay and limiting meaningful discussion (Adams 1996).

E-participation is a web-based interface for participation in planning processes that provides the opportunity for everybody to participate and makes the users independent of physical offices, working hours and meetings. Information and decision backgrounds are accessible for everybody and discussion processes can be documented and stored. However, a prerequisite for the use of such a forum is that all stakeholders have adequate access to the Internet. If this is provided, e-participation is a good tool for a fair process. This realizes part of the idea of 24x7 governments, which is a concept for maximum accessibility of administration services for citizens (Berntzen et. al. 2005).

E-participation is an internet-based tool for public participation and as such is regarded to have a high potential for positive impact on results and acceptance (Bräuer & Biewendt 2005). Today, many people, and especially younger societal groups, use the Internet commonly in their everyday life. A survey in Germany revealed that most people are aware that it is more difficult to participate in social life without Internet (Bräuer & Biewendt 2005). The uses of the Internet offer both sides, governments and users, great opportunities for constructive and tailored participation and therefore foster the dialogue and the transparency of planning.

In this report three case studies are briefly described to give an insight into the practice of e-participation applications in planning processes.

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Christiane Feucht[1] and Timo Pitkänen[2]

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[1] WWF Germany
[2] Metsähallitus, Finland

1 INTRODUCTION

Electronic participation is a new tool in governmental planning processes. It is developed to enable and facilitate public participation in complex situations. E-participation is not a public participation method as such, but a collection of tools that can be used in conjunction with many other methods. E-participation enables citizens to communicate with their governmental authorities and to express their opinion also on a spatial level (Berntzen et. al. 2005).

E-participation facilities are usually web-based mapping applications. Based on Geographic Information Systems (GIS), they can be equipped with interactive interfaces for visualising and editing of spatial situations. Web-based applications enable stakeholders to easily access comprehensive and targeted information in form of maps, pictures, videos or 3D visualisations and also provide the possibility to query, measure and edit maps, express opinions on the planning issue and collaborate with planning authorities.(Adams 1996). Additionally, the use of decision support systems is beneficial which are created to support the management and evaluation of submissions.

E-participation tools can be used in a variety of participatory processes. They can be incorporated into existing methods in order to enhance the communication, education, and capacity building goals. They can also form the basis for potential new decision-making and policy processes, which meet all three goals of public participation: communication, capacity building, and access to decisions. It can assist in finding better solutions to sitting and zonation issues by encouraging understanding among and across stakeholders. (Adams 1996)

Geographic Information Systems (GIS) are used to gain new information through the analysis of spatial data. It is a tool commonly acquired to increase efficiency in planning decisions. GIS is especially suitable for the processing and analysis of large amounts of data. There is a strong link of databases and the mapping function, which serves to provide spatial and thematic information. It is structured in thematic layers, which enables a transparent documentation.

2 CASE STUDIES

During the BALANCE project it was discovered that it is very difficult to engage stakeholders in hypothetical test studies, meaning project activities compared to actual "real life" situations, which have a tangible impact on local or regional communities. It was therefore decided to learn from real life situations rather than base our experience on a time limited activity, such as the BALANCE project. This chapter build upon three case studies, where stakeholder were actively engaged. These are:

2.1 Case study 1: Landscape planning in Königslutter, Germany

Königslutter is a municipality in Germany consisting of the city and 17 districts. German municipalities prepare the so-called 'Landschaftsplan' (landscape-plan) to apply nature protection and landscape conservation objectives in their area. Public participation has to be ensured in the planning process and was carried out in a formal process in former years. In 2002, in cooperation with a university and a planning office, Königslutter initiated a pilot project on web-based and interactive landscape planning. Aim of the project was to foster transparency and public information and involvement through the establishment of new media as a tool in the participation process.

2.1.1 Consultation and participation

Public information and discussion was carried out in all planning phases with different stakeholder groups. All information and planning materials were provided on the internet for commenting. For specific thematic projects excursions, discussion meetings, seminars and workshops were offered. This was accompanied by intensive public relations work in form of press releases, brochures, posters on notice boards, exhibitions etc.

Other activities were announcements for submissions on different topics and of course continuous information and documentation of the planning process and its results via internet, press, newsletters, information stands etc.

In the internet people could view maps and read the related text passages and were able to submit comments and edit the maps as well as use the learning modules.

The provided e-participation tools supplemented the formal and traditional participation process in Königslutter. People felt better informed and thought that the preparation and information via internet positively influenced the process and results of the planning activity.

2.1.2 Facilities and processing

The electronic planning support system consisted of:

- Decision Support System (DSS): designed to help making transparent and rational decisions by pre-processing criteria and information.
- Visualisation techniques (e.g. aerial pictures, 3D-pictures, VRML Scene Express, Lenné3D): give users a better impression and picture from the planning proposals and therefore a better basis for discussions.

- Map-based participation module: enables users to draw graphics, link comments and save them in a personal database, which can be sent to the administration.
- Content Management System (CMS): enables to upload text and picture files to the platform. Additionally it can manage to send out newsletters, to regulate access and to organise the system to avoid interaction between users accessing it at the same time.
- Mapserver (Open Source: UMN-Mapserver of the University of Minnesota): enables to provide GIS-based maps for interactive use in the internet.

Once the system was established, the costs of data processing were low. Especially the simplified documentation and evaluation through the support of the e-participation system led to decreased costs and workloads.

2.1.3 Use of web facilities by stakeholders

Only 25% of the response was submitted via e-participation. But it turned out that these were the most precise and accurate responses because they had clear text and area relations. Especially the different visualisation techniques were highly valuable to the users. Furthermore, experiences showed that digital submissions using the internet were filled in more complete than submissions via e-mail or letter.

Nevertheless, it is recommended to provide all information material including texts and maps of the plan as printed versions as well as on CD-ROM.

2.1.4 Conclusions and lessons learnt

The supply of internet facilities has to be linked with intensive public relations and other media. The most effective media for the announcement were press releases, information events and personal correspondence. The offer of local activities like excursions and seminars about special topics were received very positive.

Königslutter engaged external expertise for the technical care and functioning of the system.

It was also noted that people tended to ask for more spatial precision in formulating the plan than anticipated. This created a problem for the authorities who wanted to keep room for negotiations even after the plan was prepared.

The anticipated flood of submissions did not turn into reality. With one additional staff, Königslutter was able to cope with the submissions and additional demand of the new media planning tool.

Only in some cases the planning process was significantly delayed because late submissions had to be examined and incorporated.

Table 1: Summary of statistics regarding case study 1.	
Case study 1 Criteria	**Königslutter, Germany**
No. of registered users	62% between 20 and 60 years old 15% over 60 years old (17% no entry) 25% female, 47% male, (28% no entry)
No. of submissions	830 480 directly linked to the plan 75% traditional media (paper versions, oral comments) 25% e-media (E-mail, mapserver, etc.)
Accuracy of submissions	58% area related 6% text related 22% topic related (recommendations, background information) 14% general comments
Internet access	42% home, 32% work, 10% school, 3% public (11% no entry)
Required resources	1 full-time position (40h/week: 16h public information and participation management; 4h new media; 10h develop plan; 10h Project work, administration etc.) Conceptualising and internet development effort external; about 4h/week for responding of online comments and submissions Plus: IT department costs
Area size	140,3 km²
Scope	1 city and 17 districts; 17.000 inhabitants
Used map scales	1:10.000 – 1:5.000
Type of planning process	Landscape planning
Target audiences	Inhabitants, users (agriculture, recreation, etc.)
Announcement, communication activities	Announcement: press releases, info-letter digital and posted, internet-calendar, notice boards, direct invitation of key stakeholders, circular to all household
Information activities	Excursions, expert talks, discussion evening, response to e-mails, submissions Short versions of plan tailored to different target audiences
Anonymity	No, registration required
Required Hard- and Software for the supply of e-participation tool	Decision support system, Visualisation software, Map-based participation modul, GIS, Content Management System, Map server, Web server
Required Hard- and Software by the users	Computer, web browser, Internet access
Integration of education?	Learning modules of different topics for children of various age classes

2.2 Case study 2: The "Soft-GIS" interactive survey as a tool in quantifying and locating environmental quality factors: Municipality of Järvenpää, (PehmoGIS), Finland

The Finnish case study, called "PehmoGIS" ("Soft-GIS"), is an example of testing and studying an interactive planning system in practise. The main objective was to develop a method for using such systems. Another aim was to gather qualitative and quantitative information about the experiences of inhabitants on the environmental quality of their near environment and promote the use of such information in municipal planning. The study has been committed in altogether five municipalities in southern Finland. Cur-

rently, results exist only from Järvenpää (37.639 inhabitants), where the survey was conducted over a three month period in 2004.

2.2.1 Consultation and participation

The consultation process relied solely on a web portal – a map interface where people were prompted to identify locations in their neighbourhood for which they had a comment to state (a positive or a negative one). There were no special advertisements or meetings for setting up the procedure, as the study was more aimed at providing general information without any specific, ongoing planning purpose. Nevertheless, it soon gained widespread publicity through the internet and newspaper articles.

The submission questionnaire in the internet first prompted some background information and personal details. There was a possibility to register as a user and by doing that the respondent was able to complete the process in several sessions, but registration was not compulsory. After providing the background data, respondents were asked some general questions regarding the quality of life in Järvenpää, and finally they were requested to point out specific locations on the map and give own comments on those locations. The purpose of the comments was to provide information on locations where positive or negative environmental factors were situated, based on residents' own experiences. In terms of the number of respondents (over 400) the study was considered to be fairly successful for both revealing residents' opinions on how they experience living in Järvenpää, and supplying further knowledge on how to accomplish similar interactive participation processes in the future.

2.2.2 Analyzing the results

The results were analysed after the submission phase, and special attention was paid to the confidentiality issues –access to the original data at the analysing phase was granted only to three employees, and all published results were generalized to a level not enabling the identification of single respondents. Information on the linkage between specific comments and respondents' personal details was also restricted to be used only by a small researcher group

2.2.3 Conclusions and lessons learnt

From a technical point of view, the case study was regarded as successful, and there were no major problems during the submission process. The respondents agreed that the study was beneficial and felt that by sending a submission they had an opportunity to express their opinions. The web questionnaire was intended to be as simple and logical as possible, and the majority of respondents also agreed that this was achieved. However, there still appeared some technical problems representing the significant variation in technical skills among portal users. There also were some troubles in perceiving specific locations on the provided maps, and doubts of an insufficient confidentiality level.

The study also showed that the information on environmental quality provided by inhabitants is diverse in both substance and level and the opportunity to attach the information to a certain spot on the map adds to this diversity. The data gathered by the portal resembles a set of traditional, quantified scientific research data and consequently, can be processed as one. The analysis on the geographical position of quality factors, services and homes provided by the participants further widens the perspective for those analyzing the data. The resulting data set is quite unique and offers lots of possibilities for different type of analysis as well as diverse sets of results that various stakeholders,

such as municipal planners, will find both interesting and useful. In addition, it provides a method for converting subjective opinions into more "official", objective information and making them a permanent part of the GIS systems which are already familiar to planners.

Table 2: Summary of statistics regarding case study 2	
Best practice example Criteria	**PehmoGIS, Finland**
No. of registered users (Age structure, gender)	90,2% between 20 and 60 years of age, 64% of all answerers female 40% couples with children, 28% couples without children 32% single-parent families and singles. 64% lived in detached/terraced houses 50% "white-collar" workers
No. of submissions	427 (via internet)
Accuracy and quality of submissions (area related, text related, topic related, general)	56% were positive (28% of them regarding the usefulness of the method) 44% were negative (from users that had experienced technical problems or were suspicious about the confidentiality of the survey).
Internet access	N.A.
Required resources	The portal was open for 3 months in 2004 and first results published in 2006.
Area size	Around 40 km2
Scope	5 municipalities; 302.295 inhabitants
Used map scales	N.A.
Type of planning process	No planning process included, the purpose was to develop the method
Identified Target audiences	All inhabitants of the community
Advertisement, communication activities (Newsletter, etc.)	Spread by internet and newspaper articles, no real targeted, strategic communication plan existed
Anonymity	Yes
Required Hard- and Software by users	Internet access

2.3 Case study 3: Re-zoning process in the Great Barrier Reef Marine Park, Australia

The first zoning plan generated for the Great Barrier Reef Marine Park was developed between 1983 and 1988, but in the late 1990's an increased scientific knowledge about the GBR's ecosystems indicated that the current zoning was not sufficient to ensure the long-term protection of the Marine Park area. For that reason, the Great Barrier Reef Marine Park Authority (GBRMPA) introduced the Representative Areas Program (RAP) for developing a new zoning plan to better protect representative examples of the GBR's biodiversity. The re-zoning process was the most extensive public planning exercise undertaken by the GBRMPA and it involved a large number of public submissions in 2002–2003. This consultation process ensured that zoning plans were prepared with an understanding of the range of uses and issues people might have for the area to be zoned.

2.3.1 Consultation and participation

The community consultation had two separate phases of which the first occurred in 2002. The objectives of this consultation were to inform the community of the purpose of re-zoning and to encourage people to provide information that would assist the development of the Draft Zoning Plan. It included numerous formal meetings, announcements on regional television, newspaper articles, radio and television spots, and 38,000 hits on the web page as well as the distribution of 33,000 submission brochures. The primary instrument prepared for collecting information from people was a 1:250,000 map of a defined area in the GBRMP linked to a questionnaire. People were asked to mark areas on the map that were of interest to them and to record corresponding information on the questionnaire. The map-questionnaires were completed either by individuals or by people working as a group. The second phase in 2003 focused community comments on the Draft Zoning Plan including formal meetings, announcements on TV, radio and newspapers together with the distribution of 10,000 information packages, 50,000 submission map-questionnaires, 29,000 explanatory brochures and 76,100 Draft Zoning maps, and it resulted in 35,000 hits on the web page. The map-questionnaire format used for the second phase accompanied the Draft Zoning Plan and prompted people to identify the draft zones that they did not support and requested them to provide alternative options and to state their reasons. The questionnaire also prompted people to nominate those new zones they did support with reasons why and to make comments on the draft zoning provisions. Access to the Draft Zoning Plan was also available online and on CD ROM.

2.3.2 Analyzing the results

Submissions were analysed with a coding system based on assigning attributes (a link to the spatial unit, issue, community or interest group), themes and sub-themes, which turned out to be a fairly efficient way of processing submissions. Coding also ensured that the information presented in the submissions was applied as effectively as possible during the planning process. Manual submissions on paper maps were individually digitised in GIS by the GBRMPA. A web-based query tool was also developed to ensure that GBRMPA planning teams could easily access submitted information during the planning process – the tool allowed them to search the submissions database to locate submissions relevant to the planning issue they were dealing with.

2.3.3 Conclusions and lessons learnt

The RAP generated considerable community interest and over both phases of re-zoning the GBRMPA received over 30,000 submissions. To manage such a volume of submissions and make effective and efficient use of the information they presented, a well-designed format to assist people in preparing their submissions was needed. The map-questionnaire facilitated this process, and especially being able to link spatial information with a qualitative coding system proved important for re-zoning: the GBRMPA planning teams were able to refer to spatially referenced information and the customised online search engine enabled people to efficiently search and retrieve copies of actual submissions against a range of themes and attributes.

One of the most important lessons learned was that planning and managing such a huge area requires positive engagement of all people who have an interest in the area, and that there is no simple way of creating a conflict-free consultative mechanism. Many stakeholders appeared to have little understanding of the key issues – many of them had never heard the word “biodiversity” – and they needed to understand there is a problem

before accepting that a solution is required. Another difficulty was trying to explain how GBR "works" and the importance of "connectivity" in the marine environment. It was also found necessary to tailor communication messages for different target audiences since stakeholder groups had interests in differing aspects of the RAP. Managers has to acknowledge that the success of consultation partly relies on continuity and that it is challenging to try to get a representative sample of all stakeholders – the silent majority can often be drowned-out by the vocal minority who are highly motivated to voice their concerns. In addition, during the RAP it was realised that stakeholders responded more effectively if they interact with the same staff member(s), and staff were also able to easily call upon stakeholders. It can also be concluded that no matter how extensive and far reaching an agency's consultation program is, stakeholders always find more things that could be done.

Table 3: Summary of statistics regarding case study 2	
Case study 3 **Criteria**	**Great Barrier Reef, Australia**
No. of registered users	No need to register
No. of submissions	31.540
Accuracy and quality of submissions	Qualitative information and opinions related to a specific, user-defined area or to the Draft Zoning Plan.
Internet access	60 % of Australian households has an internet access (Household Use of Information Technology, Australia, 2005-06 by Australian Bureau of Statistics), but the submission process was not dependent on the internet
Required resources	The first community consultation took three months and the second two months, not including the analysis of submissions. The final zoning plan was tabled in Parliament four months after the second consultation. Additional communication staff was hired.
Area size	345.000 km²
Scope	About 500.000 inhabitants on the coastal region adjacent to the GBR
Used map scales	1:250.000
Type of planning process	Preparation of a zoning plan for GBR Marine Park
Identified Target audiences	All possible stakeholders
Advertisement, communication activities	Formal meetings, announcements on newspapers, radio and TV, submission brochures, an own web site, a free-call phone number
Anonymity	Contact details prompted in the submission questionnaire
Required Hard- and Software	Not necessarily needed
Integration of education features	N.A.

3 DISCUSSION

The case studies show a small variety of different planning purposes and uses of e-participation tools. They range from small terrestrial areas up to large marine areas in the extent of the Great Barrier Reef, in size comparable to the Baltic Sea marine area, so e-participation is not restricted to a certain area. They all were conceptualised to give the public access to information and also provided tools for submission.

3.1 Discussion of case studies

It has to be noted, that the GBR case cannot fully be regarded as an example of e-participation because it did not include online submissions. Nevertheless, it was included as case study since it took advantage of utilizing digital map data and it is a good example for large scale participation. Further, the lessons learnt from the GBR case may be useful for every type of planning process.

The number of submissions in the participation phase of the GBRMP re-zoning process was overwhelming and reflects the good communication skills of Marine Park staff. Communication activities did not only happen remotely but also included personal communication. The interaction of planners and stakeholders in many ways was seen as crucial. This is especially remarkable, since most people are not personally affected by the re-zoning of the marine area.

The small municipality Königslutter also invested resources in intensive communication activities and achieved a satisfying response and submission rate. The analysis of the process shows furthermore that the accuracy and quality of submissions were higher, when e-tools were used.

In contrast to the two examples above, the Finnish survey did not include a communication strategy. However, the involvement of numerous families with children who felt concerned about the issue and the positive attitude towards the survey shared by the majority of respondents is remarkable.

Internet access did not seem to be a limiting factor in the countries where the case studies were chosen from. However, in Königslutter, the administration provided additional internet facilities that could be used by the public.

In both the GBRMP and Königslutter cases, additional staff was hired in order to cope with the additional effort resulting from the integration of the new method in the participation process. This was especially needed for the communication tasks.

3.2 General discussion

Many examples show that e-participation is an asset to the public participation part of planning processes. According to Adams (1996), this tool has the potential to:

- improve communication with and education of stakeholders,

- build capacity among stakeholders,
- improve the efficiency and acceptance of public participation processes, and
- enhance the quality and fairness of the sitting and zoning decisions produced through public participation

In contrast to terrestrial areas, spatial planning and participation processes in marine areas are more complex and encompassing, since there are less restrictions and no "ownership" of the sea, in a traditional sense. This characteristic makes participation in marine planning processes more challenging. In general, the more local and small-scaled the planning process is, the stronger people feel the necessity to participate (Steinmann et. al. 2005).

It is generally more difficult to identify stakeholders of marine areas. In most countries, marine areas do not belong to anybody and therefore people are not directly affected if the marine area is subject to planning decisions. In many cases stakeholders are professionals working in or close to the sea and those who have an interest in marine resources. They are the ones who are most affected or concerned and should be given an opportunity to participate. Also, many people who are emotionally attached to the sea, e.g. recreational users, would like to have their voice heard and also might hold useful information about an area.

But are those stakeholder groups reached by the e-media? The case studies show that internet access in not a limiting factor for e-tools in many countries and there is no obvious age or profession bias. More crucial is the awareness and education of people in using them. Many people might not be in favour of internet-based applications and prefer more personal communication. Therefore, a participation process should always be a combination of different tools and methods.

It is assumed that participation in marine planning and management process is more likely to be successful in coastal areas where stakeholders are clearer to identify. More difficult and limited is facilitating participation in offshore areas, where mostly industry-dominated activities take place, people are not directly affected and international legacy applies. However, the tool-box of e-participation has the potential to overcome those shortcomings by engaging people in a new and modern way. E-participation can also be a useful tool in transboundary planning processes. Taking into consideration the provision of different language options, all affected people have the same opportunity to be involved.

Despite higher efforts and requirements from the administration side for providing e-participation, the introduction can be advantageous to both the government and the general public. After the first investment in GIS, which is mostly an investment in setting up the application and acquiring the appropriate data sets, government authorities can expect substantial reduction of staff workload, since citizens are able to retrieve maps and related information without staff assistance (Berntzen et. al. 2005). From a citizen viewpoint, this is another e-service that makes their participation simpler and more efficient.

According to Kleinmann & Krenk (2005) the most significant weaknesses of e-participation tools are to motivate people to participate and to ensure the usability of the

system. Yet, the authors state that there are several ways of mitigating those difficulties them by using media that attract people's interests, e.g. TV-spots, online raffles or public touch screen computers. Regarding the usability of the system, the most crucial point is that an adequate guidance is provided to the visitors of the web pages in order to ensure a fast achievement of planning/ participation objectives.

To make the tool-box of e-participation more effective, capacity building through awareness raising and technical training is needed and has to grow. Political commitment and a clear outline of the participation process are prerequisites for this. As people become more aware of the effects of decisions made by others on themselves and their environment, they become more involved in efforts to guide those decisions (Steinmann & Krenk 2005).

Lastly, the stakeholder has many faces and interests, and any engagement should be fit for purpose (figure 1).

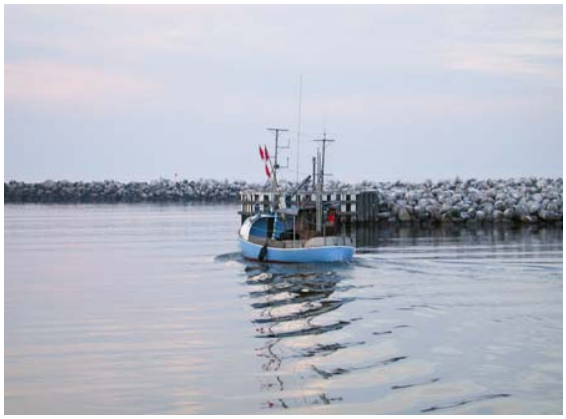

Figure 1a. A local fisherman going out for a day's work at Gilleleje, Denmark. Photo: The National Environmental Research Institute.

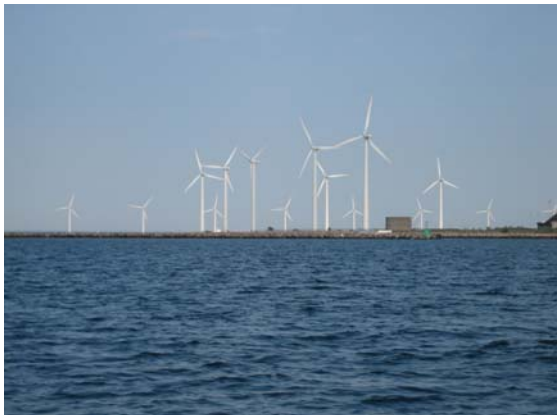

Figure 1b. An on shore wind-farm in Copenhagen with off-shore windmills in the background. Photo: The Natural Heritage Service.

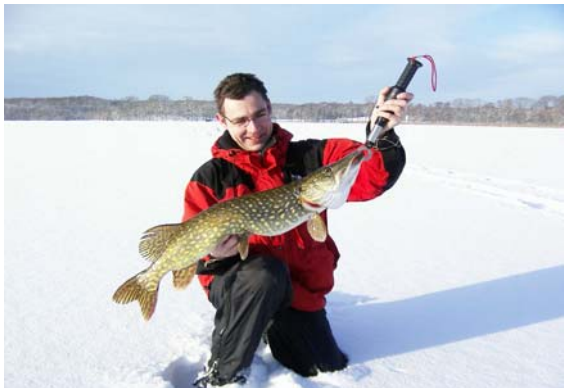

Figure 1c. Ice fishing is a time-consuming leisure activity for many people in the Baltic Sea Region. Photo: Søren Beck.

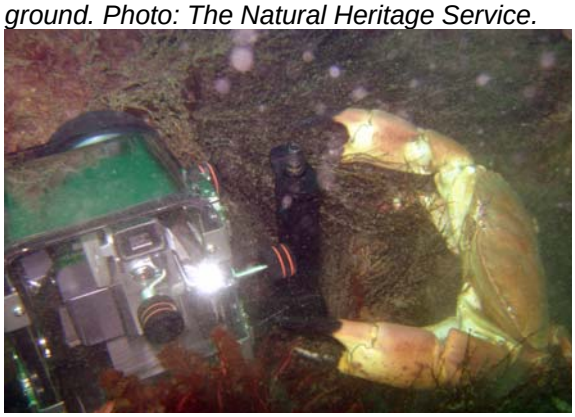

Figure 1d. Meeting the locals is a favourite activity for both professional divers as well as sports divers in the Baltic Sea Region. Photo: Orbicon.

4 CONCLUSIONS

Electronic participation comprises all elements which enable the public to actively participate in political discussion and decision processes through the use of the internet. This demands comprehensive information, tools for expressing opinions, commenting and making submissions such as web questionnaires, fora or chat rooms. Most importantly, it requires political commitment and a clear outline of the range of influences that people have by using those tools (Bräuer & Biewendt 2005).

Further, it can be concluded that:

- e-participation is an additional tool and should not replace other, more personal participation techniques,
- the use and success of e-participation in offshore areas is limited, but applicable and useful in coastal areas,
- GIS and internet tools in participation are up to date and will increase in significance in many fields,
- the establishment of e-participation needs more effort, especially the production of tailored information material and visualisation techniques, but is potentially more adequate for reflecting complex spatial planning issues than other tools,
- case studies show that e-participation tools result in more accurate and site-specific submissions, and
- e-participation enables involvement of all societal groups at any time and any location.

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About the BALANCE project:

The BALANCE project aims to provide a transnational marine management template based on zoning, which can assist stakeholders in planning and implementing effective management solutions for sustainable use and protection of our valuable marine landscapes and unique natural heritage. The template will be based on data sharing, mapping of marine landscapes and habitats, development of the blue corridor concept, information on key stakeholder interests and development of a cross-sectoral and transnational Baltic zoning approach. BALANCE thus provides a transnational solution to a transnational problem.

The work is part financed by the European Union through the development fund BSR INTERREG IIIB Neighbourhood Programme and partly by the involved partners. For more information on BALANCE, please see www.balance-eu.org and for the BSR INTERREG Neighbourhood Programme, please see www.bsrinterreg.net

The **BALANCE Report Series** includes:

BALANCE Interim Report No. 1	"Delineation of the BALANCE Pilot Areas"
BALANCE Interim Report No. 2	"Development of a methodology for selection and assessment of a representative MPA network in the Baltic Sea – an interim strategy"
BALANCE Interim Report No. 3	"Feasibility of hyperspectral remote sensing for mapping benthic macroalgal cover in turbid coastal waters of the Baltic Sea"
BALANCE Interim Report No. 4	"Literature review of the "Blue Corridors" concept and its applicability to the Baltic Sea"
BALANCE Interim Report No. 5	"Evaluation of remote sensing methods as a tool to characterise shallow marine habitats I"
BALANCE Interim Report No. 6	"BALANCE Cruise Report - The Archipelago Sea"
BALANCE Interim Report No. 7	"BALANCE Cruise Report - The Kattegat"
BALANCE Interim Report No. 8	"BALANCE Stakeholder Communication Guide"
BALANCE Interim Report No. 9	"Model simulations of blue corridors in the Baltic Sea"
BALANCE Interim Report No. 10	"Towards marine landscapes of the Baltic Sea"
BALANCE Interim Report No. 11	"Fish habitat modelling in a Baltic Sea archipelago region"
BALANCE Interim Report No. 12	"Evaluation of remote sensing methods as a tool to characterise shallow marine habitats II"
BALANCE Interim Report No. 13	"Harmonizing marine geological data with the EUNIS habitat classification"
BALANCE Interim Report No. 14	"Intercalibration of sediment data from the Archipelago Sea"
BALANCE Interim Report No. 15	"Biodiversity on boulder reefs in the central Kattegat"
BALANCE Interim Report No. 16	"The stakeholder - nature conservation's best friend or its worst enemy?"
BALANCE Interim Report No. 17	"Baltic Sea oxygen maps"
BALANCE Interim Report No. 18	"A practical guide to Blue Corridors"
BALANCE Interim Report No. 19	"The BALANCE Data Portal"
BALANCE Interim Report No. 20	"The reproductive volume of Baltic Cod – mapping and application"
BALANCE Interim Report No. 21	"Mapping of marine habitats in the Kattegat"
BALANCE Interim Report No. 22	"E-participation as tool in planning processes"
BALANCE Interim Report No. 23	"The modelling *Furcellaria lumbricalis* habitats along the Latvian coast"
BALANCE Interim Report No. 24	"Towards a representative MPA network in the Baltic Sea"
BALANCE Interim Report No. 25	"Towards ecological coherence of the MPA network in the Baltic Sea"
BALANCE Interim Report No. 26	"What's happening to our shores?"
BALANCE Interim Report No. 27	"Mapping and modelling of marine habitats in the Baltic Sea"
BALANCE Interim Report No. 28	"GIS tools for marine planning and management"
BALANCE Interim Report No. 29	"Essential fish habitats and fish migration patterns in the Northern Baltic Sea"
BALANCE Interim Report No. 30	"Mapping of Natura 2000 habitats in Baltic Sea archipelago areas"
BALANCE Interim Report No. 31	"Marine landscapes and benthic habitats in the Archipelago Sea"
BALANCE Interim Report No. 32	"Guidelines for harmonisation of marine data"
BALANCE Interim Report No. 33	"The BALANCE Conference"

In addition, the above activities are summarized in four technical summary reports on the following themes 1) Data availability and harmonisation, 2) Marine landscape and habitat mapping, 3) Ecological coherence and principles for MPA selection and design, and 4) Tools and a template for marine spatial planning. The BALANCE Synthesis Report "Towards a Baltic Sea in balance" integrates and demonstrates the key results of BALANCE and provides guidance for future marine spatial planning.