



Lessons learned of ICZM practices for Germany

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Abstract

As a reaction to the recommendation of the European Commission, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety developed a strategy for Integrated Coastal Zone Management (ICZM). This strategy forms the first federal standardised milestone of an ICZM process in Germany. Since the strategy is in its infancy, it is not succeeded yet implementing all principles of “good ICZM”. Especially aspects of implementation, responsibility, and funding need to be concretised to enhance ICZM in Germany. Within a research, the following questions are addressed: first, what are the shortcomings of the German ICZM strategy? And second, what can Germany learn from its neighbouring countries Belgium, the Netherlands, and United Kingdom? After conducting a deficit analysis of the German strategy, the focus is set on the foreign ICZM strategies and activities. On the basis of lessons learned, the most auspicious findings are transferred to German conditions. These are the establishment of a central ICZM secretariat, which organises and coordinates the entire ICZM process in Germany. Furthermore, the development of a “coastal barometer”, which provides a simple, manageable and user-friendly set of coastal indicators to measure the sustainable use of the coast. Finally, the initiation of a stakeholder involvement strategy, to ensure early and permanent participation of stakeholders in ICZM processes. Implementing these initiatives will help Germany to promote and improve its ICZM process.

1 Background and Motivation

Coastal ecosystems are one of the most productive yet highly threatened systems in the world (European Environment Agency 2006, p. 11). In the literature, several pressures on coastal systems are mentioned, such as residences and tourism (see Sarda et al. 2005, Gormsen 1997, Sidaway 1995), industry, marine transport, fishing and aquaculture (see Crossland et al. 2005, Turner et al. 1996) as well as climate change (see IPCC 2007, Nicholls & Klein 2005, Syvitski et al. 2005). In Europe 70 percent of the coastline is highly threatened, which is the highest percentage of any eco-region in the world (EUCC 2006, p. 3). Recognizing these threats, the European Parliament and Council (2002) released the Recommendation (2002/413/EC) concerning the implementation of Integrated Coastal Zone Management (ICZM) in Europe. Therein all European member states were requested to undertake national stocktakings and develop national ICZM strategies until February 2006.

The respond of Germany by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit; BMU) has been to publish an ICZM strategy (see BMU 2006) in March 2006. It can be seen as a first step of an iterative ICZM process. Besides numerous achievements such as working with long-term perspectives, integrated approaches as well as good communication and participation (Rupprecht Consult 2006, p. 81), the strategy has shortcomings in matters of implementation, responsibilities, and funding. These deficits slow down the ICZM process in Germany.

2 Objectives

The objective of this research is to develop recommendations for the German ICZM process, by conducting (1) a deficit analysis of the German ICZM strategy and (2) a critical evaluation in terms of lessons learned of three national ICZM strategies of neighbouring states, namely Belgium, the Netherlands, and United Kingdom (UK). The following research questions will be answered:

1. What are the shortcomings of Germany's ICZM strategy?
2. What are the lessons to be learned for the German ICZM from the ICZM strategies of Belgium, the Netherlands, and UK?
3. Which recommendations can be given for the German ICZM on basis of the three conducted national ICZM strategies?

3 Methods

In order to answer the research questions, the methodology used can be divided into three main steps: (1) data gathering, (2) data analysis, and (3) development of recommendations.

Step (1): The first main tool for a wide-ranging data gathering is **literature research**. The focus is set on EU directives and policies as well as national ICZM strategies and supporting documents of Germany, Belgium, the Netherlands, and UK. The reason to choose the three latter is because they offer the most "specific local-context condition" of the abutters of the Baltic Sea (Rupprecht Consult 2006, p. 84) and the North Sea (Rupprecht Consult 2006, p. 108). Therewith it is possible to develop most precise recommendations. The second tool for collecting information are semi-structured telephone **interviews** with key ICZM experts from German administrations and organisations.

Step (2): The data analysis consists of two steps, whereas the first is a **deficit analysis** of the German ICZM strategy. It should principally aim at answering what is the deficit or problem in the system elaborated. "The upfront clarification of this key question is rather vital to find the optimal or a set of potential solutions resolving a particular deficit situation in this system" (Blumensaat et al. 2006). After the identification of various deficits, they are discussed and validated by different expert interviews, and thereupon revised. The second step of the data analysis contains an investigation in terms of **lessons learned** of the national ICZM strategies of Belgium, the Netherlands, and UK. "A lesson learned is knowledge or understanding gained by experience. (...) A lesson must be significant in that it has a real or assumed impact on operations; valid in that is factually and technically correct; and applicable in that it identifies a specific design, process, or decision that reduces or eliminates the potential for failures and mishaps, or reinforces a positive result" (Secchi 1999, p. 58).

Step (3): On basis of the lessons learned, **recommendations** for the German ICZM can be formulated. They constitute how a transfer of the ICZM practices mentioned above might be designed and discuss what are its strengths and weaknesses.

4 Deficits of Germany's ICZM strategy

The German ICZM strategy proposes a set of 32 further steps to promote ICZM at Germany's coastal zones. Most of them are formulated very broad and fuzzy as the following example shows: "The targets of sustainable development for various coastal zones should be elaborated in an open dialogue under participation of all relevant stakeholders. The necessary organisational conditions have to be developed" (BMU 2006, p. 80). The created **fuzziness** of the strategy leaves a lot of space for expectations and individual interpretation. A spatial-planner might think ICZM is mainly a tool for spatial development at the coast and an environmentalist in contrast, might think ICZM is a tool for conserving coastal nature. On the one hand this fuzziness seems to be the success of ICZM, because

many disciplines feel concerned by this wide definition. On the other hand, this is at the same time a deficit of the strategy, because it leaves too much space for not taking any action.

Regional planning builds the most important framework for ICZM processes in Germany since it provides the formal frame for a sustainable development in coastal regions (see BMU 2006, p. 45). The basis for regional planning in Germany is the Federal Regional Planning Act (Raumordnungsgesetz). It is questionable if it is an adequate basis for an appropriate **implementation** of ICZM principles in coastal zones. Since it only consists of law providing guidelines for the “Länder”¹, it holds the risk that they do not implement the principles of ICZM in their “Länder”-Planning Laws (Landesplanungsgesetze), and that they further do not expand into the regional Spatial Plans and Programs (Regionalpläne) of the „Länder“. This would lead to the result that the ICZM principles do not have to be considered at a regional and local level. Thus, the Federal State can not steer and assure that a high quality ICZM is implemented at “Länder” and regional level.

On the one hand, the German strategy follows a top-down approach by saying that the legislation of the Federal State and the “Länder“ is responsible for optimisation of the ICZM instruments. On the other hand, a bottom-up approach is aspired, since the Federal State expected crucial impulses and responsibilities from regional and local level (BMU 2006, p. 86). Two deficits can be derived from these statements: first, it shows that the issue of **responsibilities** is not clarified enough yet. Dickow (2007) supports this by saying that the coordination of ICZM-responsibilities between different Federal institutions is not sufficient. Second, the current connection between top-down and bottom-up approaches constitutes a difficulty. From top-down it is tried to concretise the strategy and from bottom-up several local projects are developed to earn best-practice experiences. But these approaches are not connected actively with each other. It is not clear yet, which role the German ICZM strategy plays in that context.

According to the German strategy, ICZM issues should be implemented in administrative decisions mainly. The **funding** for the implementation of these administrative decisions is done by the Federal State and the “Länder”. Thus the strategy defines funding possibilities for ICZM implementation in administrative acts only. But it is not stated how to fund local projects, that are based on conflicts and aim at management changes. An example is the planning of a tourism hiking trail through dunes of a municipality. It's not clarified in the strategy yet, who might pay for a regional or local ICZM solution of such a conflict to ensure a high-quality result.

It is recommended to develop ICZM **cooperation** between administrations, regional projects, stakeholders, and research to share knowledge and experiences (BMU 2006, p. 86). Some possibilities are suggested how communication and knowledge transfer can be enhanced in the “Länder” and the Federal State. But the German strategy does neither refer to cooperation of administrations and research across different “Länder”, nor transboundary cooperation.

The current version of the German strategy does not mention any **surpluses** for conducting projects corresponding to the principles of ICZM. It is not mentioned if and what added value can follow on an ICZM process. According to Liebrecht (2007) this lack leads to the dilemma that hardly anyone sees a need in initiating or participating in ICZM processes and put them into effect. In practice, ICZM is often seen as an instrument without benefits for the participants.

5 Lessons Learned

Recognizing the deficits of the German ICZM strategy, it is interesting how Germany's neighbouring countries deal with likewise problems. In the following, the most instructive approaches from Belgium, the Netherlands, and UK are portrayed.

¹ Germany is a Federal Republic made up of 16 states, named in German as “Länder” (singular “Land”). All public administration levels (from national to local) and several governmental institutions are responsible for coastal management.

Coordination Point

One of the most outstanding projects in Belgium is the ‘‘Coordination Point’’. It is a central contact point, where the whole Belgium ICZM process is initiated and coordinated (Provincie West-Vlaanderen 2001, p. 13). The set-up of the Coordination Point ‘‘was thought out very carefully to ensure good cooperation between the various actors’’ (FOD 2006, p. 8). It was established in 2001 and is run by four partners: the Provincial Government of West Flanders (project leader), the Flanders Marine Institute VLIZ (data and information centre), the Flemish Government, and the Federal Public Service for Public Health, Safety of the Foodchain and Environment.

The Coordination Point involves three main bodies: the Steering Committee, the Task Force, and the Consultative Group. The **Steering Committee** is composed of the municipalities, the province of West Flanders, and the relevant departments and institutions of the national government. Besides, all representatives from the cabinets of the Federal and Flemish government are involved. The composition of the group indicates its highly official character. Therewith the Steering Committee tends to influence the direction of coastal policy and constitutes a direct link with the cabinets involved. It deals with the political follow-up and decision making. Its main tasks are (FOD 2006, p. 8):

- Open discussion of cross-sectoral themes (e.g. projects, policy proposals, policy plans) with all administrations concerned, relevant consultation and exchange of information.
- Proposal of solutions to conflicts and preparation of strategic steering of sustainable coastal management. The proposals are always submitted to the competent ministers for approval.
- Organisation of a coastal forum.

The **Task Force** is made up of representatives from the departments responsible for Nature Conservation, for Marine Environment, for Coastal Protection, for Spatial Planning, for Tourism, the Institute for Nature Conservation, the Flanders Marine Institute, and the provincial government of West Flanders (Provincie West-Vlaanderen 2007). Representatives from other departments can be invited to attend the working group if a subject is listed on the agenda that concerns them. The Task Force is responsible for two main activities. First, the preparation of Steering Committee activities and the follow-up of the assignments that it receives from the Steering Committee. Second, the practical and concrete follow-up of ICZM works and projects (FOD 2006, p. 8).

The **Consultative Group** is composed of official representatives drawn from all disciplines and the four policy-making levels: federal, provincial, regional, and local. As the Provincie West-Vlaanderen (2007) states, ‘‘the consultative group acts as a sounding board for the proper functioning of the coordination centre’’. It is responsible for monitoring projects in the field and for preparing case files and projects. One component of this group is a Coastal Forum. It should ‘‘facilitate the flow of information to general population and offer all involved stakeholders the possibility to push for new themes concerning sustainable coastal zone management’’ (FOD 2006, p. 9).

Referring to the tasks of the Coordination Point, it is from particular importance that it ‘‘offers a platform for consultation concerning and integration of policy making, but it cannot act in the place of the competent administrations’’ (FOD 2006, p. 9). The intended result is a better fine-tuning of coastal policy between the different actors on the coast. Therefore the Provincie West-Vlaanderen (2007) defined main tasks of the Coordination Point.

1. **Communication and sensitisation on ICZM:** Awareness raising through concrete actions as part of ICZM; Own publications (brochures, leaflets, posters, articles, website) about coastal subjects; Organise and participate public days, seminars, workshops and conferences.
2. **To act as a point of contact on ICZM nationally and internationally:** To run an information office and to provide in an objective manner information to policy-makers, teachers, students, interested citizens, etc. - nationally and internationally; To provide information from and to the international community; To participate to relevant European and international ICZM projects and networks.

3. **Support implementation of the EU recommendation concerning ICZM:** To help with the implementation of the EU recommendation concerning ICZM; To stimulate the establishment of a formal basis for ICZM.
4. **Integration of planning and policy:** To act as secretariat of working groups and consultative bodies; Participate to relevant steering and working groups to work on new policy developments.

Coast barometer

The ICZM Coordination Point in Belgium developed a “coast barometer”, which consists of indicators to measure the sustainable use of the coast. It should make it possible “to monitor coastal evolution, give advice on taking decisions for future coastal developments (policy support) and ensure good communication about the coast to a wide audience” (FOD 2006, p. 13). In a long-lasting and broad participatory process – including key experts, municipalities, hotel and catering industry, environmental associations, civil servants, and sport clubs – six priorities with 21 indicators were defined as the most important ones. They are given below, whereas some indicators are relevant for several priorities (FOD 2006, p. 13):

1. **Preservation and strengthening of the socio-cultural capital:** Differences in salary; Protection and stocktaking of real-estate.
2. **Realisation of administrative innovation:** Implementation of integrated coastal zone management.
3. **Quality improvement of the residential and social environment:** Surface area of protected area; Ageing rate; Residential comfort; Utilisation of public transport in day tourism to the coast; Surface area of dedicated coastal habitat; Number of motor vehicles on the roads.
4. **Support for tourism and recreation:** Share of public transport in day tourism to the coast; Share of highly accessible accommodation units; Amount of tourists that stay-over.
5. **Improvement of the environment and nature:** Surface area of protected areas; Surface area of dedicated coastal habitat; Quality of beach water; Residual waste; Number of motor vehicles on the roads; Number of observed pollution incidents (oil etc.)/flight hour; Fish stocks that are not being over-fished.
6. **Reinforcement of the economic fabric:** Economic value of ports; Salary pressure; Ratio of company start-ups to bankruptcies; Added value per employee; Employment in tourism; Change in employment in fisheries and agricultural sectors; Fish stocks that are not being over-fished; Unemployment rate.

The indicators and background data for the whole Belgian coast can be consulted on the ICZM Coordination Point website: www.vliz.be/projects/indicatoren. The display of the coast barometer and the background information are restricted to the essential aspects. The screenshot below (figure 1) shows the first priority (first column) with its two indicators (second column). The third column is named “Kompas” and provides background material and results for each indicator. The last column presents the “Trend” in a five stage scale from “strong enhancement” (sunny weather) to “strong decline” (rainy weather).

Prioriteit	Indicator	Kompas	Trend
Behoud en versterking van het sociaal-cultureel kapitaal			
	<u>Inkomensspanning</u>		
	<u>Aantal goede renovaties en restauraties</u>		

Figure 1: Fraction of the “coastal barometer” (VLIZ 2003)

Clicking on the compass in this example, the website-user gets redirected to technical explanations of the indicator “differences in salary”. The topic is described by answering four questions: Why this indicator? What does this indicator say? What are the results? What will happen in future? (VLIZ 2003).

Clicking on the indicator itself, the user gets forwarded to the actual state-of-the-art of salaries along the Belgian coast. Next to a describing text, the salaries of all coastal municipalities in Belgium are shown in an interactive graphic. According to requirements, the user can select specific municipalities of interest. Figure 2 shows the differences in salary of three Belgium municipalities:

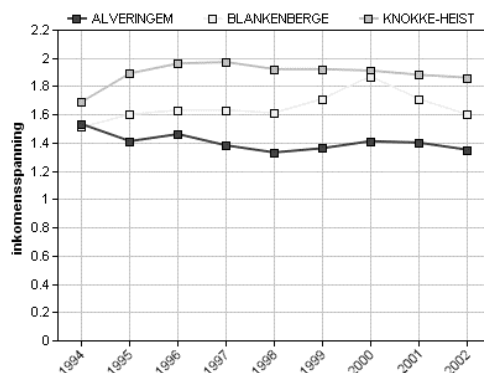


Figure 2: Interactive graphic of “differences in salary” (VLIZ 2003)

Formalised Participation

In the UK, participation of stakeholders seems to build the fundament of ICZM and has been formalised in some cases, for instance in Shoreline Management Plans (SMPs). A SMP is a framework that “provides a large-scale assessment of the risks associated with coastal evolution, and helps to reduce these risks to people and the developed, historic and natural environment” (Defra 2006a, p. 4). On basis of three pilot studies, the Department for Environment, Food, and Rural Affairs (Defra) proposed a stakeholder involvement guideline, which consists of three main formalised activities: first, definition of stakeholder engagement strategy, second, identification of stakeholders, their status and their contact details, and third, contact of stakeholders and informing of the SMP process (Defra 2006b, p. 25).

The **definition of a stakeholder engagement strategy** “should establish the objectives of stakeholder engagement through the plan preparation process and indicate how the involvement of stakeholder is achieved” (Defra 2006b, A-2). The stakeholder involvement guideline provides a framework which proposes various engagement strategies for each stage of the SMP. Thereby it mentions the purpose of stakeholder involvement, the stakeholders which have to be involved, the methods to achieve the stakeholder involvement and the responsibilities of organisation, as shown by the abridgement below (table 1).

Table 1: Framework of stakeholder involvement (after: Defra 2006b, A-3, modified)

Purpose of involvement	The stakeholder to be involved	Methods of achieving involvement	Organising of involvement
To collect information	Key stakeholders	Combination of questionnaires, public meetings, group meetings, round table discussion, workshops.	Establish responsibility
Information review by stakeholders	Key stakeholder, Community groups, Elected Members	Letters, public meetings, round table discussion, workshops, seminars, conferences	Establish responsibility

The second activity of stakeholder engagement, the **identification of stakeholders, their status and their contact details**, refers to the question which stakeholders have to become involved to which extent in the SMP process. Defra proposes a division of stakeholders in four different groups with different roles and responsibilities. These groups are: (1) Client Steering Group, (2) Elected Members, (3) Key Stakeholder, and (4) Other Stakeholder. (Defra 2006b, A1).

The “Client Steering Group” comprises representatives of the main organisations commissioning the SMP and from operating authorities such as County Councils, Port authorities, Nature funds etc. These representatives should cover the key disciplines engineering, planning and conservation. The Client Steering Group’s responsibility is the delivery of the SMP. Therefore it has to “initiate the SMP development process, undertake any scoping tasks required, procure technical inputs required to complete the SMP, and manage the development and adoption processes” (Defra 2006b, A1-1 f).

The “Elected Members” are politicians from local, regional, and national authorities. They are involved in a Forum with key stakeholders and the Client Steering Group, which aims in building trust and understanding between the different parties. According to experiences around the UK it is “strongly recommended that Elected Members are involved in the SMP development process to best facilitate its full adoption and implementation” (Defra 2006b, A1-3).

The “Key Stakeholder Group” consists of representatives of primary interest. Their function is to ensure consideration of all interests during the review of issues. The members of the group are involved through workshops and participatory meetings in the development of SMPs.

The group of “Other Stakeholders” is composed of individuals and organisations who are probably affected by the decisions of the SMP. They are only contacted by the SMP consultant, but not involved in the whole development process.

Finally the report comes to the third and last activity of stakeholder engagement, the **contacting of stakeholders, and informing of the SMP process**. The initial consultation in the UK is often done by an invitation letter. It offers a “good opportunity to explain why the plans being prepared and what it will consist of” (Defra 2006b, A3-1). The report provides three templates of letters, which are composed for three different target groups: first, large organisations which are familiar with SMPs, second, organisations which are not familiar with SMPs, and third, the Public to which the process of the SMP needs to be explained (see Defra 2006b, A3-1). Another possibility mentioned for contacting stakeholder is a questionnaire to get a first impression who is affected and to what extent. Defra elaborated an exemplary questionnaire to stakeholders for the UK (see Defra 2006b, A3-7).

6 Recommendations for ICZM in Germany

Establishment of an ICZM Coordination Point

An ICZM Coordination Point provides the opportunity to organise and structure the process of coastal management at Germany’s coast. Since the BMU (2006, p. 82) proposed a formation of an ICZM secretariat, the establishment of a central contact point to manage ICZM is not a new issue in Germany. But the idea still has to be concretised, of which especially its structure and tasks have to be clarified.

Consequently, the German Coordination Point should be located on the national level and provide strong connections to the responsible administrations of the “Länder” as well as to regional and local projects. The Coordination Point should be managed by an existing institution/organisation to make use of existing bureaucratic structures. It should be independent to assure that all relevant stakeholders and disciplines are regarded equally. Thus, the Coordination Point should neither be run by a purely environmental, nor economic institution. A possible organisation is EUCC since it fulfills the conditions above and in addition organises a web-based platform for knowledge transfer (see www.ikzm-d.de). Referring to the Coordination Point’s tasks, it is of great importance, that it only offers a basis for consultation and integration of policy making, but does not act in the place of the

competent administrations. A starting proposal for its main tasks can be derived from the tasks of the Belgium example (see “Coordination Point”).

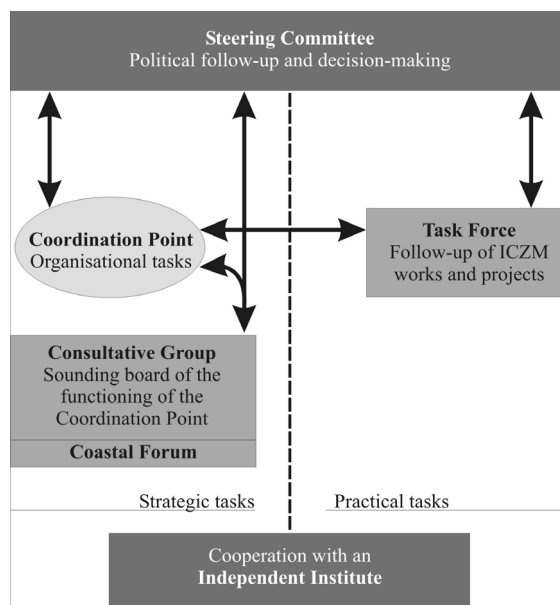


Figure 3: Organisation of the German Coordination Point (after Provincie West-Vlaanderen 2007, modified)

Since the structural organisation of the Coordination Point should consider all relevant disciplines as well as stakeholders and policy-makers, it seems adequate to transfer the structural constitution from Belgium, namely Steering Committee, Task Force and Consultative Group (see also “Coordination Point”) to the German conditions. The following scheme (figure 3) gives an overview about the structure and tasks of a potential ICZM Coordination Point in Germany.

Development of simple indicators

Since the EU recommendations concerning ICZM prompted its member states to make use of indicators to monitor sustainable development and assess coastal management, Germany is at pains to develop a “simple” set of coastal indicators (BMU 2006, p. 83). The example of the “coastal barometer” from Belgium can make a contribution to the German requirements. Correspondingly, the German set of indicators for sustainable development of the coast should be simple: in understanding as a basis for public discussion and in terms of data availability.

Furthermore, an indicator set for the German coast should consist of economic, environmental, and social components. According to the Belgium example, the various indicators of “Reinforcement of the economic fabric” and “Quality improvement of the residential and social environment” (see “Coast barometer”) could be taken into consideration. This would be one step further in direction of tackling the current shortcoming of “important economic and social dimensions” (Rupprecht Consult 2006, p. 81) of the German strategy.

All indicators and their background data should be allocated to the wide public. The use of a website seems to provide the most effective approach. Thereby it is important to focus on a simple and user-friendly presentation and description. It is advisable to use an existing ICZM platform for such a new internet presence.

ICZM-Participation

Since in Germany ICZM activities are based on the Federal Spatial Planning Act, it holds the risk that participation takes place after the development of a draft plan only. The development of a German

“participation strategy” of ICZM could ensure that stakeholders are involved earlier in ICZM processes. Such a strategy could be modelled on the findings of the “stakeholder engagement strategy” of the UK (Defra 2006, A), combined with the steps of a coastal management cycle of Olsen et al. (1998). A possible design is roughly presented in the following table:

Table 2: Strategy of stakeholder involvement (after: Defra 2006b, A-3 and Olsen et al. 1998, 8, modified)

Steps of ICZM	Objective of stakeholder involvement and possible methods
Issue Identification and Assessment	Develop general agreement over the elements of the ICZM process (objectives, values, policy, and scientific knowledge). This is best achieved through communication and discussion. It cannot be achieved through simple dissemination and receipt of information. Methods: letter to key stakeholders, article in local press, website, media appearance, questionnaire, public and group meeting, round table discussion, workshop, seminar.
Preparation of the Plan	Resolve differences on the draft ICZM plan/document. As much as possible should be done through negotiation and dialogue. One way passing of information will not achieve the objective. Afterwards, on this basis, amend the provisional ICZM plan. Methods: public purchase, letter, local media, electronic news letter, web, public meeting, forum, conference, comment form, data base, discussion with objectors, round table discussion with groups of objectors, recording/reporting approach, consensus.
Implementation	Distributing the ICZM plan to key stakeholders and informing others of its existence. It does not involve two way communication. Methods: Purchase, advert in local press, public newsletter, web, media appearance, letter to stakeholders, update of electronic newsletter, public meeting, round table discussion, workshop, seminar, conference, email discussion group.
Evaluation	Evaluate the experiences gained on the project with affected stakeholders. As much as possible should be done through negotiation and dialogue. One way passing of information will not achieve the objective. Afterwards, amend the ICZM project. (Methods: see step 2)

Handbook of good ICZM

To ensure a nation-wide implementation of “good ICZM”, a handbook should be developed comprising practices of elaborated ICZM practices. It should be written for practitioners at regional and local levels with precise instructions. Since the conditions at Germany’s coast are highly different, it seems reasonable to compose different handbooks according to main regions, such as North Sea, Baltic Sea and Estuaries (Ems-, Weser-, Elbe- and Oder River). ICZM at the North Sea Region would primary be composed of flood safety and erosion management. The experiences gained in the Netherlands are displayed in the report “Towards an Integrated Coastal Zone Policy” (MinVenW 2002) and could support a sustainable management of “weak links”² in Germany. At the Baltic Sea in contrast, flood safety does not play the overall role, so that the challenge can be seen in developing fair and balanced practices to deal with the highly divers interests of all stakeholders among the coast.

7 Discussion

It was very useful to conduct a deficit analysis in the beginning. The findings in form of shortcomings built a well-grounded basis for the later research. They were a help to keep focussing on the main problems, and not to digress on marginal issues. A strong point of the deficit analysis was the evaluation of findings by ICZM experts. Therewith the results are in step with the actual practice,

² Weak link stands for “components of sea defence structure that – assuming the high sea level rise scenario – will no longer meet the safety standards due to rising sea levels in the coming 200 years” (MinVenW 2002, p. 46).

even though only four experts gave feedback. By studying the national ICZM strategies of Belgium, the Netherlands and UK, it showed up that they are very broad and do not contain much detailed information of regional and local levels. The question rose, to what extent these strategies could provide high-quality lessons for Germany. To tackle this issue, a variety of 13 ICZM-related documents of the three countries were studied. Thereby, it was focussed on lessons that are significant, valid, technically correct, and applicable. There are lessons learned from Belgium and UK, but not from the Netherlands where coastal management is mainly based on flood safety and erosion management (Erenstein 2006, p. 10). As a consequence, maintaining of flood protection structures and legislative safety standards have always priority and one could not speak of an integrated approach. Since all strategies and documents display mainly positive experiences, it can not be learned much from their pitfalls. Concerning the recommendations it was not possible to develop references for all German deficits identified since the strategies conducted give not answer to all shortcomings. Nevertheless the recommendations are formulated as specific and practical as possible. It has to be checked if the proposed set of indicators has to be modified to specific conditions along the German coastline. In general, the recommendations do not constitute a blueprint. Rather, they provide a collection of suggestions for further elaboration.

8 Conclusions

The German ICZM strategy does not provide a well-elaborated strategic approach to implement all principles of “good ICZM” in Germany. Its main deficits are in the fields of implementation, responsibilities, and funding. There are important lessons to be learned for Germany from its neighbouring countries Belgium and UK. First, the establishment of a central ICZM secretariat modelled on the Belgium experiences could enhance the organisation and coordination of the whole ICZM process in Germany. The secretariat should offer a basis for consultation and integration of policy-making, and should not act in the place of the competent administrations. The secretariat should be organised by an existing, independent organisation on national level. Second, the example of a “coastal barometer” provides a simple, user-friendly, and manageable set of coastal indicators. Therewith it constitutes an opportunity to monitor coastal evolution, give advice for policy-makers, and ensure good communication with a wide audience. Third, the British stakeholder involvement strategy offers a framework for formalised ICZM participation. It holds the possibility to assure permanent involvement of stakeholders from the early beginning of ICZM activities.

The findings of this study make a contribution to the ICZM development in Germany. Based on foreign experiences, possibilities are displayed to enhance ICZM in Germany. It is desirable to conduct further research on the evaluation of regional and local best practices, resulting in region-specific guidelines or tools.

References

- Blumensaat, F., J. Tränckner, G. Bönisc, T. Koegst & P. Krebs (2006): Assessment of integrated management options: Deficit analysis. Dissemination platform for the EU project CD4WC. (<http://isi.tu-dresden.de/twiki/bin/view/CD4WC/WebHome>, April 21st 2007).
- BMU - Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (2006): Integriertes Küstenmanagement in Deutschland. Nationale Strategie für ein integriertes Küstenzonenmanagement (Bestandsaufnahme, Stand 2006). Bonn, 99 p.
- Crossland, C.J., D. Baird, J.-P. Ducrotoy & H. Lindeboom (2005). The coastal zone - a domain of global interactions, In: Crossland, C.J., H.H.Kremer, H. J. Lindeboom, Marshall & M.D.A. Le Tissier (eds.): Coastal fluxes in the Anthropocene: The Land-Ocean Interactions in the Coastal Zone project of the International Geosphere-Biosphere Programme. Global Change - The IGBP Series. Berlin and Heidelberg, pp. 1-37.

- Defra - Department for Environment, Food and Rural Affairs (2006a): Shoreline management plan guidance, Volume 1: Aims and requirements. London, 54 p.
- Defra - Department for Environment, Food and Rural Affairs (2006b): Shoreline management plan guidance, Volume 2: Procedures. London, 84 p.
- Defra - Department for Environment, Food and Rural Affairs (2006c): Promoting an integrated approach to management of the coastal zone (ICZM) in England. London, 39 p.
- Dickow, A. (2007): Ministry of the Interior Schleswig Holstein, Department of Spatial Planning and Survey, Info- and Coordination Unit ICZM. Personal communication at June 7th 2007.
- European Environmental Agency (2006) The changing faces of Europe's coastal areas. Technical Report No. 6/2006, Copenhagen, 107 p.
- Erenstein, H. (2006): ICZM in The Netherlands, Spatial planning and coastal management. In: Die nationale IKZM-Strategie und ihre Perspektiven. Conference at 27/28.04.2006, Bremen.
- EUCC – The Coastal Union (2006): Integrated coastal management – do we really have a choice? Coastline Special on Integrated Coastal Management. Volume 15. No 2006-1/2.
- European Parliament and Council (2002) Recommendation of the European Parliament and of the Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management (ICZM) 2002/413/EC. OJ 6.6.2002, L148/24.
- FOD - Federale Overheidsdienst Volksgezondheit, Veiligheid van de Voedselketen en Leefmilieu (2006): National Belgian report on the implementation of Recommendation 2002/413/EC – Integrated Coastal Zone Management. Brussels, 27 p.
- Gormsen, E. (1997): The impact of tourism on coastal areas, *Geo Journal*, 42(1), pp.39-54.
- IPCC (2007): Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor & H.L. Miller (Eds.)]. Cambridge and New York, 996 p.
- Liebrez, F. (2007): Ministry of the Interior Schleswig Holstein, Department of Spatial Planning and Survey, Info- and Coordination Unit ICZM. Personal communication at May 25th 2007.
- MinVenW - Ministerie van Verkeer en Waterstaat (2002): Towards an Integrated Coastal Zone Policy. Policy agenda for the coast. The Hague, 47 p.
- Nicholls, R.J. & R.J.T. Klein (2005): Climate change and coastal management on Europe's coast. In: Vermaat, J.E., L. Bouwer, K. Turener & W. Salomons (eds.): *Managing European Coasts: Past, Present, and Future*. Berlin and Heidelberg, pp. 199–225.
- Olsen, S., K. Lowry & J. Tobey (1998): *A Manual for Assessing Progress in Coastal Management*. Coastal Management Report No. 2211. University of Rhode Island, Coastal Resources Center, Narragansett, 56 p.
- Provincie West-Vlaanderen (2001): TERRA Coastal Zone Management: projectreport. English summary. Brugge, 22 p.
- Provincie West-Vlaanderen (2007): Duurzaam kustbeheer. Management structure and cooperation. (http://www.west-vlaanderen.be/jahia/Jahia/site/kustbeheer_en/pid/293, June 25th 2007).
- Rupprecht Consult - Forschung & Beratung GmbH (2006): Evaluation of Integrated Coastal Zone Management (ICZM) in Europe, Final Report. Cologne, 255 p.
- Sarda, R., J. Mora & C. Avila (2005): Tourism development in the Costa Brava (Girona, Spain) – how integrated coastal zone management may rejuvenate its lifecycle. In: Vermaat, J.E., L. Bouwer, K. Turener & W. Salomons (eds.): *Managing European Coasts: Past, Present, and Future*. Berlin and Heidelberg, pp. 291–314.
- Secchi, P. (1999): Proceedings of Alerts and Lessons Learned: An Effective way to prevent failures and problems (Technical Report WPP-167). Noordwijk, pp. 57-61.
- Sidaway, R. (1995). Recreation and tourism on the coast: managing impacts and resolving conflicts. In: Healy, M.G., J.P. Doody, J.A. Houston & P.S. Jones: *Directions in European coastal management*. Cardigan, pp. 71-78.
- Syvitski, J.P.M., N. Harvey, E. Wolanski, W.C. Burnett, G.M.E. Perillo & V. Gornitz (2005): Dynamics of the coastal zone. In: Crossland, C.J., H.H. Kremer, H.J. Lindeboom, Marshall & M.D.A. Le Tissier (eds.): *Coastal fluxes in the Anthropocene: The Land-Ocean Interactions in the Coastal Zone project of the International Geosphere-Biosphere Programme*. Global Change - The IGBP Series. Berlin and Heidelberg , pp. 39-94.

Turner, R.K., S. Subak & N. Adger (1996): Pressures, Trends, and Impacts in Coastal Zones: Interactions between socio-economic and natural systems, *Environmental Management*, 20 (2), pp. 159-173.

VLIZ - Vlaams Instituut voor de zee (2003): Duurzaamheidsbarometer voor de kust. Onze 20 indicatoren, (<http://www.vliz.be/projects/indicatoren/db.php>, June 27th 2007.)

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