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Integrated coastal zone management



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References

Integrated coastal zone management (ICZM) is a dynamic, ongoing, and iterative process which aims to sustainably develop coastal zones. ICZM seeks to move beyond sectoral perspectives and follow the guiding principle of sustainability.

1 Term, definition, and origin

Integrated coastal zone management (ICZM) is a spatially and temporally comprehensive approach that focuses on the interrelationships between marine areas (especially the Exclusive Economic Zone (EEZ), territorial waters, transitional waters, and tidally affected estuary zones) and adjoining land areas (in some situations including their catchment areas), with the aim of promoting the sustainable development of coastal areas while accounting for their specific ecological, economic and social characteristics and involving all relevant stakeholders (Gellermann 2012: 377).

The term *integrated coastal zone management*, or simply *integrated coastal management*, originated in the context of Agenda 21 and adopted the Agenda 21 principle of integrating environmental and developmental goals in decision-making. In this sense, since the early 1990s integrated coastal zone management has become distinct from earlier forms of coastal zone management that were largely sectoral and focused on single issues. In coastal zone management, the term *integration* refers to various levels of integration, especially the integration of various economic sectors, of marine and terrestrial spaces, of different administrative levels (local to national), of different scientific disciplines (the natural, social and engineering sciences), as well as to transnational integration (Kay/Alder 2005: 81). According to Cicin-Sain (1993: 24), this also gives rise to the requirement for a continuous engagement with coastal areas.

Human interventions in coastal systems, usually as a result of ▷ *Informal planning*, have been documented for over a millennium (Kay/Alder 2005: 10). These informal methods were replaced by forms of sectoral management (▷ *Nature conservation*, resource management, engineering planning, urban or industrial development planning) during the 19th and 20th centuries. The term *coastal zone management*, understood to mean the partial integration of these forms of planning, began to spread from the United States in the 1960s, and the Coastal Zone Management Act (16 U.S. Code §§ 1451-1464) was enacted there in 1972.

The idea of integrated coastal zone management has received strong support from the European Commission and the European Parliament. As early as 1982, the European Parliament adopted a European Coastal Charter in which it found that ‘Europe’s coastal areas are under intense [...] pressures which require urgent action with a view to their [...] integrated development’ (OJ C 182, 19 July 1982, 124 et seq.). This ultimately led in 2002 to a Recommendation of the European Parliament and of the Council concerning the implementation of Integrated Coastal Zone Management (2002/413/EC). In Germany, it led to an at times intense debate on this matter in the federal states on the northern coasts and to the extension of the states’ spatial planning to their territorial waters. Meanwhile, the German federal government developed a national strategy for integrated coastal zone management (BMU 2006), which adopted the EU’s overarching ICZM goal: ‘In the long term, ICZM seeks to establish a balance between the benefits of economic development and the human use of coastal areas; the benefits of protecting, preserving and restoring coastal regions; the benefits of minimising losses of human life and property; and the benefits of public access to and enjoyment of the coastal zones – all within the constraints set by natural dynamics and capacity’ (BMU 2006: 7). The guiding principle of integrated coastal zone management is thus based on ▷ *Sustainability*.

Accordingly, ICZM was defined in the national strategy as a ‘dynamic, continual, iterative, balanced, sustainability-oriented, and informal process for the systematic coordination of all developments in coastal areas within the constraints set by natural dynamics and capacity’ (BMU 2006: 58).

2 Significance for spatial planning and federal state and regional planning

The German ICZM strategy sees ICZM as an informal approach. The premise here is that existing legal instruments, particularly \triangleright *Spatial planning law (Raumordnungsrecht)* and its associated instruments, already fulfil the requirements of integrated coastal zone management. Thus a complementary informal ICZM approach should support the sustainable development of German coastal zones with timely and extensive but voluntary integration, coordination, communication and civic participation. ICZM is seen as ‘a process that should become a guiding principle throughout all planning and decision-making institutions, and as an instrument for the multidisciplinary identification of development opportunities and potential conflicts as well as for conflict resolution’ (BMU 2006: 58). It is often pointed out that \triangleright *Spatial planning* and ICZM pursue fundamentally similar approaches and goals and employ similar methods (e.g. an integrated perspective, iterative approaches, evaluation and impact assessments, and conflict resolution with participatory planning processes). A key benefit of applying ICZM in spatial planning is the early identification of fields of action and for conflict resolution in advance of formal planning processes, with such processes potentially gaining in quality, acceptance and efficiency as a result.

Knieling (2011: 262 et seq.) also points out that ICZM, in contrast to the reactive planning that is so widespread, can provide an extensive set of tools for the forward-looking coordination and mediation of different coastal use interests. For example, it could be used to deal with uncertainties in planning such as those that arise in relation to climate change (\triangleright *Climate, climate change*).

Conversely, however, this also means that while formal planning processes can be important instruments for ICZM, the associated concerns cannot be readily addressed in full. The German ICZM strategy lists the following main criticisms related to the unresolved problems between ICZM and spatial planning (BMU 2006: 65 et seq.):

- ‘frequent fragmentation of cross-territorial planning projects into multiple subprojects due to different legal bases and jurisdictions in the EEZ, in territorial waters, and on land;
- occasionally inadequate dovetailing and coordination of relevant processes and procedures in existing administrative and legal frameworks;
- insufficient consideration of the interrelationships between uses or economic sectors on the one hand and their interrelationships with claims for protection on the other;
- occasionally inadequate (bidirectional) communication between the stakeholders’.

These criticisms have been addressed in part, for example by linking the planning approval processes for the construction of the NordStream gas pipeline in the Baltic Sea. However, the criticisms remain essentially valid.

Discussions about ICZM have also led to formal changes, e.g. to extending spatial planning to the Exclusive Economic Zones (▷ *Maritime spatial planning (Raumordnung)*) in the 2008 reform of the Federal Spatial Planning Act (*Raumordnungsgesetz, ROG*) (then section 18a, now section 17 of the Federal Spatial Planning Act) and to coastal waters as part of the coastal federal states' spatial planning (▷ *Federal state spatial planning, federal state development*).

3 Experiences and problems with implementation

Over the past four decades, the ICZM concept has developed into an integrated approach that incorporates ecological, economic and social components from different planning levels (cf. Sorensen 1997; Cicin-Sain/Knecht/Jang et al. 1998; European Commission 1999a, 1999b; Salomons/Turner/Lacerda et al. 1999; Turner 2000) and has been researched, tested and applied in numerous projects. The European Commission's OURCOAST database lists more than 350 successful examples of ICZM. The 35 German examples in OURCOAST are quite diverse, including national reference projects like 'IKZM-Oder' (an ICZM project involving the Oder River estuary), communications tools such as the 'EUCC Küsten Newsletter', research projects on sparing land take in German coastal areas, and specific practical examples like the use of ICZM in coastal protection and flood defence; a complete overview can be found in OURCOAST (European Commission 2015), which has since been transferred to the European Atlas of the Seas (https://ec.europa.eu/maritimeaffairs/atlas/maritime_atlas). In spite of all efforts, there is criticism of the weak implementation of ICZM, which in principle also includes the German situation. Complaints cite its weak policy and legal footing and the lack of an actionable model for applying it (cf. Shipman/Stojanovic 2007; Chaniotis/Stead 2007). The eight principles set forth by the European Commission for the implementation of ICZM (holistic perspective, long-term perspective, adaptive management, reflecting local specificity, working with ecosystems, participatory planning, involvement of relevant administrative bodies, and using a combination of instruments) are seen as too general since their practical implementation leaves substantial room for interpretation when no relevant legal framework exists (cf. Schuchardt/Bildstein/Lange et al. 2004; McKenna/Cooper/O'Hagan 2008).

However, it can also be argued that as a guiding principle of holistic thinking (cf. Kannen 2002), ICZM has influenced recent spatial planning or that spatial planning has at least developed a similar philosophy. For example, there has been a paradigm shift in spatial planning since the 1980s, placing greater emphasis on aspects such as the active management of rapidly changing developments or working out viable methods of conflict resolution in participatory planning processes and increasingly pursuing informal, cooperative and implementation-oriented approaches (Fahrenkrug/Melzer/Ulich et al. 2001: 8).

At the German and European level, many of the EU's ICZM recommendations have been incorporated into EU directives and transposed into national law, with ICZM as an independent concept pushed into the background as a result. In particular, these are the Water Framework Directive (2000/60/EC), the Marine Strategy Framework Directive (2008/56/EC) and the Maritime Spatial Planning Framework Directive (2014/89/EU). The adoption of a European ICZM directive failed in 2014 due to resistance from the member states.

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