

Scientific Communities and Multiple Paths to Environmental Management

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The effective management of coastal and semi-enclosed seas requires a comprehensive management style which many observers believe can only emerge from the systematic application of scientific insights to the management of complex collective-action problems. However, this approach is often at odds with more traditional disjointed practices which reflect the existing experience with ocean management, as well as political realities which favor narrow interests at the expense of collective welfare.

This paper examines and applies two recent models of international cooperation to understand the different patterns of environmental cooperation in the North and Baltic Seas, and the Mediterranean Seas.

A Neoliberal Institutional model identifies functions which international institutions can perform in order to encourage governments to recognize joint interests and to cooperate to achieve them. An Epistemic Communities model focuses on the ways in which networks of like-minded scientists identify the nature of environmental threats and delimit the range of viable solutions. The models vary in their expectations about stimuli to collective action, the role of consensual knowledge in international cooperation, the extent of learning likely to occur as governments seek to manage the resource, as well as the scope, strength and robustness of the jointly developed regime. The Baltic and North Seas experience can be explained by the Neoliberal Institutional model, while the Mediterranean most closely resembles the Epistemic Community model.

Patterns of behavior and appropriate models for the collective management of regional and coastal seas appear to vary by regions' political characteristics. Without the involvement of an epistemic community, efforts are likely to be driven by domestic political currents. They will follow well publicized disasters more quickly than the epistemic model because of the possibility for sidestepping bureaucratic channels, will be limited to well publicized environmental threats and will stress across the board pollution cuts, and are likely to impose demanding changes for industry if there is powerful domestic political support for environmental protection. In the absence of domestic political support collective efforts will simply confirm status quo measures. Even so, some laggard countries may still stiffen their regulations to emulate countries with stronger environmental regulations. With the participation of epistemic communities, policy styles will be more technical, reflecting consensual scientific understanding of ecosystems' behavior and their carrying capacity. Efforts informed by epistemic communities are likely to be more enduring than institutionally generated ones, as institutions covary with fickle political currents while epistemic communities are likely to create more enduring organizational routines within administrative units responsible for environmental management where they can consolidate bureaucratic power. Epistemically created regimes are likely to be more economically efficient than institutional ones, if less easily enforced.