



External Geophysics, Climate and Environment

Knowledge and power in integrated coastal management. For a political anthropology of the sea combined with the sciences of the marine environment



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ABSTRACT

This article presents an innovative collaborative approach, which aims to reinforce and institutionalize the field of the political anthropology of the sea combined with the natural sciences. It begins by relating the evolution in coastal areas, from integrated coastal zone management to the notion of adaptive co-management. It then sets out what contribution the social sciences of politics may bring to our understanding of the government/governance of the sea in terms of sustainable development, starting with political science and then highlighting the importance of a deep anthropological and socio-historical approach. Finally, it gives us a glimpse of the benefits of combining the human and social sciences with the natural sciences to produce a critical analysis of the categories of thought and action associated with the systemic management of the environment, especially the coastal areas.

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1. Introduction

Anthropogenic environmental changes are especially intense along the coastal zones where human populations

are concentrated and growing fast (Small and Nicholls, 2003). Disturbance is driven by a diversity of activities in the immediate area (fishing, aquaculture, introduction of invasive species, waste disposal, habitat modifications) but also by upstream activities inland (agriculture, urbanization, industry). The coastal zone is uniquely influenced by human activities plus climate-driven variability over local watersheds and across ocean basins (Cloern et al., 2015). Coastal ecosystems and estuaries in particular, provide ecosystem services such as food production, nutrient cycling and waste assimilation, valued highest among the

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world biomes (Costanza et al., 1997). But because this zone is subject to several aspects of global change (climate change, biodiversity loss, pollutions...), which continue to take place at a breath-taking pace (Rockström et al., 2009), they are zones where risks to human and ecosystem health (Jackson et al., 2001) and loss of ecosystem services (Barbier et al., 2011) are particularly high.

Hence, to move towards “sustainability” of the coastal zone, for 20 years, a paradigm shift was made in its management, going from science-based management that involved primarily the consideration of scientific knowledge, warnings and advice, to the integration of local and autochthonous knowledge and the most successful forms of “participation”. Indeed, as noted by Bremer and Glavovic (2013), the actors of the so-called Integrated Coastal Management (ICM) have long sought to create political settings within which coastal communities can arrive at collective decisions and support these decisions with the best quality knowledge available. Traditionally, this has been through the integration of natural sciences and social sciences with the political processes of decision- and policymaking and management, across the science/policy interface (Mazé and Ragueneau, 2017). These authors argued that in the future, this interface should be framed as a “governance setting”. It is this governance setting in the coastal zone that we explore in this paper.

There have been many studies carried out on these tools of governance of the sea at global, regional, and local scales (Rey-Valette and Antona, 2009). They have focused in particular on the effects of institutions (such as those like the creation of Marine Protected Areas (MPAs) and national parks) on communities and on the role of local communities in decision-making processes (Crespi et al., 2014; Ostrom and Dolsak, 2003), sometimes in a support perspective (Chlous-Ducharme and Gourmelon, 2011). But “despite many years of intervention of scientists, governments, local communities and other actors, the health of coastal ecosystems continues to decline” (Benham and Daniell, 2016). This inadequacy or inefficiency of public action towards environment preservation is attested by social sciences and environmental management studies (Jordan and Russell, 2014; Laurans et al., 2013; Rochette, 2013). This gap between intentions and achievements has so far been mostly explained by the complexity of the social world and political and institutional system (“Implementation Gap”) but also by the complexity of science and of the science/policy interface themselves (“Knowledge Gap”).

This paper examines to what extent these difficulties result from knowledge/power issues at the core of interactions among multiscale networks and actors. It investigates how a research at the frontier of anthropology and politics could nurture this analysis. By exploring the problems confronted by Integrated coastal zones management (ICZM) in its implementation, it sheds light on the governance issue. The relevance of the notion of governance in terms of tackling inequity issues linked to sustainable development will be assessed and the added value of the analysis of government of coastal zone considered.

2. From Integrated coastal management (ICZM) towards an adaptive co-management?

The concept of integrated coastal zone management (ICZM) has been proposed to link more closely the conservation of littoral ecosystems with the sustainable development of coastal activities. In this perspective ICZM rests on an integration of natural resources preservation and human development goals, an integration of the coastal ecosystems and their related economic activities, and an integration of value chains and networks of actors. The core principle is to unify the different visions of the territory to define coherent policies which limit competitions between different segments of local authorities or vested interests. In addition, it combines scales of regulation from the local problems to the global changes. With such an ambition ICZM projects face difficulties to achieve all these goals, notably given the specific characteristics of each coastal zone which demand high adaptability to social and ecological contexts.

Generally, ICZM programs spur the formulation of indicators dedicated to mingling very diverse social and natural criteria. The set of indicators is mainly oriented towards an assessment process to redefine segmented public policies through shared goals. However little is known about who is involved in the definition of indicators and for what purpose/interests. ICZM often generates a new agency to coordinate state agencies and local authorities, but it generally lacks institutional and legal power to mediate disputes among preexisting institutions and actors (Dahou et al., 2011). Besides, as it is rarely complemented by shifts in terms of decentralization progress (Mazé and Meur-Férec, 2017), it tends to reinforce state authorities (Wiber and Recchia, 2010). ICZM process establishes parallel institutions, whose action should be negotiated in the hierarchy of state authorities and government priorities. This situation limits the capacity for change and innovation, for example in earth-sea interface management, as maritime government could be under the responsibility of specific central state bodies or military organizations.

It has also been demonstrated that ICZM is well anchored in four deep-rooted illusions (Billé, 2008): the illusion that round table discussions can solve any problem, the coastal manager myth, the community illusion and the positivist illusion. The concept of ICZM is highly indebted to the notion of governance that idealizes cooperation among institutions and actors. Instead of facilitating compromises, this kind of arena of coordination masks the power of expert knowledge that may strengthen the defense of stakeholder’s interests. This depolitization of management impedes to tackle broader issues of social and environmental accountability. ICZM aims to disseminate environmental and social data to improve cooperation between actors in decision-making albeit without considering the hindrances to this circulation due to power relationships. The ICZM process designed to attain common goals or at least to find ways to overcome conflicts tends to mask the exclusion of actors from cooperation arenas.

More recently, the notion of adaptive co-management (Armitage et al., 2007; Plummer et al., 2012) has been developed to designate one ideal mode of social-ecological

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