



# Pathways of integrated coastal management from national policy to local implementation: Enabling climate change adaptation

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## ABSTRACT

Integrated coastal management (ICM) has been developing concomitantly with the realisation of the severity of the potential impacts of climate change. The discourse on climate change and adaptation has also included the awareness that adaptation must take place at all levels of government, particularly local government. Climate change is expected to have significant impacts on the physical, social, environmental and economic environments of coastal cities and towns, and in particular on the poor and vulnerable communities within these cities and towns. The crucial role that local government can play in climate protection and building cities' and communities' resilience to climate change is widely recognised at the global level. This paper explores the legal and policy connexion between ICM, local government and climate change in Mozambique and South Africa, two developing countries in Africa. The state of institutionalisation of coastal management at national through to local government is also examined. The authors contend that the state, character and maturity of the ICM policy domain can create an enabling environment within which local government agencies can prepare for future impacts of climate change. Conversely it can also limit, delay and hinder climate change adaptation. The paper concludes with the identification of some key success factors for assessing the effectiveness of the existing policy and legal frameworks to respond to the challenges of climate change. It also identifies some key principles to be included in future legislative reform to promote ICM, cooperative governance and greater preparedness for climate change at local government level.

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## 1. Introduction

Integrated coastal management (ICM) is steeped in the idea of sustainable development [1]. The original concept was coined in the early 1970s [2], and suggested that it was possible to achieve economic growth and industrialisation without environmental damage. The contemporary concept of ICM stems from the 1992 Earth Summit of Rio de Janeiro. The international policy regarding ICM is set out in the proceedings of the summit within Agenda 21, Chapter 17. Broad and dynamic in its definition, ICM requires the active and sustained involvement of the interested public and many stakeholders with interests in how coastal resources are allocated and conflicts are mediated [3]. ICM provides a platform for discussing local through to national and even regional issues.

It also provides a means to negotiate a vision and management objectives for the use of the coastal area.

While the exact mechanism to achieve ICM continues to be the subject of debate, integration remains a fundamental imperative [4]. One mechanism for implementing ICM relies on laws and regulations to achieve coastal management objectives. The law often defines the powers and duties of state and private organisations in management and use of the coast and its resources [5]. It also mandates government actions and activities which promote, encourage and, sometimes, compel ICM. Bridge and Gilbert refers to this state as ICM “fully woven into the fabric of policy making” or institutionalisation [6]. Legislation can, however, both encourage and hinder the progress towards ICM. The transition of ICM from one or several projects or programmes with different objectives, to an institutionalised state, governed by laws, is often a slow and difficult process due to the inherent complexity of the coastal environment, its various uses, and users [7]. The political coalescence of interest groups remains a key challenge, amongst others [8]. As a result, even in 2012, it is rare to see ICM as the objective of a specific law. Some exceptions include the USA

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Coastal Zone Management Act of 1972 or South African Integrated Coastal Management Act of 2009. More often than not, ICM is practiced using a combination of sectoral laws and regulations that precede the contemporary concept of ICM. Furthermore, as is the case for European nations, a national policy vacuum leaves particularly local government with little or no effective guidance on how to deal with the many complex issues in an integrated manner [7].

In the Western Indian Ocean (WIO) region, the interest in ICM started in the 1990s through several regional and national initiatives (e.g. Arusha process and Resolution, national workshops), many of which were supported by multilateral organisations and international donors [9]. Coastal management in the region's countries was, and largely remains hampered by a highly sectoral approach whereby different coastal resources and activities fell under the responsibility of different agencies with little or no coordination. At the time, governments in the region showed significant political commitment to the implementation of ICM as evidenced by the 1993 Arusha Resolution [10]; the 1996 Seychelles Second Policy Conference on Integrated Coastal Zone Management in Eastern African and Island States and the 1998 Maputo declaration from the Pan-African Conference on Sustainable Integrated Coastal Management [11,12]. Mauritius, Mozambique, Madagascar, Seychelles, Tanzania and later Kenya were signatories of the Arusha Resolution [9].

The potential role of ICM in climate change adaptation has been recognised in the literature [13–16]. ICM is seen as a potent and balanced planning and management process [17]. The IPCC Second Assessment [18] stated that improved management practices embodied by ICM could constitute an important precautionary response, and facilitate successful adaptation to climate change [18]. More recently, the Fourth Assessment Report [19] echoed the appropriateness of ICM to enable adaptation to climate change, sea-level rise and other current and long-term coastal challenges [19]. Tobey et al. suggested [20] that there is a considerable degree of overlap between the policy domains of climate change adaptation, as they relate to coastal zones, and the process of ICM. Both propose that improving the effectiveness of coastal management is a pre-requisite for addressing the multiple pressures on coastal zones, including those brought about by a changing climate. They also argued that many of the good practices of ICM can be transferred to climate change adaptation. These practices include, amongst others; the use of best available knowledge to inform adaptation decisions; the inclusionary and participatory processes to ensure public support for adaptation; building linkages and improving coordination between different actors and institutions at different levels; avoidance of functional fragmentation and overlap; and the use of adaptive and strategic management based on evaluation of outcomes [20]. Similarly, Falaleeva et al. suggested [21] that both ICM and climate change policy domains share a preoccupation with integration across sectors, administrative boundaries and scales of governance, subsidiarity and participatory decision-making, and the use of adaptive governance. It has also been suggested that the ICM can easily be grafted to mitigate disasters in the coastal areas through ongoing planning and implementing processes [22].

Government is an important actor in climate change adaptation, particularly in terms of planned adaptations, which require informed and strategic actions [23]. Key roles of government in this respect include adapting their own policies and activities to the impacts of climate change; facilitating adaptation among communities and other stakeholders so they can develop their own adaptation responses; and enacting legislation to reduce the vulnerability of people, ecosystems and activities [24]. Governments must be foremost in adaptation, and as such they need to identify the risks of climate change impacts to programmes and

service-provision areas; prioritise, minimise and adapt to risks. Concomitantly, governments must facilitate adaptation to climate change by disseminating information risks; provide guidance on adaptation options; and enable adaptation by channelling funding to various stakeholders. Finally, as legislator, government has an important role in creating laws and regulations, for example zoning legislation that restricts or prohibits development in high-risk coastal areas [24]. Currently, there is considerable variation in the drafting of dedicated climate change legislation on the continent [25].

Many adaptation actions must take place at smaller scale and are often quite site-specific due to the different vulnerabilities of local communities and ecosystems. This is a function of their exposure to particular climate risks and their capacity to adapt [16,26,27]. Local governments therefore emerge as important actors in climate change adaptation. They must not only adapt their own programmes and activities, but also facilitate adaptation at the scale they can influence, and apply legislation that reduces vulnerability to climate change. Local governments are typically responsible for planning for land-use, protecting the environment, and providing water, housing, amenities and other services to the citizens of the area under their jurisdiction. Many of these, particularly on the coast, are at risk from the projected impacts of climate change. The role of local government also extends to building the adaptive capacity of local communities through various means, including provision of relevant information, leadership, advice, supervision and often, funding. Local governments are invariably subject to national or regional laws and regulations when performing their mandated duties, but often, they have to undertake actions not clearly stipulated by policy and law. The inclusion of climate change in policy and law would therefore assist local government action but the development of specific climate change legislation is slow [25].

This study examines the national ICM and climate change policy and governance domains of two developing countries in Africa, Mozambique and South Africa. The state of institutionalisation of coastal management at national through to local government is also examined. The authors contend that the state, character and maturity of particularly the ICM policy domain, can create an enabling environment within which local government agencies can prepare for future impacts of climate change. ICM policy, and the governance institutions that it encourages, and often creates, is therefore an influential enabler of adaptation. Then again, it can also limit, delay and hinder climate change adaptation. The objectives of this study were therefore to analyse and evaluate the realised legal and institutional or governance pathways for the implementation of ICM, from national policy to local government, in Mozambique and South Africa. Secondly, the study describes the existing climate change policies relevant to the coastal area of Mozambique and South Africa, and finally, identifies the gaps that future legal frameworks should address in order to promote ICM and connect climate change policy to the ICM pathways in Mozambique and South Africa.

## 2. Background to the study area

Since the regional acceptance of the Arusha Resolution, ICM has however progressed inconsistently in nations of the WIO. A study by Billé and Rochette [28] concluded that ICM is still far from being the norm in most WIO countries, particularly in terms of its institutionalisation in national policy and legislation. These differences in the realisation of ICM are particularly apparent when considering the cases of neighbouring Mozambique and South Africa (the latter not being a signatory of the Arusha Resolution). Both countries were part of the 1990s global

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