

# **Sustainable Oceans in the Western Indian Ocean: An Analysis of the Lessons Learned from Nairobi Convention as a Regime to Protect, Manage, and Develop the Coastal Marine Environment**

## **Name**

Alexis Martin

## **Date**

September 26, 2013

## **Background/Introduction**

The Western Indian Ocean is one of the fastest growing economic regions in the world. High diversity in social, political, economic, and environmental systems exists in the Western Indian Ocean, yet the region is still underestimated as a player in world geopolitics (Michael and Stickler 2012). Environmental degradation caused by exploitation of resources and human-based activities are increasing at an unsustainable rate in the region and there is not adequate regional capacity to support national implementation of environmental agreements.<sup>1</sup>

The Nairobi Convention, enacted in 1985 as a United Nations Environmental Programme (UNEP) Regional Seas Programme, is the longest standing environmental regime in the Western Indian Ocean. In 1982, a meeting of experts from the Western Indian Ocean region identified problems that needed to be addressed, and invited the participation of UNEP to help initiate pilot priority projects in the region. Three years later, the Conference of Plenipotentiaries on the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region adopted an Action Plan, the Nairobi Convention, and associated protocols on protected areas and biodiversity, and cooperation in combating marine pollution in emergency situations in the Eastern African Region. The stated purpose of the Nairobi Convention is to increase the capacity of the Western Indian Ocean nations to protect, manage, and develop the coastal and marine environment in a sustainable fashion. In 2010, the Contracting Parties of the Convention adopted an amendment to the Nairobi Convention in order to further incorporate the emerging issues in the region while serving as a “fresh start” for compliance (IDDRI 2012). The amended Convention recognizes the impacts of climate change, the need for adoption of integrated coastal management practices, highlights the importance of biological diversity, and recommends further scientific and technical cooperation outside of the region. However, the amended version of the Convention has not yet been ratified by any of the Contracting Parties.

Besides the Nairobi Convention, there are five major regional environmental regimes acting in the Western Indian Ocean. Many of the regimes manage coastal and deep-sea fisheries. The Southwestern Indian Ocean Fisheries Commission (SWIOFC) is an UN Food and Agriculture Organization (FAO) regional fishery body that promotes the sustainable utilization and management of living marine resources in the region. The

---

<sup>1</sup> IDDRI 2012

Southern Indian Ocean Fisheries Agreement (SIOFA) is the only regional fisheries management agreement for the Indian Ocean high seas. The Indian Ocean Tuna Commission (IOTC) is the region's tuna regional fisheries management organization. The Southern Indian Ocean Deep Sea Fishers Association (SIODFA) is an organization of all the deep-sea companies that operate in the Indian Ocean that implements voluntary benthic protected areas in the Southern Indian Ocean. The other regime is the Agulhas Somali Current Large Marine Ecosystem (ASCLME), which is a large marine ecosystems (LME) project that aims to increase the technical capacity to manage the marine environment in the region. While there are many existing regimes in the Western Indian Ocean, the regional framework appears to have gaps in the implementation of coastal zone management, protection of marine biodiversity, management of land-based sources of pollution, and the management of resources in the areas beyond national jurisdiction (ABNJ)<sup>2</sup>. The Nairobi Convention has the potential to address many of these issues, and an analysis of the lessons learned from the Convention can assist in providing recommendations and steps to address the emerging issues in the region.

### **Purpose**

The purpose of the analytical paper is to determine the effectiveness of the Nairobi Convention as a regional marine management regime in the Western Indian Ocean to protect the marine environment, and the commonalities in how regimes are implemented and managed in the Indian Ocean region.

The working definition for an effective regime for this research evaluates three components: *output* (regime formation), *outcome* (regime implementation), and *impact* (regime consequences).<sup>3</sup> Therefore, determining regime effectiveness is a dynamic process, taking into consideration both time and space into the analysis.<sup>4</sup> It is also important to take into consideration the level of collaboration (determined by relative improvement (as opposed to the absence of the regime) in order to provide a standard with which regime effectiveness can be subsequently analyzed and to understand whether collaboration leads to positive results in the problem the regime is addressing.<sup>5</sup> Thus, a secondary question that is being answered is whether greater regional cooperation produces positive results in reacting to the problem area (but not necessarily whether the problem is being corrected). Due to the lack of overarching regional implementation of environmental management in the Western Indian Ocean region, the advent of regional cooperation can be argued as a political optimum.<sup>6</sup>

This analysis will address the following questions in order to answer the research question on effectiveness:

---

<sup>2</sup> Druel, E., Ricard, P., Rochette, J., Martinez, C. (2012), Governance of marine biodiversity in areas beyond national jurisdiction at the regional level: filling the gaps and strengthening the framework for action. Case studies from the North-East Atlantic, Southern Ocean, Western Indian Ocean, South West Pacific and the Sargasso Sea. IDDRI and AAMP, Paris, France, 102 p.

<sup>3</sup> Underdal, in "Environmental Regime Effectiveness"

<sup>4</sup> Gupta, M. "Indian Ocean region maritime regimes for regional cooperation." 2010 (99)

<sup>5</sup> Ibid, 100.

<sup>6</sup> Ibid, 101.

### Outputs (Regime Formation)

- What are the issues that the Convention has sought to address?
- What are the stated goals of the Nairobi Convention? What are the principles and norms of the Convention?
- How is the Nairobi Convention organized? What are the institutional arrangements in place to implement the Convention?

### Outcomes (Regime Implementation)

- What are the methods and resources in place to enforce the provisions of the Convention?
- Which goals of the Convention have been operationalized on the national, regional, and international level?
- Who are the key players in the Nairobi Convention? How have they been influencing the Convention? What are the respective technical and political capacities of each player?

### Impacts (Regime Consequences)

- What are the impacts of the Nairobi Convention in how member States in the region protect, manage, and develop the marine environment in a sustainable fashion?
- Has the protection of the marine environment improved as a result of the Nairobi Convention?

This analysis will also address the following questions in order to analyze the commonalities in how regimes are implemented and managed in the Indian Ocean region:

- What are the similarities and differences among the Marine Scientific Research, Port-State Controls and Shipping, and the Nairobi Convention Regimes, in terms of capacity (organizational structure, methods and approaches, and financial and human resources)?
- What lessons can be learned from the commonalities in how the regimes are implemented and managed in the Indian Ocean Region?

According to Dr. Oran Young<sup>7</sup>, effectiveness deals with the contributions that institutions make to solve the problems that inspire actors to commit time and energy needed to create them. However, effectiveness can be defined in different ways, which require normative, scientific, and historical judgments.<sup>8</sup> This analysis will utilize the definition

---

<sup>7</sup> Young et al. "The Effectiveness of International Environmental Regimes: Causal Connections and Behavioral Mechanisms" 1999 (3)

<sup>8</sup> Ibid, 3

of effectiveness from a political approach- that is, the regime is effective when it causes changes in the behavior and interests of actors or in the policies and performance of institutions that contribute to positive management of the issue.<sup>9</sup>

### **Approach/Method**

Identifying the information needed to evaluate regime effectiveness can be determined through application of regime theory. Dr. Oran Young identifies four categories that can be evaluated to determine regime effectiveness: *regime formation*; *regime dynamics*; *regime attributes*; and *regime consequences*. These categories have been adapted to both qualitative and quantitative analysis of environmental regimes throughout the world, including the International Regime Database (IRD) project led by Breitmeier et al. 2006. Dr. Arild Underdal identifies two steps needed to establish an evaluative standard for measurement of the effectiveness of a regime: determining the *point of reference* (from which to evaluate relative improvement), and setting a standard *metric of measurement* (or the collective optimum), which was used in the case studies compiled by Miles et al. 2002 on regime effectiveness.

To complete the analysis, the research will draw upon the methodology developed by Dr. Manoj Gupta. Dr. Gupta created a conceptual framework to analyze agent (actor)-structure entities (marine scientific research regime and port-state controls and shipping regime) in the Indian Ocean Region. By applying structuration theory to regime theory, Gupta was able to show that that actors and structures are not independent of one another during the operationalization of a regime and that it is important to evaluate this interplay over time in the region.<sup>10</sup> The framework drew upon the theories of Underdal and Young, along with the regime evaluations completed by Breitmeier et al. and Miles et al. to evaluate two main independent variables: behavioral change and institutional effectiveness, with level of collaboration as the intervening variable. Dr. Gupta's reasoning behind this approach to testing is to determine the broader consequences of regime effectiveness. Therefore, his main inquiry to determine whether greater regional cooperation leads to better substantive results in the problem area, in the effect that governing regional efforts will improve the situation, but not necessarily solve the problem.<sup>11</sup> The independent variables have two variable sets that are tested, with three individual sub-variables, as shown in Figure 1. Through an evaluation of the current literature and documents on each of the regimes and a set of discussions with policy actors in the Indian Ocean region, Dr. Gupta assessed the effectiveness through the use of a five-point ordinal scale accompanied by a description of each variable measurement. An example of one component of the scale is shown in Figure 2. By averaging each of the sub-variables, an overall score was produced for each variable set. The scores were then plotted on a radar diagram to supplement the summary assessment of the regime. The example used by Gupta is shown in Figure 3.

---

<sup>9</sup> Ibid, 4

<sup>10</sup> Gupta, 2010 (90)

<sup>11</sup> Ibid (102)

**Dependent Variable:** Regime Effectiveness

**Independent Variable:** Behavioral Change (*level of collaboration as intervening variable*)

1. Actor Behavior and Leadership
  - Knowledge-based actors and intellectual leadership
  - Interest-based actors and entrepreneurial leadership
  - Power-based actors and structural leadership
2. Stage of Regime Formation
  - Agenda formation
  - Institutional choice
  - Operationalization

**Independent Variable:** Institutional Effectiveness (*level of collaboration as intervening variable*)

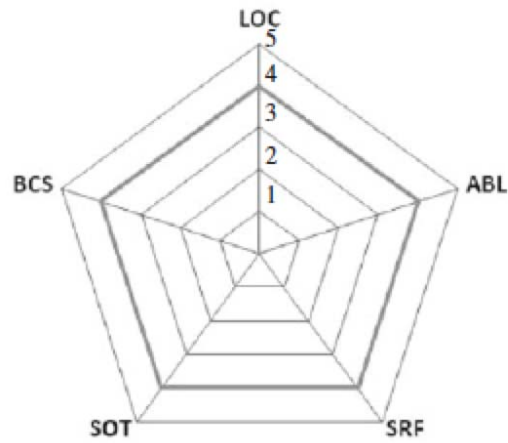
1. Structure Over Time
  - Legitimization/contractual environment
  - Signification/level of concern
  - Domination/national capacity
2. Broader Consequences Across Space
  - State learning at the unit level
  - Regional cooperation at the sub-system level
  - International cooperation at the system level

Figure 1. Variables Being Measured for Regime Effectiveness (*Gupta 2010*)

		1	2	3	4	5
<b>Stage of Regime Formation</b>	<u>Agenda Formation</u>	Problems that require collective response are not identified.	Problems that require collective response are somewhat identified.	Problems that require collective response are accurately identified and agreed upon by member States from the region.	Problems that require collective response are accurately identified and agenda converted into measures for collective action by member States from the region.	Problems that require collective response are accurately identified and agenda converted into measures for collective action by all States from the region as participants.

Figure 2. Example of the rubric used to determine regime effectiveness (*Gupta 2010*)

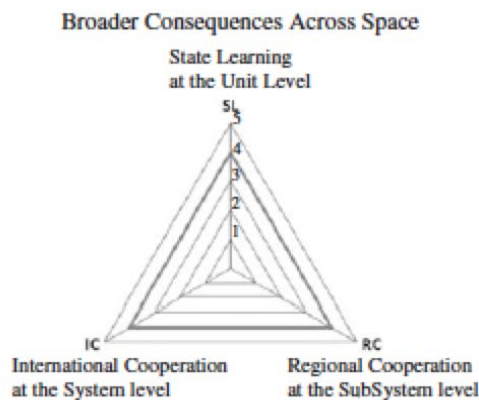
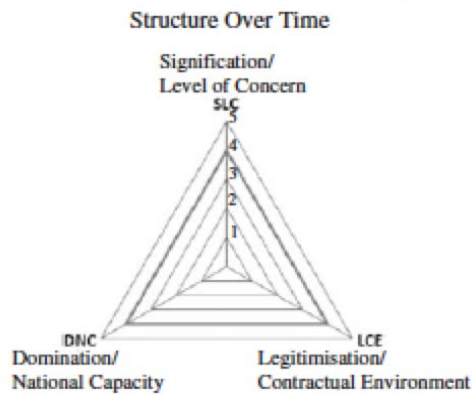
## Regime Effectiveness



- LOC Level of Collaboration
- ABL Actor Behaviour and Leadership
- SRF Stages of Regime Formation
- SOT Structure Over Time
- BCS Broader Consequences across Space

Figure 3. Regime Effectiveness plotted onto a radar diagram. In this example, each variable has a score of “4” (Gupta 2010)

### Institutional Effectiveness



### Behavioural Change

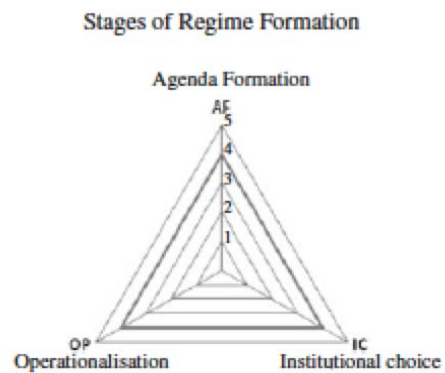
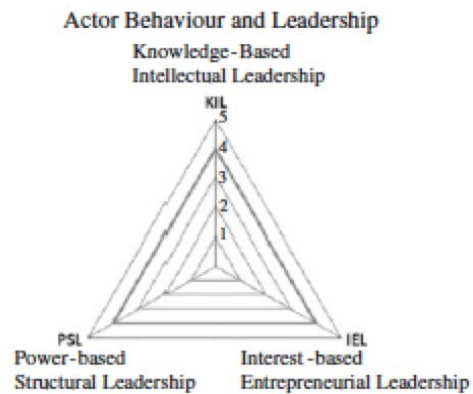


Fig. 5.2 Measure of behavioural change and institutional effectiveness variable sets

Figure 4. An example of each of the sub-variables being plotted on individual radar diagrams (Gupta 2010)

The proposed analysis will be the first assessment on regime effectiveness for the Nairobi Convention. Using the methodologies developed by Gupta, the analysis will determine the level of effectiveness of the Nairobi Convention at taking the steps to protect, manage, and develop the coastal and marine environment in a sustainable fashion in the Western Indian Ocean. The analysis will be conducted through a three-step process. First, a primary review of the current literature on the Nairobi Convention will be completed in order to make a preliminary analysis on effectiveness of the regime. Next, discussions will be conducted with key policy actors in the region to gain insight of the perceptions drawn from the literature. The results of the analysis from the literature and observations drawn from the interviews will then be plotted in a radar diagram to show the different stakeholder perceptions of effectiveness in to evaluate the overall effectiveness of the Nairobi Convention relative to previously evaluated regimes in the Western Indian Ocean. The final step of the research will be to compare the regimes that Dr. Gupta analyzed with the research conducted on the Nairobi Convention to assess whether there are commonalities in how regimes are implemented and managed in the Indian Ocean region.

### **Reference List**

- Breitmeier, Helmut, Young, Oran R., Zürn, Michael. *Analyzing International Environmental Regimes : From Case Study to Database*. Cambridge, Mass.: MIT Press, 2006. Print.
- Gupta, M. "Indian Ocean region maritime regimes for regional cooperation." 2010.Web.
- Miles, Edward L., Underdal, Arild, Andresen, Steinar, Wettestad, Jørgen, Skjærseth Birger, and Carlin, Elaine M. *Environmental Regime Effectiveness: Confronting Theory with Evidence*. Cambridge, Mass.: MIT Press, 2002. Print.
- Rochette, J., Billé, R. (2012), *Strengthening the Western Indian Ocean regional seas framework: a review of potential modalities*, Studies N°02/12, IDDRI, Paris, France, 50 p.
- Young, Oran R. *The Effectiveness of International Environmental Regimes: Causal Connections and Behavioral Mechanisms*. Cambridge, Mass.: MIT Press, 1999. Print.

### **Target Journals**

International Environmental Agreements: Politics, Law and Economics

Scope and Guidelines for Submission:

<http://www.springer.com/law/environmental/journal/10784>

Marine Policy

Scope: <http://www.journals.elsevier.com/marine-policy/>

Guidelines for Submission: <http://www.elsevier.com/journal-authors/home>

**Tasks**

- \* Oral Defense of Proposal- *September 26, 2013*
- \* Literature Review and Analysis- *October to December 2013*
- \* Conduct Policy Actor Discussions- *October 27-November 1, 2013*
- \* Review Discussions and Literature- *November to December 2013*
- \* Paper Outline- *January 2014*
- \* Final Analysis and Recommendations- *February 2014*
- \* First Draft- *March 2014*
- \* Final Draft- *April 2014*
- \* Defense of Analytical Paper: *May 2014*
- \* Submission of Analytical Paper: *May 27, 2014*

**Major Due Dates**

Paper Outline: January 2014

1<sup>st</sup> Draft: March 2014

Final Draft: April 2014

Defense of Analytical Paper: May 2014

**Committee Composition**

Dr. Biliانا Cicin-Sain (major advisor)

Dr. James Corbett (committee member)

Dr. Miriam Balgos (committee member)

Dr. Indu Hewawasaam (committee member)



