



Challenges in mainstreaming climate change into productive coastal sectors in a Small Island State – The case of Trinidad and Tobago



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ABSTRACT

In ratifying the United Nations Framework Convention on Climate Change (UNFCCC), Trinidad and Tobago gave its commitment to contribute towards mitigating greenhouse gas emissions and instituting measures for adapting to climate change impacts. Formulation of a National Climate Change Policy subsequently took place with a view to providing direction towards fulfilling UNFCCC obligations.

The National Climate Change Policy identified that coastal areas of Trinidad and Tobago were particularly vulnerable to climate change impacts. As a small island State, the country cannot afford its productive sectors operating in and/or reliant upon coastal resources to be at risk, even as some contribute to the climate change phenomenon. The increasing threat to socio-cultural, economic and environmental sustainability posed by climate change, was acknowledged in the Draft National Integrated Coastal Zone Management (ICZM) Policy Framework which aims to treat with climate change impacts in the coastal zone and reduce vulnerability to associated hazards.

Given the stated objectives of the National Climate Change Policy and the Draft National ICZM Policy Framework, this paper examined the policy and plans in place to integrate climate change considerations into management for the coastal sectors of fisheries, energy, tourism and maritime transport. It found that the mainstreaming of climate change mitigation and adaptation responses in these coastal sectors has not been as effective as needed. Progress in this regard was constrained by human, financial and technical resource availability. Proposed are rationalised institutional arrangements which, if statutorily grounded, will better allow for achieving co-ordinated climate change mitigation and adaptation outcomes in Trinidad and Tobago.

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1. Introduction

On June 24th 1994, Trinidad and Tobago ratified the United Nations Framework Convention on Climate Change (UNFCCC). As a developing nation adopting this convention the country gave its commitment to, *inter alia*, reduce anthropogenic emissions of greenhouse gases in various sectors including energy, transport and industry; prepare for adaptation to the impacts of climate change through development of appropriate plans including an integrated one for coastal zone management; and encourage relevant social, economic and environmental policies and actions to take climate change considerations into account with the intention of minimising adverse impacts on the economy, population and the environment.

With a view to providing direction to fulfil these and other

obligations under the UNFCCC and associated climate change agreements, a National Climate Change Policy for Trinidad and Tobago was formulated in 2011. The goal of the 2011 policy was to:

“(P)rovide policy guidance for the development of an appropriate administrative and legislative framework, in harmony with other sectoral policies, for the pursuance of a low-carbon development path for Trinidad and Tobago through suitable and relevant strategies and actions to address climate change, including sectoral and cross-sectoral adaptation and mitigation measures.” (Government of Trinidad and Tobago, 2011; page 15).

Due to the country's high degree of industrialisation, Trinidad and Tobago is ranked second in the world in per capita carbon dioxide (CO₂) emissions.¹ The National Climate Change Policy identified that vulnerability to climate change was particularly high along the coasts of both islands with impacts recognised to be

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¹ 2013 World Bank data - <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC>.

multi-sectoral based on the fact that most economic activity and settlements were concentrated here. The country's important productive sectors, including oil and gas, tourism and fisheries, have long been supported by coastal and marine resources. Data from the National Central Statistical Office (CSO) has shown that for the past 10 years, the oil and gas sector accounted for more than 50% of the country's Gross Domestic Product (GDP) while its service sector (including tourism and shipping) has accounted for about 40% of GDP, but more than 60% of the labour force. Therefore in order to maintain the population's wellbeing and sustainably manage the coastal environment and the range of activities that are associated with it, mitigation against and adaptation to climate change impacts is essential.

Integrated Coastal Zone Management (ICZM) has been identified as an approach to achieve balance between development and conservation by managing human activities within the coastal zone, promote harmonization amongst sectoral activities and address conflicts amongst different resource users and uses (Cicin-Sain and Belfiore, 2005). It has also been found to be an effective means to treat with climate change impacts and to reduce vulnerability to coastal hazards (Tobey et al., 2010). In April 2012, the Cabinet of Trinidad and Tobago appointed a Multi-sectoral Steering Committee to develop an Integrated Coastal Zone Management Policy Framework, Strategies and Action Plan for Trinidad and Tobago.

A Draft National ICZM Policy Framework has since been developed and the role of ICZM in treating with climate change impacts is explicitly acknowledged in this draft policy. Among its stated objectives is to:

Plan and manage development in the coastal zone so as to avoid increasing the incidence and severity of natural hazard impact and to avoid exposure of people, property and economic activities to significant risk from dynamic coastal processes and impacts from climate change (e.g. coastal flooding).

Strategies:

1. Encourage protection and maintenance of dynamic coastal features that act as a buffer against natural coastal processes and hazards;
2. Conduct coastal vulnerability and risk assessments and incorporate appropriate preventative and adaptive measures into all planning and management policies and decision-making processes to account for projected changes in climate, particularly increases in sea level;
3. Develop a holistic programme for coastal zone protection.

ICZM is recognised as a process that could be used to achieve the goals of the National Climate Change policy. At the same time mainstreaming climate change into the management of important coastal sectors will bring synergistic benefit in the thrust for sustainable coastal zone management.

Achieving the objectives of both the National Climate Change Policy and the Draft National ICZM Policy imply the need to revise specific sectoral policies and plans in order to integrate and contextualise the climate change issue in the relevant sectoral policy. This research entailed thorough primary and secondary literature review and supplemental unstructured interviews with key stakeholders in particular coastal and ocean sectors which are integral pillars of the economy and sources of livelihoods in Trinidad and Tobago. Specifically examined were the fisheries, energy, tourism and maritime transport sectors. Five years after the adoption of the National Climate Change Policy, this paper examines the sector specific climate change mitigation and adaptation policies and plans adopted, establishes progress in implementation and highlights unconsidered approaches for integrating climate

change considerations into management. Also explored is the existing and proposed institutional mechanisms for mainstreaming climate change mitigation and adaptation into these various sectors with a view to improving the effectiveness of these efforts.

2. Climate change impacts on coastal sectors and implementation of mitigation and adaptation measures in Trinidad and Tobago

2.1. Fisheries sector

Numerous pathways exist through which climate change can impact fisheries (Badjeck et al., 2010). Causal variables of impact include sea level rise, altered precipitation patterns, varied ocean and coastal processes such as wind velocity, wave action and ocean currents and changes in chemical and physical oceanographic parameters such as pH and water temperature. For fisheries, while the scientific understanding of the cause-effect pathway for many of these variables are not yet comprehensively understood (Allison et al., 2009), in the Caribbean it is acknowledged that climate change adaptation in the fisheries sector is a necessity (McConney et al., 2015).

The drafting of a new National Fisheries Policy for Trinidad and Tobago has been a protracted exercise. This policy has been long in coming after the prescriptive time period for the previous fisheries management guiding document; the "1994 Fisheries Policy Direction's for the 1990's", expired. Recognition of climate change and the necessity for response was only just emerging as an issue of importance in the early 90s and therefore the problem as it relates to fisheries is unaddressed in that, now outdated, guiding policy document. Formulation of the new National Fisheries Policy began in 2011 but uncertainty remains as when it will be finalized and approved. It is hoped that Climate Change mainstreaming in fisheries management would be given due attention in whatever new policy document is adopted. However, in a 2013 Draft, climate change remained marginalised by not being mentioned in text of the manuscript.

In order to encourage adaptation to climate change through building resilience in fisheries populations and sustaining livelihoods, the development of fisheries management plans would be prudent (Brander, 2010). Currently the Fisheries Act, Chapter 67:51, along with its subsidiary legislation, largely regulates fishing activities in the waters of Trinidad and Tobago. However, as it stands, it only extends to "all rivers, whether tidal or otherwise, and to the Territorial Sea of Trinidad and Tobago". The Fisheries Act predates Trinidad and Tobago becoming Party to the United Nations Convention on the Law of the Sea (UNCLOS) and therefore does not address fisheries management in its established Exclusive Economic Zone (EEZ).

The Archipelagic Waters and Exclusive Economic Zone Act, 1986, does contain sections that regulate the fishing activities of foreign vessels in the archipelagic waters, territorial sea and EEZ of Trinidad and Tobago. However, these sections of the Act are not applicable to locally owned fishing vessels and crew. This, coupled with the fact that the Fisheries Act has no provision requiring the licensing of local fishermen, creates a situation whereby, for nationals of Trinidad and Tobago, fisheries in the majority of country's waters are open access and unregulated. Only subsidiary legislation in the Fisheries Act provide restrictions in the internal waters and territorial sea on aspects of the marine fishery, such as that relating to permissible gear type; sizes and types of fish allowed to be captured; and areas where and/or time of year when certain types of fishing practices are prohibited.

Deficiencies in the Fisheries Act and its subsidiary legislation, contribute to many fisheries resources in Trinidad and Tobago's

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