



CARIBBEAN VOICES - SIDS 2014

Climate Change, Trade Policy and Low Carbon Competitiveness in SIDS
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Small Developing States like the Caribbean region are not major emitters of greenhouse gases yet they are estimated to be one of the groups of countries to be most impacted by the ecological changes associated with climate change, particularly in terms of sea level rise, temperature rises, rainfall changes, coral bleaching and increased health and natural disaster risks such as hurricane damage and storm surge, particularly among the island states and low lying coastal areas. Mainland territories, like Guyana, Suriname and Belize that have forest are also at risk of decomposition of ecosystems on account of temperature rises and disruptions in precipitation cycles (Vergara, et al. 2007).

It is estimated that seventy two percent of all small island developing states are classified as either “extremely vulnerable” or “highly vulnerable” to climate change impact hence the rationale for referring to them as “hotspots” (see Figure 1) (AOSIS/UNF 2008).

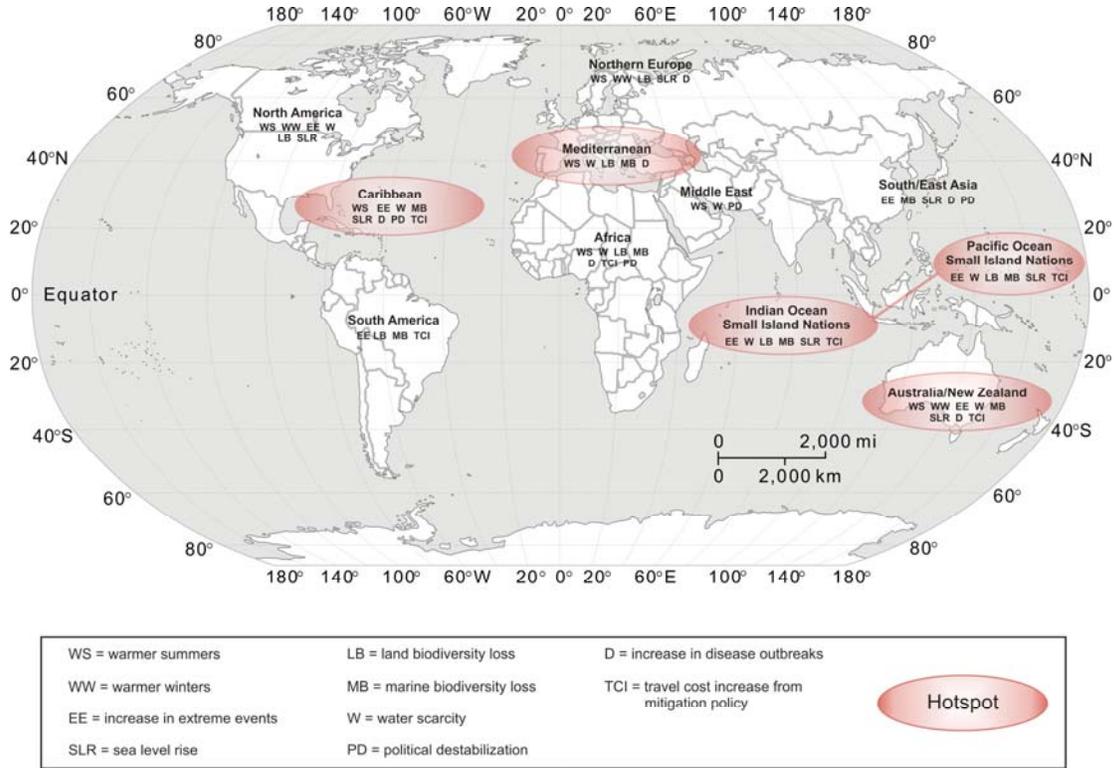
The economic implications are considered to be very significant. For instance, changing rainfall distribution patterns will require countries to find new and innovative ways to establish a consistent and reliable water supply. Moreover, the absence of a consistent water supply can also lead to a severe decline in agricultural production (subsistence and commercial) thus threatening food security as well as exports. For the island and coastal areas warming seas threaten the livelihood of commercial and artisanal fisheries and of coral reefs. This by extension has the potential to result in widespread unemployment, of fishermen and of tourism-related service providers (e.g. scuba tourism, tour operators) whose income is dependent upon the existence of healthy coral reefs. Sea level rise will also impact on vital infrastructure, settlements and hotel facilities through inundation, erosion and other coastal hazards (Mimura et al 2007).

One of the key risk factors associated with climate change impact is the increase in damage from tropical cyclones or hurricanes. The areas surrounding the Caribbean Sea are particularly vulnerable. Historical losses for the period 1979 to 2006 amounted to \$18,678 million with Mexico accounting for forty-seven per cent, the Greater Antilles in the Caribbean (e.g. Cuba, Haiti, Dominican Republic, Jamaica) thirty six per cent, Central America twelve per cent and the Lesser Antilles 4.9 per cent (see Table 1). Estimated projected losses for the period 2020 to 2025 are almost seven-fold with the largest share of the increased burden being borne by Mexico (71.4%) and the Greater Antilles (21.9%) (De la Torre, Fajnzylber, & Nash, 2008).

Estimates of the impact of climate change on the Caribbean region paint a dismal picture from an economic and trade perspective. Based upon an analysis of hurricane damages, loss of tourism revenue, and infrastructure damage due to sea-level rise it is estimated that the cost of inaction would have a significant impact at 22 percent of GDP for the Caribbean as a whole by 2100. Haiti and several small islands (Dominica, Grenada, Haiti, St. Kitts & Nevis and Turks & are estimated to be impacted by an astonishing 75 percent or more of GDP whereas Cuba, the Caribbean’s largest island faces a nearly 13 percent economic hit by mid-century, and a 27 percent loss by 2100 (Bueno et al 2008).

Figure 1

Geographic Distribution of Major Climate Change Impacts



Source: UNWTO/ UNEP/WMO

Table 1: Cumulative Losses from Tropical Cyclones, Historic & Projected (US\$m 2007)

| Country/Region | Historic loss per 5 years (1979-2006) | | Average losses (across 4 scenarios) per 5 years (2020-25) | |
|------------------|---------------------------------------|--------|---|--------|
| Mexico | 8,762 | 47.0 % | 91,298 | 71.4 % |
| Central America | 2,321 | 35.7 % | 6,303 | 5.0 % |
| Greater Antilles | 6,670 | 12.4 % | 28,037 | 21.9 % |
| Lesser Antilles | 925 | 4.9 % | 2,223 | 1.7 % |
| Total | 18,678 | | 127,861 | |

Source: (De la Torre, Fajnzylber, & Nash, 2008)

CLIMATE CHANGE: TRADE AND INNOVATION GOVERNANCE

The climate change governance has rapidly grown in importance as a trade policy, international relations and development issue in recent years given the implications for the global commons of increased greenhouse gas emissions. The intersection of climate change and international trade is a particularly critical dimension of this scenario because global efforts to mitigate emissions and to promote adaptation are likely to impact on cross-border economic activities as well as production and consumption patterns.

There is increasing tension between the objectives of open trading systems and the reduction of greenhouse gases. As such the evolving global context is fraught with potential conflict between climate regimes like the UNFCCC and the Kyoto Protocol and the trade rules embodied in the World Trade Organization. There is also concern that the mitigation policies of the large emitting countries will impact on international trade. For instance, Pascal Lamy, Director-General of the WTO has stated that “since the main thrust of climate change policies is to increase the price of carbon, trade costs are impacted, with implications for the global pattern of production and consumption and thus for trade patterns.”¹

Caribbean countries are also among the highest trade dependent economies in the world and are therefore highly vulnerable to carbon border measures that would impact on international trade. It is critical, therefore, to look at both the ecological impact of climate change as well as the effects of mitigation and adaptation policies on key economic and trade sectors. For example, one of the key areas associated with climate change mitigation efforts is the reduction of energy-related emissions, which are estimated to account for over eighty per cent of global carbon dioxide emissions. Addressing this area of the climate change agenda calls for the use of more efficient production and use of energy. This is of particular relevance to many Caribbean countries given that the introduction of renewable energy sources is considered a viable option in the context of rising fossil fuel prices, especially for those countries that are dependent on energy imports.

From this perspective climate change might be seen as “something to cope with”, for example in the case of small economies where strategies and policies are needed to prevent the negative impacts of climate change on their valuable assets (agricultural produce, coasts, natural resources). On the other hand, climate change might be seen as a driver for industrial upgrading considering the possibilities for restructuring current production and consumption modes in order to exploit the opportunities associated with climate change.

Consequently, the key response from the Caribbean has come in the form of adaptation measures, actions aimed at adapting natural and human systems to minimize environmental and social damage (i.e. risk reduction measures). This is premised on the notion that “business as usual” will cost more in the future than action today. There is recognition though that such adaptation is not an easy task since most Caribbean countries face considerable challenges in implementing such measures.

Funding the adaptation process is difficult for many Caribbean countries because they are dependent upon a narrow range of agricultural and mineral extraction industries as well as services sectors (tourism, financial services, creative industries) that have declining terms of trade. These countries

¹ Pascal Lamy, WTO Secretary General, WTO News, June 26, 2009.

are also highly dependent on the importation of food and energy for local consumption as well as for the tourism sector, which is the key economic driver of the regional economy. In the context of rising fossil fuel prices these issues are linked to the food crisis as major food crops are used as feedstock for bio-fuels. From this standpoint the climate change and trade agenda intersects with a development agenda that links to issues like energy and food security (Shiva 2008).

Within the Caribbean context, much potential has been pinpointed particularly in the areas of sustainable energy, manufacturing, fisheries and aquaculture as well as eco-tourism. However as elaborated by Nurse (2013), a need still exists for policies which create an enabling environment to effectively realize such benefits under an innovation governance agenda. To this end, the region may need to be strategic in its approach to incorporating CC related issues into the current trade and development agenda, particularly where such initiatives have clear discernible trade impacts (Vinaye Ancharaz, 2013). If successful the CARIFORUM states may thus gain access to additional resources for its growth and development agenda, by tapping into additional financial resources for example under aid for trade allocations. Ultimately the goal is to maximize the opportunities available to the Caribbean region, while minimizing the risks and negative impacts which climate change has been demonstrated to already have had within the region.

For small island developing states such as the CARIFORUM countries, this may create even more obstacles on their journey towards achieving sustainable development. Such countries are largely characterized by national account deficits, lacking the “adaptive capacity” to take advantage of, or cope with the consequences of such a phenomenon (Keith Nurse, 2007). As a result it is imperative for these nations to explore and pursue opportunities where they exist, by leveraging both internal and external resources available under climate change and trade policy initiatives.

The long term strategy for the region according to Nurse and Ancharaz (2013) respectively, should include an approach integrating innovation governance. The role of NAPAs and NAPs may be relevant in this regard. Innovation governance strategies developed should take into consideration the past, current and future implementation landscape of the Caribbean region in the areas of both trade related as well as CC support. In order to effectively maximize the available internal and external resources at hand, a collaborative approach leveraging existing technical assistance of on-going projects may prove critical. The encouraged donor coordination and cooperation programmes drafted may help to ensure that both trade and CC related development elements are incorporated in a harmonious manner in any strategy developed.

The role of NAPAs and NAPs here would additionally help to guide the implementation process, while taking into consideration local circumstances. These action plans may further pinpoint key cooperation partners and their roles within strategic areas of an innovation governance agenda for example knowledge and technology transfer, innovation stimulation via R&D, joint venture projects and the formation of regional think tanks as well as professional networks. In terms of leveraging economic benefits under the CC agenda, long term market contact points should also be established which formally connect business clusters together in specific areas with that of other leading international markets such as Germany. Such contact points should target key development needs significant for the sustainable growth of CARIFORUM states which facilitate the enhanced competitiveness of SMEs, for example renewable energy and energy efficiency.