Managing Risk: Increasing the Resilience of Small Ports

Managing Risk: Increasing the Resilience of Small Ports

Climate change is no longer a far-removed and abstract phenomenon for countries within the Greater Caribbean, but a real and tangible threat facing the region. This particularly holds true for half of the countries bordering the Caribbean Basin, namely Caribbean Small Island Developing States (SIDS). Given their extensive low-lying coastal areas, small size and economies, and isolation, Caribbean SIDS has historically been particularly vulnerable to the impact of extreme hydro-meteorological events. The region hosts more than one hundred ports of varying sizes, providing access to 170 maritime services and 70 shipping lines which provide the region with its essential trade linkages to the rest of the world. These seaports, along with the other low lying coastal areas remain highly vulnerable to the effects of global climate changes.

Maintaining healthy ports are not only crucial to maintaining economic resilience, considering that over 50% of the region's economic assets, including seaport facilities are concentrated in coastal areas, but, it is also essential for containing losses following a disaster as damage to ports can cripple response, recovery and rebuilding activities. The Association of Caribbean States' (ACS) Study on Ports and Maritime Strategies for the Greater Caribbean, suggests that small island ports, otherwise referred to as Tier 3 ports, may be more vulnerable to the impacts of a changing climate than the region's larger transshipment hubs - which have instituted port resilience frameworks into their operations. Given the dependence of island economies on international and intra-regional trade and the importance of the formal and informal shipping industry, risk management practices – including monitoring and evaluating potential risks - may benefit Tier 3 ports in identifying ways to mitigate against economic, logistical and social losses.

In economic terms, Caribbean ports are particularly instrumental in facilitating intra-regional trade, especially with respect to imports, where, over the 2010-2014 period, the value of intra-regional imports among members of the Caribbean Community (CARICOM) averaged at approximately US$3.1 billion, while intra-regional exports were valued at an average US$2.9 billion (CARICOM,

2016). Additionally, small island ports play an integral part in promoting revenue through cruise tourism, considering that the Caribbean region leads the global cruise industry, with just over 35 per cent of the global deployment capacity market share (FCCA, 2015). According to the Caribbean Tourism Organization (2015), Caribbean island nations saw an arrival of over 10,392,600 cruise passengers in the first half of 2015; approximately 360,000 more cruise passengers than the total for the first half of 2014. Small ports also constitute vital gateways for ferry passenger transportation among Caribbean islands. In fact, a 2015 World Bank study concludes that residents from Caribbean small island nations account for almost 50 per cent of total ferry passenger traffic within the region (Briceño-Garmendia et al., 2015, p. 68). Furthermore, in social terms, Caribbean small ports act as hubs for coastal settlement growth, with an estimated 70 per cent of the regional population residing in coastal areas (UNEP, 2008). Consequently, small ports would need to not only consider the value of their port operations, but also that of surrounding coastal communities when adopting the required 'hard' (e.g. seawalls) and/or 'soft' (e.g. managed retreat) solutions to mitigate the risks associated with inundation.

The Caribbean region is expected to see a projected sea-level rise of 0.5 to 0.6 meters in the next 65 years in an intermediate low-GHG-emissions scenario, according to the Intergovernmental Panel on Climate Change (IPCC) (CDKN, 2014). Moreover, recent research has shown "a more-than-fivefold increase in the quantity of storms affecting the Caribbean" over the past two decades, "coinciding with a significant increase in North Atlantic sea surface temperatures and decrease in vertical wind shear" (Moore, et al., 2016). Consequently, regional ports would see themselves affected by extreme winds, increased storm surges, intensified rainfall and flooding. Ergo, "the consequence here is that, natural disasters of any type have both direct and indirect impacts on the shipping industry and invariably the ports that facilitate shipping" (Ajagunna & Pinnock, 2016). As such, to reduce the impact of disasters associated with hydro-meteorological events and in an effort to secure port infrastructure and its relevant operations, the likelihood of an event and its potential impacts should be comprehensively assessed from low to high probability over a defined time frame and over a specific area.

While risk management may seem to be an evident response to enhancing the resilience of the region's small ports in the face climate change, the Caribbean must still overcome several obstacles in order to successfully implement region-wide risk assessment practices. Not only are there limited financial resources for risk management implementation, but also a lack of documentation on examples of successful regional risk management practices and preparedness strategies - such as private sector cooperation to develop insurance tools and options for receiving external assistance. Moreover, there continues to be an opportunity, via risk assessment tools and mechanisms such as the Caribbean Climate Online Risk and Adaptation tool (CCORAL), for continuous knowledge and exchange on port development in the Greater Caribbean Region between major gateway hubs and small ports.

The physical manifestation of a changing climate has shown the Caribbean, and more specifically, the regional maritime industry, that nothing is truly impossible or improbable. The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS) has estimated that the "cost of inaction" in combatting climate change in Caribbean SIDS is projected to surpass US$22 billion annually by 2050. Despite the many challenges for implementation, Caribbean countries and stakeholders are currently faced with a significant opportunity to strategically craft and employ vulnerability and risk management techniques with a view to introduce port protection measures so as to safeguard our maritime doorways of trade, tourism and culture.

Arturo Lopez Portillo is the Director and Rachael Robinson is the Research Assistant of the Directorate of Transport and Disaster Risk Reduction of the Association of Caribbean States. Any

comments or feedback should be submitted to feedback@acs-aec.org