Hydrographic Services for Advancing Safety and the Blue Economy

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The 1912 tragedy of the Titanic is one of the most well-known historical events of the 20th century. It has inspired blockbuster films, numerous novels and documentaries. The alleged inability of the captain and his crew to navigate the seas and avoid what seemed like an avoidable iceberg was indeed a compelling narrative. However, it is also a compelling case for the importance of hydrography (the discipline oriented to the exploration of bodies of water and to the development of nautical cartography).

In 1914 following the disaster, the International Maritime Organisation created the International Convention for the Safety of Life at Sea (SOLAS). The main objective of the convention requires countries to be responsible for ensuring that all ships under their flags meet “the minimum standards for the construction, equipment and operation which are compatible with their safety.” Safety at sea is improved by having good, reliable nautical charts for navigators to avoid groundings, identify shorter and more convenient routes and increase the passage of more cargo vessels. Hydrographic services contribute to the efficiency of such charts and provide important information to ensure safe and efficient navigation.

Although incidences of maritime accidents in the Greater Caribbean have been scarce, they have occurred. According to the International Maritime Organisation (IMO) over the last 15 year period, there have been 20 groundings, 8 vessel to vessel collisions and 3 instances of contact with fixed objects. All of these incidents have been attributed to navigational errors either due to inclement weather or charting errors.

Furthermore, the completion of the Panama Canal expansion has increased port depths and doubles the capacity of the Canal from 5,100 TEU to13,200 TEU vessels (Caribbean Development Bank,2016) . The shipping routes of the Greater Caribbean region are a crucial part of the economies of island states, as they facilitate trade and the transport of natural resources. Presently, the average size of ships calling at Caribbean ports is 2,200 TEU and the region houses 100 ports and 167 maritime services. In 2013, the larger ports handled 11.5M TEU, and the smaller ports had

a container handling capacity of 5.5M TEU (ACS & Maritime Transport Business Solutions, 2014).

Hydrographic services encapsulate three main components- nautical cartography, spatial data services and hydrographic surveys. Nautical charts more specifically the national chart series is the primary function of any hydrographic office. These are the charts used by all entities operating within the countries' Exclusive Economic Zone (EEZ). Spatial data is important for a wide range of persons who work in the national EEZ including researchers, officers and local fishermen, harvesters and producers. Finally, hydrographic surveys refer to the use of research vessels to carry out the exploration, measurement and description of all bodies of water. It is also the most expensive component given the investment in capital needed to acquire and maintain a fleet of research vessels.

Hydrography is hardly mentioned in the everyday parlance of the public. Furthermore, it is neither discussed nor regarded as a pressing national issue. However given the importance of the Caribbean Sea to Greater the Caribbean for a myriad of activities, livelihoods and revenue earnings, hydrography is an essential (albeit underrated) tool. In addition to maritime safety, hydrography gives sustenance to the "Blue Economy", involving activities such as: energy, maritime transport, telecommunications, tourism, fishing, meteorology, among others.

Hydrographic services are therefore considered by, some experts, to be a public good. Indeed this is the approach of the Asian-Pacific Economic Cooperation (APEC) group in a study carried out in 2002 which sees hydrographic services a regional public good to the APEC region. A public good in economic terms is defined as a good which is non-rivalrous and non-excludable. It benefits the overall society and not a specific individual or entity.

It is imperative to think about new opportunities borne out of the Caribbean Sea which could be derived from reliable hydrographic services. In 2015 the Economist Intelligence Unit published a briefing paper for the World Ocean Summit examining the growth, opportunity and the emergence of a sustainable ocean economy. While acknowledging the well-known benefits of the ocean for global trade, commerce, food and energy, it identified a new focal point in the discourse on growth and sustainable development, both at national and international levels. These include applying modern technology to harness new resources/ opportunities aquaculture, marine bio-prospecting, renewable marine energy, deep-water applications and even pharmaceuticals.

The Blue Economy, an initiative originally forged by SIDS (island states with limited land space and resources), also extends to all coastal states and countries with an interest in harnessing the potential of their surrounding waters. Within this concept oceans/seas are conceptualised as "Development Spaces conservation," where there is an intersection of "economic growth, environmental sustainability, social inclusion and the strengthening of oceans' ecosystems" (United Nations, 2014).

It must be clearly stated that increased expenditure will not and is not expected to translate to a proportional increase in benefits from hydrographic services across all countries in the Greater Caribbean. Indeed as identified by the aforementioned APEC study, some countries will see substantial benefits, others medium benefits and the rest marginal benefits. However in order to asses which category a country will fall into, an assessment of the status of hydrography and an economic assessment modelling potential gains and/or losses to increasing hydrography expenditure must be undertaken.

Several countries within the Greater Caribbean region suffer from deficits of the technical resources and experts to implement the quality of hydrographic services needed in the region. However for those with such capacity, the provision of hydrographic support can be a great area for cooperation.

The ACS supports such regional cooperation in the interest of trade.

As part of the Trade Directorate's 2nd phase of the Short Distance Maritime Transport (SDMT) Project, Mexico, through the Mexican Directorate of Hydrography of the Secretariat of the Navy (SEMAR by its acronym in Spanish), has generously offered to lead the Strengthening of Hydrographic Capacities in Mesoamerica and the Caribbean (FOCAHIMECA) Project. This project entails capacity building (postgraduate studies, seminars and workshops), and exchange of hydrographic information (bathymetry and data processing, as well as creating, printing and distributing nautical charts of the countries of the region).

The most recent capacity building workshops were held in Veracruz, Mexico in July and October, 2016. Representatives from the following 21 countries participated: Antigua and Barbuda, Colombia, Costa Rica, Cuba, Curaçao, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Saint Lucia, Saint Maarten, Saint Kitts & Nevis, Saint Vincent & the Grenadines and Suriname. The upcoming workshop in October will focus on Maritime Spatial Data Infrastructure (MSDI) with presentations from SEMAR, Mexican and international organisations and companies with expertise in Maritime Spatial Data Infrastructure.

The Association remains committed to improving trade relations and encouraging easier trade facilitation amongst the Member States through hydrographic capacity building. For 2016, there has been a total of three (3) FOCAHIMECA workshops, and some remaining before the end of this year, which are open to the relevant maritime and hydrographic authorities in the ACS Member States.

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