UN-OHRLLS contribution to the SG report on oceans and the law of the sea, on the theme "sea-level rise and its impacts"

SIDS

ii. Observed and projected environmental, social and economic impacts and resulting challenges

Small Island Developing states (SIDS) are home to 65 million people, 11 to 15 per cent of whom are living on land with an elevation of 5 meters or lower [1]. This figure is over 95 per cent in such atoll SIDS as Kiribati, Maldives, Marshall Islands and Tuvalu.[2]

Recognizing these challenges, the Barbados Programme of Action (BPoA) (1994), the Mauritius Strategy of Implementation (2005) and the SAMOA Pathway (2014) underscore that climate change and sea-level rise, pose significant threats to SIDS. The BPoA noted that inundation of outlying islands and loss of land above the high-tide mark may result in loss of exclusive economic rights over extensive areas. Most recently, in September 2019, the Political Declaration adopted at the mid-term review of the SAMOA Pathway called for urgent action to address impacts of climate change, including sea-level rise and extreme weather events which, for many SIDS, represent the gravest of threats to their survival and viability, including, for some, through loss of territory, as well as through threats to water availability and food security and nutrition.

The latest Intergovernmental Panel on Climate Change (IPCC) Special Report on *Ocean and the Cryosphere in a Changing Climate (2019)* noted that the global mean sea-level (GMSL) is projected to rise. The report further noted that many SIDS are projected to experience local extreme sea level events that historically occurred every 1 in 100 years on an annual basis by 2050. This report also confirms earlier finding of the AP5 report that GMSL is not uniform, and in the tropical western Pacific, where a large number of small island communities are located, rates up to four times the global average (approximately 12 mm yr –1) have been reported between 1993 and 2009. It was also noted that costs and benefits of action and inaction are distributed unevenly, with some coastal nations, particularly small island states, being confronted with adaptation costs amounting to several percent of GDP.

Social and economic impacts

As their population, agricultural land, tourism industry and infrastructure tend to be concentrated in the coastal zone, any rise in sea-level will have significant and profound effects on SIDS economies and living conditions. In Pacific island countries for example, 57 per cent of built infrastructure are located in risk-prone coastal areas. The vulnerability in SIDS is also magnified

[1] https://www.un.org/sustainabledevelopment/wp-content/uploads/2017/05/Ocean-fact-sheet-package.pdf
[2] http://unohrlls.org/sids-in-numbers-climate-change-edition-2015/

owing to their relatively small land mass, urbanization, and dependence on coastal ecosystems for food and livelihood security and protection from extreme events.

Research on sea-level rise has shown that as much as 29 percent of major resort properties in the CARICOM countries would be partially or fully inundated by a one-meter sea-level rise. Furthermore, about 49 percent are estimated to be damaged or destroyed by combined sea-level rise and storm surge and sea-level rise-enhanced erosion given their lack extensive coastal protection in order to preserve aesthetics of natural beach areas and views to the sea.

Climate change and sea-level rise are likely to increase water scarcity in SIDS due to saltwater intrusion within freshwater aquifers. SIDS have relatively thin water lenses that are highly sensitive to the sea-level changes.

For many small island communities, the immaterial losses have great significance in addition to the material damage. Immaterial losses include loss of culture, languages, community and emotional connections to one's home.

Environmental impacts

Coral reef and mangrove restoration and conservation offer a number of co-benefits including providing coastal protection, supporting biodiversity and providing green jobs. Indeed, several SIDS in their Nationally Determined Contributions (NDCs) to the UNFCCC reported ecosystem-based adaption measures to address coastal flooding and sea-level rise. A growing concern is that these approaches are being threatened by sea-level rises and warming temperatures. Sea level rise (which causes saline intrusion, coastal erosion and destruction of primary habitat) is currently the most immediate and well understood climate-related threat to mangroves in Caribbean SIDS.[3]

In view of the above challenges and building on its mandate, OHRLLS has provided support for the Alliance of Small Island States (AOSIS) in advocating and raising awareness about the need to address climate change and sea level rise. Such support entails, among others, the organization, in 2019, of a side event on the topic of loss and damage during COP25 of the Paris Climate Agreement, which was held in Madrid, Spain. Given that sea-level rise will be significant even, if the 2 or 1.5 degree targets are met; and that not all impacts can be adapted to, there is inevitably a need to address loss and damage in SIDS.

Currently there is no operational system for countries to receive compensation for unavoidable losses caused by climate change. One of the major topics at last year's COP25 was the review of the Warsaw International Mechanism for Loss and Damage, which is intended to serve this purpose. Strengthening the Warsaw Mechanism is essential to actively monitor losses in SIDS and across the world and to facilitate prompt payment for disasters and slow onset effects of climate change. While major questions, including the provision of additional resources for Loss and Damage, were ultimately deferred to the next COP26, negotiations did make some progress

[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/607715/7._Mangroves_combined.pdf

including by establishing an expert group to provide technical support to the Executive Committee and the Santiago Network to catalyze technical support for developing countries. The expert group was tasked to assess *inter alia* the impact of slow onset events, such as sea level rise, and how to account for non-economic losses.

AOSIS, OHRLLS and UNDP also organized an expert group meeting at COP25 on the new SIDS Nationally Determined Contributions (NDCs) to the Paris Climate Agreement. The 44 member states of AOSIS have committed to submitting upgraded NDCs in line with the 1.5-degree target by 2020, in combination with a range of ambitious initiatives as part of the SIDS Package presented to the Secretary General at this year's Climate Action Summit in New York. The level of ambition among SIDS is therefore vastly above most other countries. While mitigation efforts by SIDS is essential to reach zero emissions globally, the overall share of GHG emissions by SIDS is only about 1%. The past NDCs from SIDS have therefore been focused primarily on adaptation, with a particular focus on sea level rise, which remains a major component of the upcoming NDCs.

LDCs

Countries included in the LDC category are among the most vulnerable nations to the adverse impacts of climate change. They include both coastal and small island developing states and are therefore highly exposed to the adverse impacts arising from sea-level rise. These countries have the lowest per capita GNI, and consequently have been identified as a group warranting prioritized assistance in all major climate change and sustainable development agreements. These countries require capacity building and financial assistance to build their scientific, technical, technological and measurement capabilities for understanding and modelling the impacts of sea-level rise as well as developing response measures. They require stepped up financial and technical assistance for developing and implementing National Adaptation Plans of Action.

LLDCs

The LLDCs rely on their coastal neighboring countries for international trade and the sea-level rise can further marginalize LLDCs' participation in global trade and their potential to use trade as a means to support their sustainable development. Eighty percent of global merchandise trade by volume and more than 70 per cent by value are seaborne (UNCTAD 2017) and sea ports act as gateways to trade, providing access to global markets for all countries, including those that are landlocked. While ports as well as coastal transport are at the heart of international trade and globalization, they are exposed to the risk of climate change impacts including the sea-level rise, particularly in view of their location in coastal zones, low-lying areas. The low adaptive capacities of transit developing countries further exacerbate the situation. The sea-level rise can therefore further marginalize LLDCs participation in global trade. In this regard, it is important to advance the issue of effective climate adaptation for ports and coastal transport infrastructure.

Due to the impact of global warming some of the landlocked developing countries including Nepal and Bhutan are experiencing rapid melting of glaciers. The significant ice loss from glaciers contributes to sea-level rise. It is therefore imperative that LLDCs facing significant melting glacier which also have impact on the availability of water resources are supported to mitigate the impacts of climate change.

Due to the rising sea levels the coastal communities will be forced to relocate inland including to some Landlocked Developing Countries. Many of the LLDCs are already grappling with the impact of climate change including drought and desertification as well as water management and growth issues. The influx of coastal migrants could further put undue burden in these places. Enhance support to effectively address migration in climate change adaptation and development strategies and improve preparedness and response capacities in line with the objectives of the Global Compact for Safe, Orderly and Regular Migration is therefore fundamental. Increasing the participation of LLDCs in relevant regional and global intergovernmental and multilateral discussions on climate change and migration to ensure inclusion of their specific issues.

ii. Opportunities in responding to those challenges, including through coordination and cooperation at all levels, scientific, technical technological, financial and capacity building.

- The availability of data remains a huge challenge for SIDS, LDCs and LLDCs, as the lack of technical capacity, remoteness and limited funding often means there is no data on for example historical water levels in storm surges and social indicators for vulnerability to sea level rise. Furthermore, without this data it can be problematic to design effective adaptation measures and to prove prior conditions to secure compensation for loss and damage.

- Support for improving access to climate finance and strengthening innovative financing instruments and mechanisms to address inherent challenges SIDS face in accessing sufficient and affordable financing for resilience building and sustainable development.

- Countries which, are highly vulnerable to climate change and sea-level rise impacts including SIDS and low-lying coastal LDCsare may want to consider, including adaptation needs that are conditional on levels of global warming in their NDCs. If temperatures were to exceed 1.5 degrees, then there would be a need for much more substantial and expensive adaptation strategies. Ecosystem-based adaptation would be limited meaning that very costly hard infrastructural coastal protection and movement of communities would need to take place.

- The UN Decade for Ocean Science presents an invaluable opportunity to address gaps faced by SIDS, LDCs and LLDCs, and design innovative strategies and partnerships.