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Addressing the Existential Challenge of Sea Level Rise to Coastal Cities and Human Settlements

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Introduction

This year coincides with the tenth anniversary of an exceptional historic event, the 2010 convening in Shanghai the World Expo on the theme of ***Better Cities, Better life***.

I was privileged to have been appointed as the UN Commissioner General, and in that capacity I convened an international conference in Shanghai entitled “*Oceans, Climate Change and Sustainable Development: Challenges to Oceans and Coastal Cities*”.

The conference addressed the future challenges to coastal cities in the urban/ocean nexus.

The debate on the ocean and urban interaction contributed to an emerging understanding of the Blue Economy paradigm based on my definition of *living with the ocean and from the ocean sustainably*.

The conference acknowledged that most urban centres are experiencing a fast and largely uncontrolled population growth, particularly in developing countries, and that it was more evident in coastal areas.

Ocean and Human Settlements

The attraction of the seacoast since time immemorial as an ideal site for human settlement has also been associated with the link to original evolution of life from the sea which creates a profound link with humans and settlements. Settling along large bodies of water such as seas, lakes and rivers has historically been a vital factor in the economic and demographic growth of cities. Some 75 percent of mega cities with populations over ten million are in this category.

The economic, social, and environmental costs of the COVID-19 pandemic have been enormous and beyond the resilience of most least developed, developing and countries in transition. COVID-19 revealed the extent of the absence of preparedness of humans in facing this scourge of an epidemic. Hence the lessons learned not only show us how humans need to be prepared to overcome future pandemics but how to live and thrive in a new normal.

I will therefore focus my remarks as it relates to coastal cities and the coastal urban nexus of cities which rely on the Blue Economy in their urban/coastal interdependence of economic, environmental and social interaction and in such engagements as in maritime trade, maritime transport, ports and harbours, shipping, inland logistical connectivity, fisheries, access to the ocean's natural resources (living and non-living) and services, energy, recreation, tourism, hospitality etc. which are the narrative the Blue Economy encompasses.

Let me recall when we first took the concept of the Blue Economy to Rio plus twenty and how we held there this very GFHS forum.

It was the first time the concept received international exposure and became sooner than anticipated a household name and hence took on many Shades of Blue.

Most welcomed, not without self-interest, prospects of extracting and benefiting from the ocean abundant services and resources while regrettably ignoring at the same time the conditionality of *living with the ocean sustainably* by protecting life and property. Hence we recognised the critical need for a multilateral policy change from an extractive mindset to regenerative relationship in an urban ocean nexus.

The Challenge of sea level rise

The two most immediate critical challenges that are being lately addressed at the UN ICP are the major impact of climate change and the consequence of sea-level rise on human settlements in the coastal zones and beyond.

Climate Change is placing increasing pressure on coastal regions which are already seriously affected by intensive human activity. This raises the question as to what extent these areas will retain their residential, economic, commercial, social and physical value in the decades and centuries to come or whether they instead may pose a threat to the human race, one undeniable existential threat being sea level rise.

The then Secretary-General of the United Nations, Mr Ban Ki-moon recalled in his message of 3rd October 2011 that sixty million people live within one meter of the sea level. The challenge extends to the need for protection of human life, way of life and property from the consequences of sea level rise and related challenges of extreme weather, natural hazards, hurricanes, tsunamis, storm surges, damage to ecosystems, and other consequential impacts.

Clearly, this calls for a change in mindset and transformative governance tools geared towards resilience, mitigation, adaptation, innovative technological solutions, and adequate financial

commitments as well as human behavioural change in terms of the Blue Economy concept of living with the ocean sustainably.

UN Secretary General, Mr BAN Ki-moon, as early as October 2011 issued a message on World Habitat Day stating:

“Rising sea levels are a major impact of climate change and an urgent concern. Sixty million people now live within one meter of sea level. By the end of the century, that number will jump to 130 million. Major coastal cities – such as Alexandria, New York, Karachi, Calcutta, Belem, New Orleans, Shanghai, Tokyo, Lagos, Miami and Amsterdam - could face serious difficulties. The nexus between urbanization and climate change is real and potentially deadly.”

It took almost ten years for a comprehensive report to break the silence. On 16th March 2020, UN Secretary General Gutierrez recalling the IPCC reports that it is certain the global mean of sea level is rising and there is also high confidence that the rate is accelerating and sea levels that are historically rare will become common by 2100.

The IPCC study confirmed that approximately 190 million people globally currently occupy land below projected high tide lines for 2100 under current carbon emission scenario while up to 630 million people live on land below projected annual flood levels for 2100 under a high emissions scenario.

In a reference by the IPCC the cumulative physical impacts of sea level rise may increase the exposure of the poor, low lying island dwellers and those in situations vulnerable to climate related extreme events and related economic social environmental shocks and disasters as well as the inequality within and among countries. It was also noted that women face more barriers to mitigating environmental change consequently sea level rise is not only a

threat multiplier but exacerbates challenges relating to basic human needs including water, food, health and livelihoods with consequential implications for human security it is an existential threat also to commitments towards achieving the 2030 SDGs.

Observing impacts of sea-level rise remains challenging owing to the influence of other climate-related and non-climatic drivers, such as infrastructure development and human-induced habitat degradation. Similarly, because coastal sea-level change is often small compared with other processes, such as demographic, resource and land use changes and anthropogenic subsidence.

Additionally, new literature has shown that extreme water levels at the coast are rising because of mean sea-level rise and that this is having observable impacts on chronic flooding in some regions. The Intergovernmental Panel on Climate Change reports that there are also emerging signs of direct adverse consequences of rising sea levels on shoreline processes and on the salinity levels of estuaries.

Arctic communities have also been experiencing frequent flooding events, which can be associated with sea-level rise. In addition, a number of States have highlighted observable patterns of irreversible coastal erosion and inundations that they attribute to sea-level rise, as a central cause or exacerbating factor.

Projected impacts of sea-level rise: what the science tells us

The IPCC report predicts that due to thermal expansion mean sea level rise will increase by approx. 75cms by 2100. If on the other hand all glaciers and ice sheets melted, it would raise sea level by 65 meters causing some island states and even some parts of countries to disappear under the waves from Florida to Bangladesh. While this is a scenario scientists think is unlikely and that would probably take many centuries, this could eventually happen if the world keeps burning fossil fuels indiscriminately.

Nevertheless, we have already reached a tipping point in terms of the negative economic and social impacts of current sea level rise which is detailed in the report of the Secretary General.

The increase at current rates of sea level rise, frequency, and duration of hazards' related impacts obviously will be of major concern. One such concern is in the maritime sector, maritime trade, ports, harbours and mega coastal port cities. If some of these mega ports go under the global economic disruption will be critical.

((The Intergovernmental Panel on Climate Change confirms rising sea levels are having, and are projected to entail, wide-ranging and significant environmental, economic, and social impacts. On the environmental side, rising mean and higher extreme sea levels are projected to increasingly threaten coastal zones through a range of coastal hazards, including the following: permanent submergence of land by higher mean sea levels or mean high tides; more frequent or intense coastal flooding; enhanced recession of shorelines and coastal wetlands through coastal erosion; loss and change of coastal ecosystems; salinization of soils, ground and surface fresh water; and impeded drainage. Sea-level rise and its physical impacts, such as flooding and salinization, also increase the vulnerability of ecosystems and decrease their ability to support livelihoods and provide services such as coastal protection.))

In addition, the Intergovernmental Panel on Climate Change not only estimates, with high confidence, that rising sea levels will cause the frequency of extreme sea-level events at most locations to increase, but also, with very high confidence, that the frequency, severity and duration of hazards and related impacts caused by sea-level rise will increase.))

These environmental impacts of sea-level rise are likely to result in adverse human, social, cultural, and economic ramifications for

various communities. For example, according to the Intergovernmental Panel on Climate Change, sea-level rise is projected to affect the availability and quality of drinking water through changes to water table heights, the salinization of surface water etc., as the saying goes *"the writing is on the wall"*.

The challenge of mitigation and adaptation

Today we face a paradox - while celebrating the 75th anniversary of the United Nations we find ourselves in the sad commentary on the state of contemporary multilateralism and multilateral cooperation.

The danger of isolating the ocean coastal challenges from what is an inherently interrelated global development agenda is concerning. The ocean community has expressed satisfaction for the inclusion of a separate standalone sustainable development goal for achievement by 2030 (SDG 14).

However, the health of the ocean and human beings are closely interdependent and interrelated whether through carbonisation, poverty, hunger, climate change and a failure to **live with the oceans sustainably**.

Addressing something as complex as sea level rise in the development problematic requires an all-inclusive integrated approach. Unfortunately, there remains a persistent trend to divide issues and cast them into standalone silos. That is why we will need to put multilateralism back on track as part of the global response to addressing the crisis in multilateralism. There is no doubt that traditional multilateral policy and rule makers will continue to resist changing the status quo of self-interest and the state of the ocean urban nexus would continue to deteriorate.

It is also time to end the culture of procrastination and the pursuit of greed at the expense of the future of our planet's survival. This implies political will and necessary initiatives, among others beginning with the education system and the preparation of human resources to reach out to the hearts and mind of future generations.

Examples of the past are not encouraging. To address this existential threat of sea level rise the political will to implement multilaterally agreed solutions for mitigation, adaptation, accommodation and effective financing does not last beyond the time the ink dries on paper.

When it comes to the lack of true implementation there is a long list of examples starting with Rio 1 and 2, the Millennium Development Goals (MDGs) of which Jeffrey Sachs said *"there are a lot of nice words and all promises that need to be made had been made however we are away of track on actually doing what needs to be accomplished"*.

The MDGs came and went, and now we ask if the international community is able and competent to achieve the SDGs, and when we look beyond that the answer at the moment is frightening. The international community is not prepared to pay the price to mitigate against an imminent existential threat of sea level that will render among others island countries uninhabitable and masses of refugees without refuge.

The Secretary General Report of this year identified the challenge to our humanity, and we all know we need political will and committed financing. Here I recall the distinguished Dr Arab Hibaallah's passionate statement at the preparatory event to this forum we ***all know what has to be done*** ..a statement full of meaning.

In mitigation, adaptation, and resilience there are two simple yet imperative ingredients: long term political commitment and adequate financial resources.

We hear of many such commitments but in reality they are no more than policies generated by a casino economy of the same greed or in financial placebos such as carbon trading permits, imaginary blue bonds, or praises of fictitious public-private partnerships devoid of actual commitments.

In the origin, the Blue Economy held two conditionalities; the first is the *sustainable use of ocean's living and non-living resources*; the second is that of *living with the ocean sustainably*.

The true interpretation of the second conditionality in the Blue Economy is a long-term proposal to raise financial resources for protecting life and property commitment in coastal settlements. However, it was ignored by all those who considered the Blue Economy to be a gateway to abundant free ocean resources and services to fuel their onslaught on the Ocean's free services and common goods.

By cynically not accepting the true intention of living with the ocean to, by not protecting life and property, and by hiding behind nomenclatures such as ocean economy, blue growth and many other shades of blue, we to avoid politically embarrassing questions as "*who should pay?*" and "*where the financing is coming from?*".

This is at the heart of the malaise of multilateral cooperation in the absence of a code of conduct for transfer of technology and a code of conduct for multilateral corporations.

As matters stand in addressing mitigation, adaptation and resilience to sea level rise; financial and economic resources for capacity building for developing and least developed countries, are minimal and cannot make a dent in satisfying actual needs, even if one assumes the political will to do so was sufficiently strong.

That is why in a Blue Economy way of thinking the international community may finally be motivated to place a true value on natural and freely accessible common goods and services. Two principles should apply that are *ethical and moral* in ocean governance that is **users pay and beneficiaries pay**.

On land, farmers pay rent, road hauliers pay tolls as an example. Therefore the question arises as to why those who benefit from free ocean services, living and non-living resources pay nothing in return for free privilege of access to those common goods of ocean and seas.

When fishing industrial consortiums pay rents as do land-based farmers, and shipping consortia and maritime alliances pay tolls for shipping lanes when contributing to ocean carbonisation as the haulage companies and truckers do on land; when the extractive industries, pharmaceutical and cosmetic companies, cruise companies, energy enterprises and all others pay the true value of contractual obligations for their privileges and free access to resources and ocean services.

This principle of token contribution could also be applied to coastal hospitality relating to ocean-based activities, multinational traders and shippers, including financial transactions as in the Tobin tax – and if tax is an abhorrent word let us call it a donation.

Only then can the international community find the resources to protect the ocean itself as well as life and property from sea level rise in support of mutual prosperity.

In effect what is being proposed is a small token contribution to be levied on those beneficiaries of free access to ocean services and resources to go into an internationally administered fund as in the International Seabed Authority (ISA) or Regional Development Banks

for the purpose of meeting the needs of disadvantaged developing countries for mitigation of sea level rise.

Understandably, given the current state of multilateral cooperation, stagnant in a mentality of negative concession such a remedy remains an elusive expectation; and I may be accused of heresy and not being conveniently politically correct.

Given the trauma of the COVID19 epidemic I hope future generations will not accuse us of not having learnt our lesson.

Thank you

Primary sources

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