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The Potential and Frailties of the Blue Economy in ASEAN

By Dipinder S. Randhawa

SYNOPSIS

The blue economy is integral to a green planet. Oceans face serious problems that unless addressed, could pose existential problems to life. Conversely, the transition to a blue economy offers vast opportunities for investments, job creation and sustainable growth. For ASEAN, this transition calls for close collaboration among member states.

COMMENTARY

The blue economy can be envisaged as a state in which oceans and marine resources are part of a net-zero carbon ecosystem. It calls for all economic activity relating to oceans, seas, and coasts – ranging from traditional sectors such as fishing, coastal tourism, and ports and coastal development, to new and emerging industries such as offshore wind energy, aquaculture, marine biotechnology and deep-sea mining – to be carried out in a sustainable manner that would allow future generations to draw upon these vast resources. By 2030, the [growth of the blue economy](#) may outstrip land-based growth.

However, the ocean economy is beset by the serious consequences of global warming, pollution, and the wanton exploitation of marine resources – challenges that, in the absence of global agreements, threaten to undermine the health of the waters around us, and imperil planetary health.

Oceans are intrinsic to lives, livelihoods, and economic exchanges in the countries of Southeast Asia. The ancient trading routes shaped their cultures, faiths, languages,

migrations, architectures, and their development. The region is home to vast tracts of marine resources.

The ASEAN states derive up to [30 per cent of their GDP](#) from the marine economy (See Table). The territorial waters of ASEAN cover three times the size of its members' landmass. The region is home to the two largest archipelagic countries of the world – Indonesia and the Philippines – and to a vast diversity of marine life, including over 2,000 species of fish, and a third of global seagrass beds, coral reef cover, and mangrove acreage.

Estimates of Size of the Blue Economy

	Gross Value Added in 2015 (US\$ billions)	Share of Ocean Economy to GDP	Value of Ecosystem Services (US\$ billions)
Cambodia	2.39	16%	0.0834 - 0.4
Indonesia	182.54	28%	412.0
Malaysia	63.00	23%	17.7
Philippines	11.81	7%	17.0
Singapore	20.78	7%	n.a.
Thailand	118.19	30%	36.0
Vietnam	38.23	20.8%	n.a.

Source: Global Environment Facility; United Nations Development Program; PEMSEA, 2018 Blue Economy Growth in the ASEAN region.

The Potential of the Blue Economy

The blue economy directly addresses the pressing challenges of climate change, energy security, food security and conservation of biodiversity. In 2019, food harvested from the seas provided [about 3.3 billion people](#) with at least 20 per cent of their average intake of animal protein, and a much higher proportion across Southeast Asia.

The role of oceans in climate change mitigation as well as adaptation is profound. Oceans constitute the [“largest carbon sink”](#) on Earth, absorbing more carbon latent in emissions than the Amazon basin and Borneo forests combined. They capture 90 per cent of the excess heat generated by carbon emissions, generate half of the oxygen needed to sustain life and absorb 25 per cent of carbon dioxide emissions,

The vast potential for energy generation through offshore wind farms and tidal energy is yet to be explored, as are the growing benefits of biodiversity and ecosystem services. These industries have the potential to be generators of future investments, employment and sustainable growth. Estimates of the size of ASEAN's blue economy, the largest and most diverse marine economy, range between US\$1.3 trillion and

US\$2.5 trillion – the wide range in estimates due to differences in methodologies and valuation methods.

Risks Faced by the Marine Economy

While there is widespread appreciation of the immense value of the region's marine ecosystems, little has been done to safeguard resources from further damage. Across Southeast Asia, marine pollution, unsustainable fishing, the physical alteration of coastlines threatening fragile marine ecosystems, runoffs from intensive farming and aquaculture, rapid urbanisation and industrialisation are damaging the region's marine economy.

(1) Overfishing and over-exploitation of marine resources

Overfishing has inflicted the single most debilitating impact on marine ecosystems over the past fifty years, jeopardising the [livelihood and safety](#) of coastal communities and food security. Globally, the percentage of fishery stocks not within biologically sustainable levels rose from [10 per cent in 1974 to 35.4 per cent in 2019](#). Across Southeast Asia, nearly two-thirds of fisheries resources are at [medium to high risk](#) of depletion from overfishing.

Illegal, unreported and unregulated (IUU) fishing, including “rockhopper” and bottom trawling cause enormous damage to corals, reefs and result in vast collateral damage to all forms of marine life. Deep sea mining is minimally regulated. Dredging the ocean bed can alter entire local ecosystems, destabilise sequestered carbon, and profoundly threaten marine life. With the growing quest for rare minerals, including those used in electric vehicles and batteries, an agreement on seabed mining is urgently needed.

(2) Pollution

Oceans are threatened by pollution from land and sea-based activities, including the dumping of chemical and biomedical wastes, and, in the 1950s, even radioactive fallout from nuclear tests. About 80 per cent of global wastewater or sewage in developing countries flows directly, often untreated, into the seas. The waters around Southeast Asia are also exposed to millions of tons of hazardous waste from mining and [agricultural activities](#). Shipping accounts for nearly [3 per cent](#) of global greenhouse gas emissions every year. If left unchecked, these could grow anywhere between 50 per cent and 250 per cent by 2050.

The oceans are the biggest recipients of plastic waste, with five of the top eight countries contributing over 28 per cent of mismanaged plastic waste located in Southeast Asia. The toxins released by slowly decomposing plastic damage the ocean's ecosystems and are finding their way into marine life and through marine catch, into humans.

(3) Degradation of coastal habitats and biodiversity losses

The rise in sea levels from melting snows in the polar regions has more than doubled over the past century, resulting in coastal erosion, and threatening aquaculture, marine habitats, and seagrasses and mangroves – nurseries for much of marine life and critically important for absorbing much of excess carbon in the environment. Warming waters resulted in bleaching and destruction of nearly 50 per cent of reefs. Communities in low-lying coastal areas, including the Mekong delta, are particularly vulnerable. Rising waters have raised the risk of destruction from floods and abnormal weather events.

Biodiversity in the oceans has provided resources for formulation of an increasingly wide range of vital drugs, including those for critical diseases such as leukaemia, other cancers, COVID-19, and cardiac problems. Contamination of water bodies and destruction of marine life severely compromise the ability of science to tap these vital resources.

Governance of the Blue Economy

The oceans are a global common. Marine resources belong to everyone, including land-locked states. Universal access to and sharing of benefits from the use of marine resources is integral to an equitable distribution of the planet's resources. The marine economy plays a more vital role in ASEAN than perhaps any other region of the world. Globally, however, oceans are still not deemed a priority.

A blue economy has to be predicated on global agreements governing exploitation of marine resources, addressing marine pollution norms, sustainable seabed mining and conservation of marine biodiversity. The first global agreement, the United Nations Convention on Law of the Seas (UNCLOS), signed in 1982 and which came into force in 1994, defined the territorial waters of countries. It was not until March 2023, that a second treaty, Biodiversity Beyond National Jurisdiction (BBNJ), was agreed upon. This offered, for the first time, protection to environmentally critical and threatened regions beyond countries' exclusive economic zones covering 30 per cent of international waters.

Governance of the oceans requires a cross-border approach with close cooperation among countries. ASEAN has established guiding principles on developing a framework for a blue economy, and agreements on developing compacts for maritime security and biodiversity. While individual ASEAN states have established maritime conservation plans, there is no comprehensive legal framework governing the maritime areas in the region.

A regional framework needs to be preceded by national agreements encompassing different sectors of the blue economy. For national strategies to cohere into an

ASEAN-wide strategy, a critical requirement is standardised protocols and metrics for data collection and collation, and developing a common interoperable platform that permits sharing and analysis of data and provisions for continuous monitoring of key indicators.

Conclusion

The growth of an inclusive blue economy will be driven by investments that reduce carbon emissions and marine pollution, boost efficient energy generation, preserve biodiversity – drawing upon the vast opportunities a blue economy offers.

The Asian Development Bank (ADB) estimates annual funding needs for the region at up to US\$469 billion. This would require funds from the public sector, private sector and through public-private partnerships. Finance will be forthcoming only if projects yield meaningful returns to investors and offer demonstrable benefits for sustainable growth.

To realise the vast potential of the blue economy, ASEAN needs to act in concert, drawing upon the best that science has to offer for sustainable use of this vital and growing resource.

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