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India – A resurgent maritime nation, harnessing the blue economy

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The Deputy Vice Chancellor of the Australian National University, High Commissioner of India, Professor Jha, distinguished guests, ladies and gentleman. It is indeed a distinct honour and a proud privilege for me to be present here today at the Australian National University to deliver this year's *K R Narayanan Oration* and share my thoughts with such an eminent audience.

President K R Narayanan, the 10th President of India, was born on 27 October 1920 in the coastal state of Kerala. He was a distinguished diplomat, an erudite scholar and a capable leader with a maritime vision. As the President of India, he had the unique distinction to review the first International Fleet Review, off Mumbai in 2001. During his address at the Fleet Review, where nearly 29 navies of the world participated, he said that a nation's independence and prosperity depended on the security of the seas. He also mentioned that the International Fleet Review is a magnificent demonstration by navies of the world, to build bridges of friendship among nations.

The subject of my talk today, is also related to the seas and oceans and I shall specifically talk about India a resurgent maritime nation, harnessing the Blue Economy.

The ocean and the seas have always enthused each one of us, as we all are tied and connected to the oceans. The world's history, its geography, its interactions in a globalised world, its development and security, are all intimately and intricately connected to the oceans around us. Our blue planet the Earth has a dominance of the maritime domain with over 70% of the Earth's surface covered by water, nearly 80% of the world population living within 200 nautical miles from the coast and about 90% of the world's trade transiting by sea.

India is essentially a maritime nation and the Indian seaboard has been the vortex of intense maritime activity over centuries. The Indus Valley civilization which existed in the Western parts of India, dates back to 3,300 BC. Even today we have a dry dock at Lothal in Gujarat which dates back to 2,200 BC. It is from these small ports that seafarers sailed to distant ports in Mesopotamia, ancient Egypt and East Coast of Africa. On the East Coast of India we had the seafaring kingdoms of the Kalinga, the Cholas, the Pandyas and the Cheras who sailed to distant countries in South East Asia and established trade and cultural links. Even today, in South East Asian countries, we can prominently see some glimpses of Indian cultural heritage, whether it is in their language, their architecture, or in their customs and traditions.

India lost its supremacy over its surrounding sea areas with the arrival of European sea powers, which began with the arrival of the Portuguese sailor Vasco da Gama in India, on 20 May 1498 at Calicut. Vasco da Gama's arrival was followed by the Dutch, British and the French.

Indian shipbuilding is synonymous with India's seafaring tradition. Indian shipbuilding was legendary for its high quality even during the British period. In the 100 years since 1753, the Bombay naval dockyard built more than 115 war vessels and 144 merchant ships, including 84 gunships for the Royal Navy. In fact, HMS Trincomalee, the oldest British warship afloat and still in commission in the UK as a museum ship (at Hartlepool), was built in India for the Royal Navy by Wadia shipbuilders of Bombay in 1817. The period from 1900 onwards began India's gradual maritime revival and we see a renewed vigour in this century.

Oceans are central to life on earth. The Oceans are rich in oil and mineral resources, they are suppliers of oxygen, absorbers of carbon dioxide, a virtual heat sink, rich in bio-diversity, and have emerged as the global economic highways for transit of trade.

With depletion of resources on land, humankind has turned towards the oceans and there is a misperception that oceans have an unending resource base and are an infinite sink. Nothing can be further away from reality. Over the past few decades, we are witnessing pollution of the oceans and contamination of the natural marine habitat with adverse impact of climate change on oceans.

Studies have indicated that 80% of pollutants in the seas emanate from land and if the current rate of pollution continues, in a few decades we will have more plastic in the oceans than fish.

The concept of 'Blue Economy' is emerging as the new paradigm and aims at sustainable development of the oceans. Harnessing the ocean based Blue Economy calls for efficient utilisation of marine resources without substantial environmental impact and ensuring a sustained growth of the oceans.

Like Australia, India has a unique maritime disposition. India has a natural outflow towards the seas and the country sits astride busy sea lines of communication which transit across the Indian Ocean region. The Indian Ocean is the third largest water body in the world, spanning over an area of approximately 68.5 million sq. kms. It is the world's energy hub and global economic highway, which is rich in natural resources and the countries on the rim of the Indian Ocean are home to nearly one third of humanity. 66% of the world oil, 50% of the world's container traffic and 33% of the world's cargo traffic transit over the waters of the Indian Ocean.

Peninsular India enjoys a central position in the Indian Ocean region, with our island territories of Andaman and Nicobar Islands in the Bay of Bengal and the Lakshadweep Islands in the Arabian Seas as the virtual extended arms of India. India has coastline of over 7,500 Km, over 1,300 islands and islets, and an Exclusive Economic Zone (EEZ) of over 2 million sq. kms. Our waters hold an immense promise for sustainable development of the seas around India, and the region as a whole. Apart from the length of the coastline, the importance of India's coastal regions is also accentuated by the fact that 20% of India's population lives in coastal states contributing to 60% of India's GDP.

Approximately, 95% of India's trade by volume and 72% by value transits through the sea. India is therefore heavily dependent on the maritime domain and foreign trade accounts for nearly 50% of India's GDP (2014). India's vast maritime interests, which are enablers of Blue Economy, have a vital relationship with the nation's economic growth. I will now highlight some of the growing maritime sectors in India and the opportunities which they present therein.

India has 12 major ports and over 200 minor and intermediate ports. With regard to port infrastructure, there is scope for growth to cater for the growing Indian economy. Cargo traffic in Indian ports is expected to increase from 1,052 million metric tonnes per annum (MMTPA) in 2014-15 to more than 2,500 MMTPA by 2025. To harness India's maritime growth potential, the Government of India has embarked on the ambitious '**Sagarmala Project**' which aims to boost development through promotion of ports and shipping. The port led development plan is based on four pillars of port modernization, connectivity, port-led industrialization, and coastal community development. Under this plan, more than 150 projects have been identified at an estimated infrastructure investment of 60 – 70 billion USD. Due impetus is being given to this initiative to boost green and environment friendly infrastructure development. The port development perspective plan envisages setting up shipping hubs on both coasts. The connectivity for coastal shipping, inland waterways, road and rail network is also being expanded in a systematic manner.

Currently 94% of Indian freight is transported by either road or rail with only 6% using the coastal or inland waterways. As is well known, water borne transportation is safer, cheaper and cleaner compared to other modes of transportation. Efforts are therefore on to enhance and improve the coastal shipping routes.

India currently has 14,500 km of navigable inland waterways which contributes to only 2% towards traffic evacuation at major ports, as against an optimum of 10% in coordination with coastal shipping. The Inland Waterways Authority of India is developing five National Waterways totalling a length of more than 4,500 km. The Authority has commenced work on the 'Jal Marg Vikas' project on the river Ganga (National Waterway 1), to be developed between Allahabad and Haldia by 2020 for commercial navigation. Further, to facilitate this project, Kolkata port has already initiated plans for an investment of more than 170 million USD for construction of riverine terminals, jetties, and augmentation of navigational infrastructure. The other major national waterways include the National Waterway 2 on the Brahmaputra River, National Waterway 3 in the state of Kerala, National Waterway 4 on the East Coast in the states of Tamil Nadu and Andhra Pradesh and National Waterway 5 in the coastal state of Orissa. This highlights the huge investment and growth opportunity being opened up with the planned development of additional Inland Waterways.

The mercantile marine and shipping industry is also envisaged to grow in the near future. India currently has a merchant ship fleet of approx. 1,174 ships flying the Indian flag totaling nearly 22 million Gross Registered Tons (GRT). While over 90% of India's trade by volume transits by sea, the share of Indian shipping in India's foreign external trade has declined from about 30% in the 1980s to approximately 10% today. To enable India's growing foreign trade to be carried on Indian hulls, the Indian Government is providing incentives for registering ships as 'Indian Hull Ships' and initiate measures to increase tonnage of 'Indian Controlled Shipping' by promoting our ship building industry. The enhanced requirement of crude and LNG carriers are also being taken into account considering that 80% of our oil and 40% of LNG requirements are met by import and this is likely to grow in the future.

India has a vibrant shipbuilding industry with 27 shipyards. The Government has initiated several steps to provide support to shipbuilding, as well as ship-repair and ship-recycling, with an aim to enhance India's global share in shipbuilding by 2020. Incentives for indigenous ship production, by tax waivers, induction of new technology, setting up design centers, and accord of special infrastructure status for shipbuilding industry are some of the measures which are being implemented. In order to provide a further boost the Government has also permitted 100% FDI in the shipbuilding sector.

Another aspect I would like to mention is the warship building industry in India which is firmly anchored on self-reliance and indigenization. The Indian Navy set up its naval design directorate in 1964. India built its first indigenous naval warship, a patrol vessel INS Ajay in 1961 at Garden Reach Shipyard in Kolkata. Over the past 50 years our naval designers have designed and our indigenous shipyards have built ships for the Indian Navy. Today it is a matter of great pride that all 46 ships and submarines under construction are being built in Indian shipyards. These range from aircraft carrier to frigates, destroyers and submarines. It is our endeavor to progressively increase the indigenous content so that future warships and submarines are 100% Made in India.

The fishing industry is another sector which provides significant opportunities for growth. India has approximately 250,000 fishing

boats, with 4 million active fishermen and 14 million people as a part of the fishing community. The annual marine fish landings in India are approximately 9.58 million tons which accounts for approximately 5.3% of the world's production. The sector contributes around 5,511 million USD to India's foreign exchange earnings and has a potential to grow much more.

However, this is only scratching the surface of the vast potential of the fishing industry in India which is largely coastal in nature, with logistic and maintenance support being provided by local, small-scale enterprises and fishing boats operating in coastal waters. There exists a huge potential for growth in the fishing sector by undertaking deep sea fishing, increasing the size and numbers of current fishing fleet and enhancing the support infrastructure for stowage, processing and transporting the catch. This would also provide huge opportunities for building a large number of deep sea fishing trawlers in our own boat/shipyards.

India's EEZ also provides offshore energy resources which are critical to our economy. This includes off-shore petroleum and natural gas exploration areas off the West and East coasts of India. Nearly 50% of our total domestic crude production and 80% of domestic natural gas production comes from offshore areas. India has nearly 6.9 billion metric tons of in-place oil reserves and 3.98 billion cubic mts. of in-place natural gas reserves. There exists an ample scope to ramp up our production to meet the growing domestic demand by engaging the private sector, offering exploration licenses and using advanced technologies for deep sea drilling.

Island development is another major thrust area for the Government. India has over 1,300 islands and islets, as part of the Andaman and Nicobar Islands in the Bay of Bengal, Lakshadweep Islands in the Arabian Sea and Islands off the West and East coast of India. There is a large potential to develop these areas for controlled eco-tourism. A comprehensive island development plan which takes into account aspects of security, economic sustenance, environmental preservation, social and cultural sustenance is being implemented by the Government.

Marine tourism is another dynamic and fast-growing component of the leisure industry worldwide. India, with its vast and beautiful coastline, island territories and lagoons, is an attractive destination for

cruise tourism. The cruise tourism sector is a promising focus area for the tourism industry, and there are plans for investment of more than 490 million dollars (in nine projects) for promoting cruise shipping.

Another innovative marine tourism initiative by the government is 'lighthouse tourism'. There are nearly 190 lighthouses along the Indian coast and the surrounding areas offer opportunities for development of hotels, resorts, adventure sports and allied tourism facilities.

Marina based tourism and leisure sailing is another segment that has significant scope for growth in India. India's long coast line and Lakshadweep islands off the West coast, and Andaman and Nicobar islands, present a landscape of scenic and picturesque extravaganza, which are being harnessed for their immense potential for marinas and leisure sailing. These avenues provide attractive avenues for growth, investment and job creation.

Marine based renewable energy is another upcoming maritime sector. India is one of the five largest wind energy markets in the world today. The first demonstration offshore wind power project of about 100 MW capacity is underway along the Gujarat coast. With a vast coastline, India has significant potential to tap offshore wind to meet its growing energy and electricity demands.

Renewable ocean energy is another un-harnessed niche sector with immense scope in the future. This includes ocean thermal, tidal and wave energy in particular. The application of ocean thermal energy can transform the way we provide electricity in our islands and even coastal cities. The Indian Navy has already initiated a unique project for using renewable energy by ocean thermal energy conversion in our islands. I am convinced the ocean energy is the energy source of the future, and hence an excellent investment option.

Growth of India's maritime sector necessitates significant improvement and growth in our nautical training capabilities. There is significant presence of Indians in international seafaring community, with approximately 7% of world's seafarers being Indians. There are nearly 150 approved marine training institutions in India and the number is growing. These institutions act as feeder institutions for the growing demand of human capital for the global shipping industry. India has a huge potential for youth wanting to take up seafaring as a

career, making India an ideal place to groom the seafarers of the future. This calls for investments to set-up world class maritime training institutions in India. While projects worth more than 180 million USD are already in the pipeline for setting-up of maritime education, training and skill development, there is scope for further growth and expansion.

While there are many opportunities for development of maritime interests for economic growth, the challenge lies in harnessing the enablers of Blue Economy, where oceans are seen as common heritage of mankind and protection of environment is as important as economic growth to ensure sustainable development.

The seas are no longer a benign medium and globalization has resulted in increased vulnerability of the oceans. The threats and challenges in the maritime domain of the Indian Ocean are as wide and varied as they come. Who could have imagined that in the 21st century we would once again be grappling with pirates or that the major threat in the maritime domain would emanate from asymmetric warfare and maritime terrorism. The other challenges include arms trafficking, drug smuggling, human trafficking and poaching. The instabilities and tensions in the Indian Ocean Region have the potential to flow into the maritime domain and situation may best be described as fragile. In addition nearly 70% of natural disasters emanate in the Indian Ocean Region providing additional challenges. Given the geo strategic importance of the region and the fact that the Indian Ocean has emerged as the global economic highway, nearly 120 warships from over 20 nations are always present in the Indian Ocean Region to safeguard their maritime interests. India has vast maritime interests and the responsibilities of protecting these interests fall squarely on the shoulders of men in white uniform, as it is the responsibility of the Navy and the Coast Guard to ensure that our maritime interests which have a vital relationship with the nation's economic growth are allowed to be developed unhindered at all times.

The Indian Navy has emerged as a multi-dimensional networked force which is ready to take on the challenges in the maritime domain in the Indian Ocean Region. The Navy continues to ensure maritime security for national prosperity under four basic roles, military, constabulary, benign and diplomatic. Under the military role the Indian Navy is always prepared to deal with any exigency and threat

to maritime security and undertakes frequent exercises to enhance its capabilities. Under the constabulary role, the Navy ensures the coastal and offshore security in our waters and in the Exclusive Economic Zone. In addition, ships of Indian Navy have been deployed in the Gulf of Aden for anti-piracy patrols since 2008 and cooperation between navies of the world has been effective to combat piracy and bring it under control.

The Indian Navy also carries out surveillances and patrol in the EEZ of our maritime neighbours, in coordination with the maritime forces of these countries. Under the benign role the Indian Navy undertakes maritime and disaster relief operations and provides rapid response to contingencies. This exemplifies the unique brotherhood of the seas and the ability of navies to facilitate cooperation.

Under the Diplomatic Role, the Navy has expended its operational foot print in the Indian Ocean and beyond, to engage with other navies of the world including the Royal Australian Navy for interaction and exercises. The aim is to shape a favourable maritime environment and provide avenues for cooperation for mutual benefit. The engagement with the navies includes capacity building and capability enhancement initiatives and information exchange for comprehensive Maritime Domain Awareness.

In 2008, the Indian Navy launched unique initiative of the Indian Ocean Naval Symposium (IONS) which was a construct to manage the maritime affairs of the countries of the Indian Ocean Region. Over the years the IONS has emerged as an effective organization with membership of 22 navies and four observers. In my view IONS has the potential to provide an effective template to promote cooperation in the maritime domain in the Indian Ocean Region.

The Indian Ocean Rim Association (IORA) is another organization which provides the avenue for the strengthening maritime cooperation between countries of the Indian Ocean Region. Incidentally, 20 members of IORA also have their navies as members of IONS, and recent years have witnessed synergy between IONS and IORA for promoting maritime cooperation. Australia has been the chair for both IORA and IONS and contributed significantly towards strengthening the maritime cooperation mechanism between the member nations.

In our continuing efforts to bring the navies of the world together, the Indian Navy conducted the International Fleet Review at Visakhapatnam on the East Coast of India in February 2016. Fifty navies of the world came together and we had nearly 100 ships at the review anchorage. The International Fleets were reviewed by Hon'ble President of India Shri Pranab Mukherjee. The underlying theme of the review was that we may be separated by geography but we are certainly '**United Through oceans**'. Each continent was represented as were navies big or small, and the grand maritime event offered an opportunity for navies to partner together for a secure maritime future.

During the International Fleet Review, the Hon'ble Prime Minister of India Shri Narendra Modi outlined India's vision for the Indian Ocean through "SAGAR" (meaning ocean), which stands for 'Security And Growth for All in the Region'. India later conducted the Maritime Summit at Mumbai in April 2016, where the Hon'ble Prime Minister articulated his maritime vision for the nation. India's recent initiatives in the maritime domain, including the quest for harnessing the Blue Economy are pointers to indicate that India has once again turned towards the sea and is destined to emerge as a resurgent maritime nation.

In conclusion, the seas around us are gaining new found importance as each day goes by, due to their linkages with the Blue Economy and there is no doubt that the 21st century is the century of the seas. The Indian Ocean has emerged as the world's center of gravity in the maritime domain. Another unique feature of the Indian Ocean is that 80% oil and trade that emanates in the Indian Ocean is extra regional in nature. This implies that if there is any impediment to the free flow of oil and trade it would have a detrimental impact not just on the economies of the region, but global economies as well. Safety, security and stability on the waters of the Indian Ocean are therefore of paramount importance and it is the collective responsibility of the navies and the Coast Guards to ensure the security of the global commons. Networking among navies and global maritime partnership are therefore emerging as the new order in the current century.

The Indian Navy and the Royal Australian Navy have had friendly relations over decades and have pursued many avenues of cooperation ranging from port visits, exercises, maritime domain information exchange and training of personnel. In the coming years

these avenues of cooperation are likely to grow which will further strengthen the bonds of friendship between our navies.

India and Australia are maritime neighbours who have extended their hand across the Indian Ocean for maritime cooperation. I am sure that in the coming decade our two great maritime nations will partner together to harness the Blue Economy which I would like to term as 'partnership for prosperity' in the maritime domain. This will open up many areas of cooperation in the maritime sector and will ensure sustainable development of the oceans.