

Marine Environment Protection Concerns and Remedies

Address the audience.

Good Morning and Assalaam Alaikum.

First and foremost, it is indeed a great honor and a privilege to be present here at this beautiful city of Galle, Sri Lanka, to represent Coast Guard of the Republic of Maldives at this important regional forum of Galle Dialogue 2013, and to share our challenges and few potential remedies to preserve, protect and sustain the archipelagic marine environment and its eco system. I would like to take this opportunity express my sincere thanks and appreciations to Sri Lanka's Ministry of Defence and Urban Development for their excellent and gracious hospitality. I would also like to express my gratitude and appreciations to Vice Admiral Columbage, Commander of the Sri Lanka Navy and members of the Sri Lanka Navy for the warm welcome and commend for the efficiency in the conduct and organization of this year's Galle Dialogue.

Distinguish Officers, Ladies and Gentlemen:

As many at this august meeting are aware, Maldives is an archipelagic nation consisting of 1192 islands located about 780 kms South West of Sri Lanka and about 500 km South of India. It stretches from 7 Degree North Latitude to 1 Degree South Latitude. Out of these 1192 islands, less than 200 are inhabited while 200 more islands are developed as resorts. Maldives is 7th largest coral eco-systems in the world and as such, has great interest in advocating on issues related to global warming and also places great emphasis for the maintenance of the fragile equilibrium of the global marine eco-system. Every island of Maldives is just barely 1 meter above the Mean Sea Level and therefore, the impact of global climate

change for Maldives is very pronounced. Among the many concerns are, rising surface temperature that is believed to cause coral bleaching and stunts its growth, the resultant effects on the islands house reefs leading to coastal erosion and diminishing the natural protection that these islands have enjoyed for thousands of years. Furthermore, increased number of adverse weather and related tidal and wave surges cause flooding of many islands across the country, constraining our limited capacity to deliver the required humanitarian and disaster relief operations in this vast geographic area. Changes in the ocean currents and natural equilibrium are also threatening the bait fish industry and also other vital marine species of the country, which is vital to both fishing and tourism industry of the nation. Depleting fresh water tables and waste management issues are further challenges that affect the protection of our delicate marine environment.

The aspects I just described are just a few of the many environmental challenges of the Maldives. The major focus of my presentation is to share our knowledge and experience in mitigating, managing and adapting to these high impact challenges. At this juncture, I feel it is also relevant to mention that although Maldives contributes less than 0.003 percent to the global climate change, we are among the most vulnerable to the catastrophic effects of these factors. Nevertheless, we are determined and committed, encouraged with the assistance and collaboration of regional and the greater international community, to do everything possible to mitigate, manage and adapt if and where necessary, in addressing the potential catastrophic effects of global warming and climate change.

Distinguish Officers, Ladies and Gentlemen:

Coastal Erosion:

One of the most significant impacts of global climate change experienced across the Maldives is coastal erosion. Out of 194 inhabited islands, 113 islands face coastal erosion as the biggest challenge, a phenomenon that impacts the physical security and integrity of the islands. There are multiple causes that contribute to this effect in the Maldives, including complex problems involving oceanographic, geological, terrestrial as well as biological process. Furthermore, human interventions such as development of harbors, piers and jetties disrupt the geographical nature of the islands resulting in erosion in certain parts of the island. Because of all of these factors, there has been an alarming degree of coastal erosion, especially in the past two decades. Although Maldives can not do much to mitigate or minimize the natural driving factors, there are some measures taken to reduce the degree and impact of coastal erosion across the country.

One of the major steps taken is to reduce the of construction of jetties and harbors without carrying out an environmental impact assessment. Furthermore, modification of the pier building methods to reduce the degree of dredging and obstruction to the natural flow of ocean currents has now started to lessen the erosion. Sitting astride the equator, the effects of ocean currents are more amplified in the Maldivian context. For the islands developed as resorts, the effects of soil erosion from the beaches are lessened by continuous resupplying of sand whereby maintaining a delicate balance.

A more permanent solution to the coastal erosion of developed islands is by constructing artificial water breaks and sea walls. This is a very costly process and therefore, these safety mechanisms have only been done around the major and most heavily populated islands. The government also has initiated an effort to

encourage people to migrate to safe islands to reduce the number of islands that require this manmade safety barrier.

Another long term effort is to educate the population with the aim of reducing the negative affect of human actions that affect the marine environment through both systematic environmental educations and awareness programs, while strongly enforcing a stringent legislative measures such as banning any harmful activities that would impact islands house reefs. Also every project that may have an impact on marine environment are required to undertake an environmental impact assessment (EIA) subjected to the approval of the government, before proceeding such a project.

Vulnerability to Sea Level Rise and Climate Change:

While most islands are susceptible to coastal erosion, another primary concern to the marine environment protection is the vulnerable nature of the islands in the archipelago to the sea level rise. More than 80 percent of the inhabited islands, roughly 155 out of the 194, in the Maldives have a mean sea level of nearly 1 meter or less. Built up area of many of these islands are less than 100 feet from the shore, thus further compounding the problem. A global sea level rise of as little as 10 centimeters would have a devastating effect on the lives of thousand peoples across the Maldives. The prospects are dire as the world is still grappling to comprehend the phenomenon of sea level rise and are yet to formulate solid mechanism to address this.

On its part, Maldives have chosen to address the issue through the means available to itself, means such as working to become a carbon free country and by embracing a green way of life. It is important to note that all resorts are required

to recycle their waste and recycle as much as possible. These practices are also being gradually introduced to inhabited islands thus further minimizing the pollution factors. While there still is much to do, we are confident that the concerted efforts of the entire people of the country will bring us closer to our goals. Government agencies along with Public Private Partnership Projects, Island Communities promote an active environmental education process to reduce the human footprint on our environment and undertake all developments in an environment friendly manner. Islands are now developed as safe islands that protect its population and incentives are provided to encourage the communities on such islands.

Distinguish Officers, Ladies and Gentlemen:

Effects of Natural Phenomenon:

El Nino:

In the recent history, Maldives has experienced two major El Nino events that caused serious damage to the fragile marine environment of the country. Being the seventh largest coral reef in the world, Maldives marine eco-system not only plays a vital role in preserving and protecting the archipelago islands, but is a vital part of the greater Indian Ocean marine environment. The 1998 and 2010 El Nino event caused coral bleaching due to rapid increase in the surface temperature, stunting coral growth and also depleting vital marine resources such as bait fish and other many other marine species.

Although there is little that can be done to revive these coral reefs, sustaining a clean and pollution free marine environment and coral breeding or transplanting corals in critically affected reefs provided limited but definite results. Furthermore,

Maldives is now designating some of these reefs as marine sanctuaries or protected areas to help restore the natural balance.

Wave and Storm Surge:

Powerful storms and higher sea surges are increasing both in the frequency and magnitude. Maldives rely heavily on its pristine beaches to attract the tourists that flock the country. The very existence of these white sandy beaches is now threatened because of the increased weather activities and could result in the loss of much needed foreign revenues. This vulnerability was brought home during the 1987 devastating storm surges and compelled to construct artificial sea walls and break waters that has lessened the natural beauty of the islands. It is important to note that many friendly countries generously contributed in building these protections around the major inhabited islands.

Tsunami:

The Boxing Day tsunami of 2004 demonstrated the level of destruction that can result by a major natural disaster. Many of the nations present here today were badly affected and many are still recovering from its impact. For the Maldives, the affect was much more prominent as the country in its entirety can be termed as coastal area. Although the Maldives was fortunate not to have a high loss of lives, the economic impact was severe. According to the IMF and World Bank, the direct damages accounts for more than 65 percent of country's GDP and the secondary and tertiary damages are beyond even more.

As a small country with no place higher than 2 meters across the country, there is nothing much the country can do to mitigate from the devastating effect of a tsunami. However based on our experience and expert advice and assistance of friendly countries, Maldives has now built "safe islands" that provides some level

of safety to its people. It also continues to systematically build early warning systems, promote disaster preparedness through both community based Disaster preparedness Plans and response capacity building. Forums such as these will no doubt provide opportunities to build capacity of member countries to manage these challenges.

Effects of a potential Oil Spill near Maldives:

The increased energy related marine traffic of petroleum and other fossil fuel by ships within close proximity of Maldives has always been a great concern. Furthermore, the resultant effects of marine traffic in the form of pollutants discharged into the ocean adversely affects the fish stock and has the potential to contaminate our coastal waters as well the beaches. The potential economic impact of these factors on both fishing and the tourism industry has become an area of grave concern for the Maldives. The Indian Ocean SLOC's through the Maldivian waters and the Exclusive Economic Zone has become a major sea route to transit these oils and other toxic material across the Indian Ocean. The potential impact of an oil spill in this fragile and delicate marine environment will create unprecedented and disastrous consequences. The economic and environmental cost of such an incident will be beyond our capability and will cost the country dearly. Hence, efforts to prevent illegal discharging of bilges, dumping of toxic wastes and oil in the unregulated waters of Indian Ocean require the collective efforts from all nations of the Indian Ocean. We as a region, should pledge to work together in formulate stronger laws against these practices and at the same time actively enforce these measures for the betterment of our future generations.

Distinguish Officers, Ladies and Gentlemen:

Conclusion:

Environmental threats are not limited to small island nations alone and could easily affect other countries as well. Hence, the strengthening of global cooperation for environmental protection and sustainable development must remain a priority. Presently, the government of Maldives is working very closely with numerous partner nations to further strengthen the capacity to mitigate the impact of global climate change on the marine environment of the country. At the same time, educational and awareness programs are included in the curriculums of schools and universities in addition to many other programs conducted for the general public to further strengthen the country's resilience as well as to enhance the capacity.

As a small geographically dispersed archipelagic nation with limited resources, Maldives' approach to the challenges of marine environment protection is by pursuing a strategy of raising awareness amongst the people on the importance of a clean environment that contributes to protect and preserve the surrounding seas, natural habitat, reefs and beaches of the islands. The laws of the land also greatly assist in encouraging all to practice these.

Climate change, global warming, rising sea levels, melting glaciers, frequent floods and droughts experienced by many countries is already taking its toll its population and also contributing to its security and stability. The potential impact of these natural disasters and its consequences on social and security aspects of the region needs to carefully considered and where necessary followed with concrete actions. I strongly believe that this forum is a premium platform to share and discuss these concerns and undertake collaborative efforts in mitigating and reducing potential impact of environmental disasters.

I thank you all for your kind attention. God bless us all.