



# MAKING WAVES

## Inside this Brief

- **Maritime Security.....p.6**
- **Maritime Forces.....p.13**
- **Shipping, Ports and Ocean Economy.....p.21**
- **Marine Environment.....p.35**
- **Geopolitics.....p.46**

## **Editorial Team**

*Captain (Dr.) Gurpreet S Khurana*

*Ms. Richa Klair*

## **Address**

*National Maritime Foundation*

*Varuna Complex, NH- 8*

*Airport Road*

*New Delhi-110 010, India*

**Email:**[maritimeindia@gmail.com](mailto:maritimeindia@gmail.com)

**Acknowledgement:** 'Making Waves' is a compilation of maritime news and news analyses drawn from national and international online sources. Drawn directly from original sources, minor editorial amendments are made by specialists on maritime affairs. It is intended for academic research, and not for commercial use. NMF expresses its gratitude to all sources of information, which are cited in this publication.



**The Rohingya 'Refugees': Regional Responses and Ramifications**

**Maritime expert calls for Security of Nation's coast line**

**3 Rohingya men killed by Security forces in Myanmar**

**US downs second Armed Iranian Drone as Tehran warns of more Missile Strikes**

**India's largest container Port disrupted by global cyber attack**

**Perils at Sea**

**Boost S.E. Asian Nations' Maritime Security through joint training**

**Contested Seas: Maritime Security in Libya**



**U.S. Navy holds joint Naval drills with Qatar despite recent diplomatic tensions**

**Boeing Gets Contract to Boost Readiness of Indian Navy's Patrol Aircraft**

**Indian Navy gets high-tech floating dock from L&T**

**China Launches Next-Generation Guided-Missile Destroyer**

**US Clears Sale of Predator Guardian Drones to India**

**India, Russia to 'Soon' Set Delivery Date for S-400 Missile Air Defense Systems**

**India pushing to buy US drones for navy**



**Mergers, Mega-Ships weigh on Port profits**

**Coastal India-Bangladesh Port network expands**

**Top Chinese firm signs MoU with Adani group to invest USD 300 million in Mundra port**

**Shipping losses continue to drop despite 'Perfect Storm' risk environment**

**India-Bangladesh Maritime Trade: Protocol on Inland Water Transit and Trade (PIWTT)**



## **MARINE ENVIRONMENT**

**Coral reefs suffer under climate stress, but curbing pollution can help**

**Plastic Pollution poses serious threat to Marine life**

**Plastic pollution wreaking havoc on marine life along Pakistan's coast**

**PHL oceans in trouble: Overfishing, pollution, climate change ail our seas**

**Antarctic pollution five times worse than previously thought**

**Accelerating sea ice floes could spread pollution faster**



**Modi-Trump to give new thrust to Indo-US ties**

**China's next One Belt, One Road plan: South China Sea-Indian Ocean corridor**

**China asks India and US not to disturb peace in South China Sea**

**Why China is rattled by growing Indo-US cooperation**

**Malabar exercise likely to upset chinese equation in indian ocean**

**China just launched the mother of all ships and India needs to be worried; here's why**

**Tension at trijunction: India-China standoff over Bhutan clash**

**India-Maldives relations: A tale of two concerns – Analysis**



## **The Rohingya 'Refugees': Regional Responses and Ramifications**

-Anjelina Patrick

Introduction Rohingyas constitute an ethnic Muslim minority in Myanmar, and are considered 'illegal immigrants' from Bangladesh. They are deprived of citizenship rights, face religious persecution, and are economically and socially segregated in the Buddhist-dominated country. Since the 1970s, thousands of Rohingyas have fled Myanmar. Many cross the land border into Bangladesh while a significant number of others take to the sea to reach Malaysia, Thailand, Indonesia, and Australia.

In October 2016, nearly 74,000 Rohingya refugees fled to Bangladesh after a violent military crackdown in the northern Rakhine state of Myanmar. Overcrowded refugee camps and the lack of livelihood opportunity in Bangladesh drive Rohingyas to relatively prosperous Southeast Asian countries. Therefore, the Rohingyas tend to consider Bangladesh as a transit point. In addition to the existing crisis, Bangladeshi economic migrants are also taking advantage of the situation to escape poverty.

The present approach of regional navies such as those of Indonesia, Malaysia, Australia, and Thailand is to tow these vessels back to sea as they enter into their territorial waters. This is often described as 'maritime ping-pong'—which risks the lives of refugees who are already starving and ill.

This issue brief attempts to analyse trends in the response of regional countries to the issue of the Rohingyas. It also analyses the security implications posed by Rohingya refugees on regional countries, and the role of the Association of Southeast Asian Nations (ASEAN) with regard to them.

### *Current Situation of Rohingyas*

Since independence in 1948, the government of Myanmar has refuted the Rohingyas' historical claim of citizenship, and denied the group recognition as one of the country's

2 135 ethnic groups. They are identified as illegal Bengali immigrants despite residing in Myanmar for centuries. 'Systematic discrimination' has been practised by the government of Myanmar.

on the basis of ethnicity, including restriction on marriages, family planning, employment, education, religious orientation, and freedom of movement. Rohingyas have faced more than a decade of persecution and violence in Myanmar, leading to frequently occurring conflicts between the Rohingyas and the dominant Buddhist groups.

According to the International Organization for Migration (IOM), the Rohingya crackdown in October 2016 led to the killing of a dozen Rohingyas, and internally displaced thousands. The Rohingyas encountered the deadliest spate of ethnic violence when the military forces of Myanmar began a crackdown after the murder of nine border security guards allegedly by Rohingya militants. This crackdown led to an increase of Rohingya refugee movement. According to the UNHCR Report of May 2017, the total number of Rohingya refugees and internally displaced Rohingyas in the region was estimated at 420,000 and 120,000 respectively.<sup>1</sup>

These refugees include both direct victims of the violence as well as Rohingyas who fled Myanmar as a precautionary measure. These Rohingyas and Bangladeshi migrants are risking their lives on boats to seek safety and stability in regional Southeast Asian countries. The Rohingyas usually reach the destination countries via the Andaman Sea and the Bay of Bengal. They are often dubbed Asia's 'New Boat People'. Due to stricter vigilance along the land routes by the Thai and Malaysian security forces, these abandoned Rohingyas are in a dire situation, often living in cramped spaces with limited food and water.

### *Regional Responses*

#### *Bangladesh*

Thousands of desperate Rohingya refugees and Bangladeshi migrants are abandoned at sea. Those who are caught or towed to the shore by authorities continue to face the threat of detention and restricted access to basic human rights. Bangladesh, the immediate neighbour of Myanmar, is facing tremendous pressure due to heavy inflow of Rohingyas.

3 Approximately, 75,000 Rohingyas have fled to Bangladesh after the military crackdown in October 2016. They reach Bangladesh from the northern Rakhine state of Myanmar into the Cox's Bazar district of Bangladesh, either on foot or by boat, across the Naf River. With its limited resources and overcrowded refugee camps, the country is facing tremendous challenges to accommodate such a huge exodus. Currently, Bangladesh is heading towards its highly controversial plan to relocate the Rohingyas to a remote 6,000-acre island, near the Hatiya Island in Noakhali district.<sup>2</sup> The Bangladeshi government is planning to implement the proposed plan despite acknowledging that the island is uninhabitable and prone to floods. At present, the Bangladeshi government has set up a committee to identify and relocate both registered and unregistered Rohingya refugees. This relocation plan might prompt the flow of Rohingyas to other regional countries via the sea.

### Indonesia

In the recent past, Indonesia attracted a number of Rohingya refugees as it is a Muslim majority country. On 21 May 2017, Indonesian authorities rescued 600 stranded Rohingyas off the coast of Aceh.<sup>3</sup> Occasionally, the Indonesian government has been stating that they have 'given more than it should' to help hundreds of Rohingya and Bangladeshi migrants stranded in boats by human traffickers. Indonesia's military chief has also expressed concerns about easing immigration restrictions which would ignite an influx of refugees, which might led to serious implications.

### Malaysia

Malaysia was regarded as the primary destination for the Rohingya refugees prior to the crackdown, due to being able to provide potential employment in the informal sector. According to the UN, as of June 2016, more than 90 per cent of Malaysia's 150,700 registered refugees are from Myanmar.<sup>5</sup> Even after reaching Malaysia safely, they have no legal status or permits to work. However, after October 2016, the Malaysian Navy has been pushing Rohingya boat people back into the sea towards Thailand. The situation has turned into 'maritime ping pong of human life'. An estimated 25,000 Rohingya and Bangladeshis boarded people smugglers' boats in the first three months of 2017, to reach Malaysia.<sup>6</sup>

## *Thailand*

Thailand is a hub for regional human smuggling and trafficking activities, and serves as a common transit point for the Rohingyas to reach destination countries like Malaysia or Indonesia. Most of the Rohingyas travel to Thailand from Myanmar or Bangladesh by boat with the assistance of human traffickers. These traffickers or smugglers are assisted by Thai officials, and the refugees are held in squalid jungle camps before a ransom is paid by their relatives or known people. The Thai government views Rohingyas problem that came from elsewhere and on its way to elsewhere, explaining the 'push back policy'.<sup>7</sup> According to this policy, Thai authorities intercept boats arriving on Thailand shores and push them towards Malaysia. Like Bangladesh and Malaysia, Thailand too has not signed the 1951 Convention relating to the status of refugees, and its 1967 protocol making Rohingyas 'illegal' migrants and hence they are taken into detention.

## *Australia*

Australia is one of the most desired destinations of the Rohingyas, and the country hosts approximately 1,661 Rohingyas. The primary refugee transit route to Australia passes through Malaysia, Thailand, and Indonesia, with passenger ships, fishing boats, or cargo vessels being the means of transport. According to the UNHCR Report on Mixed Migration to South-East Asia, at least seven vessels carrying a total of at least 89 asylumseekers and migrants sailed through South-East Asia in an attempt to reach Australia in 2016.

## *Reasons for Denial*

Except for Australia, these regional countries are not signatories to the 1952 Convention relating to the Status of Refugees and the 1967 Protocol. Thus, they are not accountable for denying of immigrants. Yet, these countries do have a number of Rohingyas. South East Asian countries are reluctant to offer asylum to Rohingyas due to two main reasons. First, these Southeast Asian countries are members of the ASEAN. According to its cornerstone principle, giving asylum is an act of interference in the internal matters of Myanmar. Second, providing temporary shelter to the Rohingyas, especially to those stranded at sea, will create a pull factor, exacerbating the existing crisis and encouraging such departure. A similar situation occurred while offering resettlement to Vietnamese boat people reaching Southeast Asian shores; this acted as

a 'pull factor', leading to an exodus of Vietnamese people leaving their homes more due to social and economic reasons rather than the fear of persecution.

### *Security Implications*

The Rohingyas have shown a tendency to ignite conflicts, and jeopardize both social and national security of both the transit and destination countries. One of the major issues these countries fear is illegal infiltration which has the tendency to exacerbate as the Rohingyas tend to mix with the locals, and can move beyond the camp boundaries. To prevent the increase in illegal infiltration, countries like Australia and Malaysia have adopted a screening process. However, these are relatively weak. For example, asylum seekers reaching Australia by boat are sent to an offshore processing centre to identify refugees separately from economic migrants. If found to be refugees, they are allowed to remain in Papua New Guinea and Nauru for resettlement; all others sent to detention centres in Australia. It is important to understand that such illegal migrants have the potential to threaten the internal security of transit and destination countries.

There are also fears that being an ethnic Muslim minority, the Rohingyas could contribute to Islamic radicalisation. Such fears are aggravated by the fact that they are already deprived of basic human rights and livelihood opportunities in both their home and destination countries, and because of their status of 'statelessness'. According to the International Crisis Group (ICG), the group of Rohingya Muslims that attacked Myanmar border guards in October 2016 (as already mentioned) was headed by people with links to Saudi Arabia and Pakistan. This incident sparked a crackdown by the security forces of Myanmar.<sup>9</sup> There are confirmations about terrorist groups are recruiting members from among the Rohingyas who are unregistered and living outside the refugee camps, such as in Chittagong, Cox's Bazaar, and Bandarban.<sup>10</sup> The Rohingyas are being exploited by many extremist Islamic outfits, including the Jamaat-E-Islami, by providing arms training and by involving them in armed Jihad. Pro-Rohingya sentiments could also enflame extremist tendencies in Indonesia and Malaysia; and now, when religious tensions and the threat of terrorism loom large in both countries, this may lead to the intrusion of terrorist elements.

Human trafficking and smuggling are highly prevalent in the Southeast Asian region, and the Rohingya refugee crisis is aggravating the already existing issues. In a number of cases, the Rohingyas are being smuggled and sold to Thai fishing vessels as slaves to produce seafood sold across the world.<sup>12</sup> Due to the profitability involved, some local fishermen in Thailand have now converted their boats to carry Rohingya migrants 6

instead of fish. These activities are often rendered with the help of corrupt Thai officials. In some cases, Rohingya migrants held in immigration detention centers in Thailand were taken by staff to brokers, and then sold to Thai fishing boats. The dense forests of southern Thailand and northern Malaysia are major stop-off points for human smugglers and traffickers where they abandon thousands of migrants from overloaded boats that have crossed the Bay of Bengal and the Andaman Sea from Myanmar. Rohingya refugees and Bangladeshi migrants are ferried by traffickers through southern Thailand, and are held in remote camps along the border with Malaysia until a ransom is paid for their freedom. According to the International Organisation for Migration (IOM), the largest camp supposedly had a capacity of up to 1,000 people. If the Rohingyas are unable to process the fees to the traffickers, they are often tortured, beaten, and starved.

### *ASEAN*

The current refugee crisis in Southeast Asia has led to several regional meetings, with outcomes such as prioritizing the saving of lives at sea, combatting human smuggling and human trafficking, and the safety of asylum seekers. The persisting fear of ASEAN countries is that providing assistance can be misunderstood as interference in the internal matters of Myanmar. For a long time, ASEAN's response to the Rohingya crisis has been quiet and passive, due to its belief in non-interference. ASEAN needs to find a middle way between the concept of non-interference and collective responsibility to address the crisis. ASEAN can use a safe way by engaging with Myanmar through preventive diplomacy on issues like trafficking, counter-terrorism, and safety, to promote peace and safety in the region. And regional countries will have to understand that Rohingya crisis is not merely a national security threat, but a regional issue.

### *Conclusion*

Regional countries are more focused on the symptoms of the crisis rather than solving the root cause—that is, providing the Rohingyas their identity. Thus, it is to be understood that the only way to reduce the loss of life at sea is by working together with the home country of the refugees, transit countries as well as destination countries, to create a mutual aid mechanism. However, in the case of Rohingyas refugees, the home country Myanmar refuses them citizenship identity. This gap can be filled by a regional organization such as the ASEAN as the refugee crisis is the major problem in the region.

Unless and until the situation in Myanmar improves, many Rohingyas are expected to cross the sea to seek stability in other Southeast Asian countries. Nevertheless, it is important to understand that the root cause of the crisis is the lack of identity of Rohingyas in Myanmar.

Source: [www.maritimeindia.org](http://www.maritimeindia.org), 20 June 2017

### **Maritime expert calls for Security of Nation's Coasline**

A Maritime expert, Retired Rear Adm. Godswill Ombo, on Monday said the security of the nation's coastal line was paramount in protecting the economy. Ombo spoke as the lead resource person at the 2017 International Seafarers Day marked in Lagos. The theme is: "Seafarers Matter". According to World Maritime University, International Day of the Seafarers was designated by the International Maritime Organisation (IMO) in 2010 as a way to recognize the contribution made by the world's seafarers. "Almost everything that we use and need in our daily lives is directly or indirectly affected by sea transport. "Every June 25, we take a moment to express our thanks to the World's 1,2 million seafarers for their contributions to the world economy and our economic and social well-being. "Seafarers are essential to our daily lives transporting more than 80 per cent of global trade by ships to people and communities all over the world." Ombo said, "The onus is on maritime security agencies to ensure that shippers (importers and exporters)'s wares and personnel on board vessels are protected. "It will not be out of place if the security agencies team up to form a common front that will secure the waters. "We need to get our priorities right in terms of cadets on board training; the training of our cadets outside the country poses integrity and national interest question on us. "We keep complaining of lack of vessels to train the cadets on sea experience while there is a vessel abandoned at the Lagos Marina named 'MV Hotten', which can be sued for training," Ombo said. He urged the seafarers to adhere strictly to the International Maritime Organisation (IMO) Seafarers' Code as their watchword. According to him, such will guarantee them some security on board. He called on the relevant agencies to do the needful and secure the vessel at the Lagos Marina for cadets sea experience training and save the nation the capital flight on foreign training. In his remarks, the Director, Merchant Shipping Academy, Capt. Adams Alex, said that Nigerian seafarers were being maltreated on board, while their foreign counterparts were enjoying international packages. Alex said that although, there was global recession, Nigerian seafarers were the worst-hit with many out of job, while those that have jobs were being under-paid. "Contractual agreements with the

companies employing seafarers ought to be reviewed to be in tandem with the IMO's recognition," the seafarer said. He said that the situation where seafarers were left at the mercy of the employers should no longer be condoned in order to make the job attractive to the cadets. Capt. Alfred Oniye, the Vice-Chairman, Zonal Shipping Council, urged the seafarers to conduct themselves well both on board and onshore. Oniye said that this would earn the Nigerian seafarers the desired respect. He said that the uniform of seafarers was an international one that could be won anywhere in the world. "If we know the profession we are representing and neatly clad in the uniform, there is not going to be any clash with the Nigerian Navy over uniform," Oniye said. In his comments, Capt. Oluwasegun Akanbi, the Convener of the event, appealed to the management of the Seafarers Council to liaise with all relevant authorities in order to improve the living condition of Nigerian seafarers.

Source: [www.vanguardngr.com](http://www.vanguardngr.com), 27 June 2017

### **3 Rohingya men killed by Security forces in Myanmar**

-Kyaw Ye Lynn

Security forces have killed three Rohingya men during a raid on "terrorist training camps" in western Rakhine state, state media reported Thursday. Global New Light of Myanmar daily said soldiers and police discovered evidence over the past two days of a tunnel in the Mayu Mountains being allegedly used by Rohingya militants in the Maungdaw area near Myanmar's western border with Bangladesh. One man was killed on Tuesday, while the other two were killed on Wednesday during a two-day area clearance operation, the daily said, citing a statement from the Office of State Counselor Aung San Suu Kyi.

Also on Tuesday, security forces raided the village of Kyungaung at around 1 a.m (1830GMT Monday), and arrested Mawlawi Jirabhuman, in charge of finance of Arakan Rohingya Salvation Army (ARSA), at his residence, the statement said, adding an investigation was underway.

According to Jirabhuman, the October 2016 attacks on three police stations on the border with Bangladesh, which left nine officers dead, were carried out by Aqua Mul Mujahidin (AMM), the daily said, adding back on March 15, Aqua Mul Mujahidan

united with Rohingya National Security Committee (RNSA) to form ARSA. The government accuses the militant group of murdering 34 civilians and kidnapping 22 others, mostly Rohingya civilians, who collaborated with local authority since October attacks. ARSA has refuted accusations that it conducts killings or any forms of terrorism against the civilians.

In a statement on May 30 -- the second such announcement since it was formed last October -- the group said it had never attacked or killed any civilians as it was claimed in numerous "false news stories" as well as information circulated by Myanmar government and military. "We do not commit any form of terrorism against any civilians regardless of their religious and ethnic origin as we do not subscribe to the notion of committing terrorism for our legitimate cause," the group said. The statement, which bore the group's crossed Armalite rifle logo and signed by its leader Ata Ullah, was disseminated through several Rohingya activists, but Anadolu Agency was unable to verify the origin of the statement. "We assure the safety and well-being of all ethnic communities, their places of worship and properties in Arakan state," it said, referring to one of Myanmar's poorest states which is also called Rakhine. The state is home to approximately 1.2 million Rohingya, who have long been officially labeled as "Bengali" -- a term suggesting they are illegal immigrants from neighboring Bangladesh -- and denied citizenship. The government has labelled ARSA a terrorist organization and said Ullah was trained by the Taliban and has links to foreign terror groups.

ARSA, however, denied any ties to terror group, adding its defensive attacks had "only been aimed at the oppressive Burmese regime in accordance with international norms and principles until their demands are fulfilled". The group claimed responsibility for the killing of the nine police officers last October which prompted a brutal crackdown by government security forces on civilians in the area near the border with Bangladesh. During the crackdown, the United Nations and rights groups documented widespread abuses by security forces such as killings -- including the deaths of children and babies gang rapes, brutal beatings, the burning of villages and disappearances.

Source: [aa.com.tr](http://aa.com.tr), 22 June 2017

## **US Downs Second Armed Iranian Drone As Tehran Warns Of More Missile Strikes**

Yesterday's barrage of ballistic missiles on Islamic State affiliated targets in Deir ez-Zor Syria has reverberated throughout the region and the world. As we stated shortly after the strike, Tehran's unprecedented use of ballistic missiles was based on multiple factors, and sending a message to the US, Arab gulf states and Israel was clearly one of them. Now Iran is saying more ballistic strikes could come at any time. Iran used some of its most modern missiles in the operation. Six solid-fuel Zulfiqar short-range ballistic missiles were fired at Syria. Accounts vary, but some sources state the attack failed in a tactical sense, with only one missile hitting its intended target. Iran claims 360 militants died in the strikes, while Israeli sources say three of the missiles didn't even make it to Syria at all. Iran's FARS news agency quotes a IRGC statement, which declares: "The Takfiri terrorists' command center, concentration points and logistical centers used for assembling cars for suicide attacks in Deir Ezzur region in Eastern Syria came under attack by the IRGC moments ago in a move to punish the terrorists for the twin attacks on the Iranian parliament and the holy shrine of the late founder of the Islamic Republic, Imam Khomeini, on June 7... A number of mid-range ground-to-ground missiles fired from the IRGC Aerospace Force bases in Kermanshah and Kurdistan provinces targeted the Takfiri terrorists in this operation and struck them with lethal and crushing blows... A large number of Takfiri terrorists have been killed and their equipment, systems and weapons have been destroyed."

Iran has subsequently warned of follow-on strikes as well, with the Iranian Revolutionary Guard Corps (IRGC) General Ramazon Sharif saying "If they carry out a specific action to violate our security, definitely there will be more launches, with intensified strength." At the same time, a formal statement from the IRGC more "colorfully" conveys a similar warning: "The IRGC warns the Takfiri terrorists and their regional and trans-regional supporters that they would be engulfed by its revolutionary wrath and flames of the fire of its revenge in case they repeat any such devilish and dirty move in future." Regardless of if the missiles destroyed anything of substance or not, as a strategic act, the missile barrage worked on multiple levels. This includes supplying a domestically consumable revenge action for the terror attacks on Iran's parliament earlier in the month, and to stoke fear in Iran's Sunni-Arab gulf state foes, not to mention its archenemies, Israel and the US. The IRGC General made these intentions clear, stating:

“the Saudis and Americans are especially receivers of this message... Obviously and clearly, some reactionary countries of the region, especially Saudi Arabia, had announced that they are trying to bring insecurity into Iran.” The tension between the Saudis and the Iranians have only grown in recent hours as a bizarre incident involving the two foes has unfolded in the Marjan offshore oilfields in the Persian Gulf. The sensitive Saudi Arabian energy site was supposedly infiltrated by Iranian Revolutionary Guard Commandos—at least according to Saudi Arabia. Three boats were detected by Saudi maritime security forces entering the vicinity of the oil fields and were fired upon on Friday night after they would not stop. One of the boats was intercepted but the other two got away. Onboard the captured vessel were three men that Saudi Arabia claims are elite Iranian commandos with the mission of attacking the oilfields in a clandestine "terror" operation.

The Saudis say the boat was also laden with weaponry used for such an operation. Iran says the Saudis opened fire without warning on Iranian fishing vessels operating peacefully in the area, killing one man onboard. Iran does acknowledge the possibility that they may have drifted unknowingly into Saudi waters but says they were never warned or had a chance to be redirected away from the area. Iran says they are investigating the incident. Then just today, yet another Iranian Shahed-129 armed drone was shot down as it advanced toward the coalition-backed rebel outpost of At Tanf, near the southern Syrian border. Just as before, a USAF F-15E blasted the drone out of the sky. The base has been the focus of repeated assaults in the last month, with waves of Iranian-backed Shiite militia fighters advancing down the highway that leads to the base, before air power sends them scattering or kills them and destroys their vehicles.

The shoot down comes just a day after a US Navy Super Hornet shot down a Syrian Su-22, sending diplomatic shockwaves around the globe. It is also the third US air-to-air kill over Syria in just a week. Clearly, the skies over the embattled country are becoming far more hostile than they had been over the past six years of the conflict. US combat aircraft have been repositioned due to the increased tensions with Russia following the shoot-down, and the Australian Air Force has ceased operations over Syria due to similar concerns. The base at At Tanf, which is frequented by coalition special operations units, has received a major defensive upgrade in recent days, with the HiMARS guided rocket artillery system being deployed there from its previous base in northern Jordan. This weapon is ideally suited for laying waste to an advancing force charging down a bottleneck like a highway. HiMARS can reach out over 50 miles with its M30/31 GPS guided artillery rockets which can pack area sub munitions or a unitary

warheads. The presence of the system near At Tanf also puts any enemy camps or forward operating bases at risk within a 50 plus mile circle. HIMARS has been one of the technological stars of the anti-ISIS fight, having proved its value time and time again in Northern Iraq. All this points to a collision course between Iran and the US and its regional allies. A tit-for-tat exchange between say Saudi Arabia and Iran could rapidly turn into a full blown conflict in the Persian Gulf. The Trump administration has chosen to take a hard line with Tehran, and new sanctions placed on the country as a result of its ongoing missile development programs will be highly unwelcome considering the country is just pulling out of the economic turmoil it was in as a result of the pre-nuclear deal multi-national sanction regime it lived under for years. In addition, now that Iran has proven itself willing to employ its elaborate and well hidden arsenal of ballistic missiles, the hair trigger the region is already on has gotten even lighter.

Complicating things even further is Iran's drive to explore new strategic relationships with very powerful allies. Just this week, Iran is exercising with the Chinese Navy in and around the strategic Strait of Hormuz. These are no small-time drills either, China dispatched a pair of surface combatants, a logistical ship and air assets to Iranian waters for the exercise. The drills stand as yet another message to the US and its allies in the region, one that underlines Iran's changing role in the world and its ability to form troubling new military alliances.

Source: [www.thedrive.com](http://www.thedrive.com), 22 June 2017

### **India's largest container Port disrupted by global cyber attack**

-Rajendra Jadhav

Operations at one of three terminals at India's largest container port JNPT, near the commercial hub of Mumbai, have been disrupted by the global ransomware attack, the port said on Wednesday. The affected terminal is operated by Danish shipping giant AP Moller-Maersk, which said on Tuesday that the cyber attack had caused outages in its computer systems globally. Clients were notified on Wednesday morning that vessel operations at the terminal would be hit and that the company could not say when normal services would resume, according to one shipping industry source.

In a note to global clients, Maersk said: "Access to most ports is not impacted, however some APM Terminals are affected and gates are closed." The port has been trying to clear containers manually, but operational capacity has dropped to a third at the terminal, Anil Diggikar, chairman of Jawaharlal Nehru Port (JNPT), told Reuters on Wednesday morning. "This is fallout of global cyber attack. We are hopeful that operations will normalize in a day," he said. Containers are piling up outside the port due to the delay in loading and unloading at Gateway Terminals India, he said. The Indian government said on Wednesday it had sent Gulshan Rai, India's national cyber security coordinator, to JNPT to deal with the situation.

It warned that the disruptions could lead to "bunching of in-bound and out-bound container cargo," and truck congestion around the port. The operations of an adjoining terminal were also slightly affected by congestion at the Maersk Terminal, said two shipping industry sources. In a securities filing, Gujarat Pipavav Port, located about 175 miles northwest of JNPT, said it is also working to "limit the impact" at its site. Pipavav, which is also operated by APM Terminals, did not provide detail on the extent of the impact at its site, but a spokeswoman for APM said the port was "partially impacted." The cyber attack, similar to the ransomware that infected more than 300,000 computers last month, also affected computers at Russia's biggest oil company, Ukrainian banks and numerous other multinational firms. Maersk, which handles one in seven containers shipped worldwide, told Reuters on Wednesday it was unable to process new orders after being hit by the cyber attack.

Source: [www.reuters.com](http://www.reuters.com), 28 June 2017

## **Perils at Sea**

- Cmde Udai Rao (Retd)

The recent incident of a collision between a US warship, *USS Fitzgerald*, an Arleigh Burke destroyer and a container vessel off Yokosuka Japan in the dead of the night when most of its crew were asleep indicates the perils of life at sea. While the merchant ship got away lightly, the destroyer suffered extensive damage to her starboard side with seven dead and three injured. However, the US crew swung into action promptly and initiated damage control measures that saved the ship from sinking at sea. Investigations will determine who was at fault and there will be punitive measures

including possible removal of the captain and master of the respective ships from command which may affect their sailing career.

Earlier in June 2017 there was a collision between a Panama flagged merchant ship and a fishing trawler off Kochi in which three fishermen lost their lives. Similarly in January 2017 a tanker and an LNG vessel collided off Chennai which resulted in an extensive oil spill. Collision, running aground, fire and flooding are life threatening emergencies which every seafarer dreads.

Clearly a career at sea, either in the fighting navy or merchant marine is not for the faint hearted. Seafaring in fact is not really a career, but a way of life. It is not the routine 9 to 5 desk job, but a 24 x 7 field job where an officer is required to make split second decisions which can make the difference between life and death. It entails separation from ones' family, long hours of work and fatigue, battling the elements at sea as the ship pitches and rolls in rough seas and strong winds.

The *USS Fitzgerald* incident demonstrates that even an advanced navy like the US Navy is not immune to accidents. In fact the archives highlight the number of USN mishaps at sea with a large number of warship captains being relieved of command. Similarly, the Indian Navy too has suffered its share of bad luck at sea over the last four to five years which led to the resignation of a Chief of Naval Staff.

Despite the existence of the 'International Regulations for Prevention of collision at sea' and state of the art technology, human and technical errors continue to occur time and again. So much so, ships still collide and many will continue to do so in the future. This happens in every facet of life and is not peculiar to the maritime domain. Some common factors which lead to collisions are lack of adherence to Standard Operating Procedures, bad decision making, poor lookout, weak training, unfamiliarity with equipment, fatigue, inexperience, sub optimal use of radar, unsatisfactory repair and maintenance of equipment etc. Therefore it is clear that despite the availability of the most modern technology, ultimately it is the man behind the machine and equipment that matters.

Warships are expensive floating platforms crammed with weapons, equipment and machinery. Moreover they are loaded with fuel, ammunition, missiles, rockets, torpedoes etc making it a virtual tinder box. The compartments are small with lack of access and 'habitability' of living spaces is not always the best. The massive expense

involved in ship construction means there are fewer warships to take on ever increasing number of tasks.

Warships invariably maintain a high 24x7 operational tempo. Along with submarines and aircraft they constantly put to sea for exercises, operational deployments, multilateral exercises, disaster relief, weapon firings, VIP visits etc. They often proceed in tight formation at very close distances and constantly manoeuvre with changes in 'headings' or direction and speed; and even a momentary lapse or error of judgement can have serious repercussions. During replenishment at sea for fuel and rations, for instance, warships can often get closer than 100 feet which heightens the risk of collision.

Also warships often operate close to the coast and approaches to harbours where fishing and merchant ship traffic abound, in a bid to simulate war time scenarios, increasing the risk of a collision. This will only aggravate in the future with a growing emphasis on the 'Blue Economy' or sustainable ocean economy. Unlike warships, merchant ships are larger and heavier vessels which displace several lakh tons. Consequently merchant vessels respond poorly to rudder or engine orders due to their size and shape. While most merchant mariners are professional sailors; merchant ships are often lightly manned or have a small number of crew to optimise on costs. As a result, an Officer of the Watch may often be stressed due to the immense traffic and the lookout may not be alert due to fatigue.

In addition thousands of fishing trawlers operate at sea and many often do not display lights at night and may not 'paint' on radars until it is too late due to their size and material of the hull. In inclement weather the problem is accentuated due to the effects of atmospheric conditions. With fishing gear streamed out, the fishing vessels are constrained in their ability to manoeuvre.

Therefore Captains and masters of ships and other craft have a duty to use all the resources at their command to keep their ships and crew safe. The sea can be very unforgiving and cruel to those who do not follow the tenets of good seamanship and do not respect the elements of nature. Such are the hazards of seafaring. No wonder people in several maritime nations have a time honoured tradition of drinking a toast to those who serve at sea on important occasions.

Source: [www.deccanherald.com](http://www.deccanherald.com), 26 June 2017

## **Boost S.E. Asian Nations' Maritime Security through joint training**

The Yomiuri ShimbunBolstering the maritime security capabilities of Southeast Asian nations is essential for establishing the rule of law in the South China Sea and ensuring it is a safe and open sea. Assistance in terms of both hardware and software is indispensable. The Japan Coast Guard (JCG) has conducted separate joint training exercises in the South China Sea with its Philippine and Vietnamese counterparts. This is the first joint training of its kind involving patrol boats provided to the two countries by Japan. The JCG's patrol boats also took part. Just as in the East China Sea, illegal fishing operations by Chinese fishing boats accompanied by government vessels are rampant in the South China Sea. If a naval force is mobilized to deal with such illegal fishing activities, it will heighten tensions with China. To avoid such a result, it is important for the matter to be dealt with by a coast guard with police power, thus preventing China from creating faits accomplis. Coast guards are not long established in Southeast Asian nations. They have yet to accumulate sufficient experience and the ability to clamp down on Chinese and other countries' fishing boats based on international law.

In recent years, Japan has provided other countries with patrol boats at their request. These patrol boats' law-enforcement capabilities will improve steadily through repeated joint training. The joint training with Vietnam was conducted based on a scenario in which a foreign fishing boat was found to be operating illegally, in line with a proposal from Vietnam, which has been having difficulty dealing with poaching by Chinese fishing boats. In the joint training with the Philippines, the scenario involved pirates.

### *China urged to restrain itself*

Sandwiching a poaching boat between rubber dinghies and boarding it to detain suspects. Repeatedly issuing an order to stop and gathering evidence by recording video footage. It is of no small significance that these proper legal procedures have been confirmed through joint training. Two high-ranking Philippine officials, who have received training on a Japan Coast Guard Academy vessel, boarded one of the patrol boats provided by Japan to take part in the joint training. Officials from the international information sharing center on pirates also participated. This center was established in Singapore in 2006 as a way to deal with pirates in the Strait of Malacca.

By carrying out the recent joint training, it may be said that the cooperative relationships Japan steadily built up with each nation have been deepened. The background to these problems is that China has clashed with neighboring nations by insisting on territorial claims in the South China Sea. Even after being definitively denied its sovereignty claim over the South China Sea by an international arbitration court last July, China has gone ahead with building an artificial island and other facilities there. In cooperation with the United States, Australia and other countries that value the South China Sea as their sea lanes, Japan must call on China to exercise self-restraint.

China and the Association of Southeast Asian Nations are scheduled to work out a code of conduct as early as August, with a view to preventing disputes in the South China Sea. It is imperative to formulate a code that will rein in China's self-centered actions. To maintain maritime order in the South China Sea, Japan, the United States and others must assist the coast guards of Southeast Asian nations to help close the gap in equipment and capability between them and China.

Source: [the-japan-news.com](http://the-japan-news.com), 28 June 2017

## **Contested Seas: Maritime Security in Libya**

James Potheary

### *Introduction*

On 20 February, the Bahamas-flagged car carrier *Morning Compass* was seized by militants purporting to represent the Libyan Navy. The ship, which was carrying around 5,000 cars to South Korea, was interdicted by a heavily armed skiff and forced to divert to Misrata port, which is located on the western tip of the Gulf of Sirte. The following day the ship was released and resumed its planned course. The skiff belonged to fighters loyal to the Tobruk-based administration, an unrecognized government that operates in Libya's east and which has de facto control over broad swathes of the country. The internationally recognized, United Nations-backed unity government, situated in the capital Tripoli, has its own naval force. Therefore, the Tobruk-based vessel had no authority to detain *Morning Compass* under international law. This is the latest in a series of incidents between foreign vessels and armed Libyan craft belonging to both the unity government and non-state armed groups (NSAGs). On 17

August 2016, Libyan naval assets loyal to the unity government attacked the Luxembourg-flagged Bourbon Argos, which had been chartered by the international aid organization, Médecins Sans Frontières (MSF), to assist refugee rescue efforts in the Mediterranean. The incident occurred in international waters, outside Libya's territorial claims, and involved Libyan naval forces opening fire on the Bourbon Argos. Accounts vary, with the Libyan Navy claiming the shots were fired in warning, while MSF says that naval forces fired at the bridge.

With refugees and economic migrants using Libya as a springboard to cross the Mediterranean to Europe, there are also suspicions that the Tripoli government is implicated in human trafficking. A 13 December 2016 report by the U.N. Support Mission in Libya reported claims that Libyan Coast Guard forces were participating in migrant smuggling networks, rather than attempting to curtail refugee flows to European shores. While the report did not detail specific incidents, the lack of regulatory oversight, as well as documented examples of sexual abuse, extortion, and similar activities by Libyan coastguard and naval personnel, means Allan & Associates (A2) assesses these claims as credible.

These two incidents are risk-negative indicators of the security environment in the Mediterranean. The Mediterranean links eastern and western markets via the Suez Canal and the Red Sea, North Africa to Europe, and south-western Russia to the rest of the world via the Black Sea. The sea has 22 littoral states, ranging from countries with little to no functional maritime trade, such as Syria, to major trading nations, such as France and Italy. The World Shipping Council's latest statistics, from 2013, show the Asia-Mediterranean route shipping 6.7 million TEU, and the North Europe-Mediterranean-South America route 1.68 million TEU. Short sea shipping from Spain and Italy alone, according to a 2015 report from the E.U. statistics office, amounted to GWT468.8 million. Therefore, the significance of the Mediterranean to maritime shipping cannot be overstated.

### *Security Risks*

A2 assesses that there is a credible threat of armed vessels, either operating under the auspices of the Libyan military or as NSAGs, interdicting civilian vessels within 50km of the Libyan coastline. This poses a major risk to shipping. Unlike pirate activity elsewhere, such as off the Yemeni coast, it is likely that NSAGs will purport to belong to the Libyan government, either in Tripoli or Tobruk. This complicates any attempt at

deploying countermeasures, as it could be unclear whether interdicting vessels are genuine naval or coast guard assets.

In particular, aid organizations using ships to support rescue efforts in the Mediterranean, such as MSF, are at risk of a kinetic incident. This is because such vessels are more likely to be regarded by Libyan armed maritime fighters as interfering in their country's sovereign affairs. Furthermore, aid ships are constantly present in and around Libyan territorial waters, making it more likely they will be detected by hostile armed maritime forces. Although the 17 August attack against an MSF vessel did not result in casualties, further incidents could have fatal consequences.

The risk is heightened by the lack of professionalism of Libyan maritime forces. Although international actors, including the E.U., are providing some levels of training, this is primarily focused on basic seamanship skills and military capability. Libyan military personnel, therefore, are more likely to overreact when interdicting shipping, and will likely lack the ability to carry out lawful searches without escalation.

#### *Insecure ports*

As at sea, so in port. Ports outside of the capital Tripoli have little to no functional governance, and multiple criminal, tribal and political armed groups operate in these areas. Such groups have unilaterally seized several merchant ships. For example, in February 2017, the Turkish-flagged oil tanker *Haci Telli* was seized by armed militants in the north-western city of Zuwarah. The militia claimed that the vessel's owner owed around USD \$4,000 to a local company. Eleven crew members are currently being detained on the ship more than a year later.

Moreover, there is a risk that ships entering ports outside the control of the unity government will be engaged by Libyan military forces. On 5 January 2015, a Libyan fighter aircraft launched an airstrike on the Liberian-flagged oil tanker *Araevo*, killing two crewmen. The ship, which was carrying crude oil, had been warned by military units not to attempt to enter Derna port, which was under the control of the Tobruk administration. Logistics operators should regularly update bridge officers on which faction controls intended ports of call, and masters should have discretionary authority to alter travel plans, should they believe there is a kinetic risk from Libyan military forces.

These incidents demonstrate that both the Libyan government and NSAGs pose a direct kinetic security risk to shipping calling at Libyan ports, and A2 stresses that maritime operators should carefully consider the feasibility of docking at ports in-country until the security situation markedly improves.

This includes oil terminal installations such as Ras Lanuf and Zuwetina, which are located on the Gulf of Sirte and are beginning to ramp up oil exportation operations. There is ongoing fighting in these areas, and control over the ports is fluid and liable to change with little to no warning.

### *Regulatory Attention*

Libyan ports are designated by the U.S. Coast Guard as lacking anti-terrorism measures, under the International Port Security Program. Merchant shipping which has previously called at Libyan ports will, therefore, be subjected to increased attention from the U.S. Coast Guard and port authorities. This will likely include delayed travel times due to additional security checks being conducted on said vessels. A2 notes that merchant vessels can minimize disruption when visiting U.S. ports if masters enact heightened security procedures when in Libyan ports. These measures should include minimizing time spent in port, the deployment of guards at ship entry points, and briefing all hands to observe personal security procedures when ashore.

Ships calling at European ports could also face increased attention from national security forces, due to the poor security environment in Libyan and other North African ports. Masters can minimize the risk of being targeted for inspection by naval or coast guard units by ensuring location transmission devices are kept on at all times, avoiding diverting from pre-established routes and not using flags of convenience.

### *Supply Chain Integrity*

The lawlessness of Libyan ports also poses a secondary risk: illicit cargo will infiltrate legitimate supply routes. Logistics operators should take steps to implement strict chain-of-custody and supply chain integrity rules and procedures for all cargo loaded in Libyan or other North African ports, to mitigate the risk of illicit shipments infiltrating commercial shipping. Bridge officers should be trained on how to detect suspicious cargo, and all hands should be regularly briefed on their responsibilities under corporate ethics policies and the law. Operators should not rely entirely on customs authorities for supply chain integrity, as it is practically impossible to

comprehensively search all ships, and the effectiveness of customs regimes differs markedly between countries.

### *Search & Rescue*

There is an ongoing migrant crisis in the Mediterranean Sea, as refugees from the Middle East and Africa seek to flee by ship to Europe. Libya and other North African countries are a primary staging ground before refugees attempt maritime crossings. The quality of the vessels used is extremely poor, and sinkings are common. Often, this leads to considerable loss of life. Article 98 of the 1982 United Nations Convention on the Law of the Sea obligates masters to render all assistance to individuals ‘in danger of being lost’ at sea. Diversions in the Mediterranean to assist rescue operations could delay scheduled freight shipments. However, A2 reminds maritime operators of their legal obligations in such circumstances.

### *Forecast*

A2 assesses that the security environment around the Libyan coast will continue to decline as multiple NSAGs as well as the Libyan Navy skirmish for maritime supremacy. In particular, as oil exportation resumes in the Gulf of Sirte, maritime forces will attempt to gain control of the surrounding ports and waters, due to their increasing strategic importance. Further kinetic incidents against civilian shipping are likely within the one-year outlook, and masters should continue to regard Libyan territorial waters as a high-risk environment until the security situation stabilizes. This will be contingent on a political agreement being reached by the various factions, an achievement which currently seems a remote possibility.

Source: [cimsec.org](http://cimsec.org), 20 June 2017



## **US Clears Sale of Predator Guardian Drones to India**

The US has cleared sale of predator Guardian drones to India with the two countries pledging to deepen their defence and security cooperation. The joint statement issued after talks between US President Donald Trump and Prime Minister Narendra Modi said that the two countries look forward to working together on advanced defence equipment and technology "at a level commensurate with that of the closest allies and partners of the United States." "Reflecting the partnership, the United States has offered for India's consideration the sale of Sea Guardian Unmanned Aerial Systems, which would enhance India's capabilities and promote shared security interests," it said. The two countries resolved to expand their maritime security cooperation and announced their intention to build on the implementation of their "White Shipping" data sharing arrangement, which enhances collaboration on maritime domain awareness. Trump welcomed Modi's strong support for United States to join as an Observer in the Indian Ocean Naval Symposium. The two leaders noted the importance of the upcoming Malabar naval exercise and expressed their determination to expand their engagements on shared maritime objectives and to explore new exercises. The US expressed strong support for India's early membership in the Nuclear Suppliers Group, the Wassenaar Arrangement, and the Australia Group.

It also reaffirmed the support of the United States for India's permanent membership on a reformed UN Security Council Earlier, in his remarks to the media, Modi said defence cooperation between India and US was very significant in the light of security challenges."Peace, prosperity and stability in the Indo-Pacific region are the main aims of our strategic cooperation. The increase of possibilities in the region and securing our strategic interests from emerging challenges will guide the parameters of our cooperation. We will continue to work with the US in this," he said. He said the two countries have also decided to expand their maritime security cooperation. "The bilateral defence, technology, trade and manufacturing partnership will be mutually beneficial," Modi said, adding that they had also discussed their strategic interests concerning international issues. Trump said the security partnership between

the two countries was incredibly important. "Our militaries are working every day to enhance cooperation between our military forces. And next month, they will join together with the Japanese navy to take place in the largest maritime exercise ever conducted in the vast Indian Ocean."

Reports had said earlier that the US has cleared the sale of 22 American-made Guardian surveillance drones for India ahead of Modi's visit. The deal is estimated to be worth \$2-3 billion. The drones can be used for wide-area, long- endurance maritime intelligence, surveillance and reconnaissance missions.

Source: [www.news18.com](http://www.news18.com), 28 June 2017

### **U.S. Navy holds joint naval drills with Qatar despite recent diplomatic tensions**

Two U.S. Navy ships conducted military exercises with their Qatari counterparts in the Persian Gulf on Friday. Qatar denies accusations by its neighbours that it funds terrorism, foments regional instability or has cosied up to their enemy Iran. The dispute has opened a rift among some of the main U.S. allies in the Middle East, with U.S. President Donald Trump backing tough measures against Qatar even as his State Department and Defense Department have sought to remain neutral. The U.S. warships arrived at Qatar's Hamad Port on Wednesday as part of defence co-operation between the United States and Qatar. The joint exercise will cover areas such as surface and aerial combat as well as defending an oil platform, according to Qatari and U.S. Navies Joint Exercise Commander, Staff Commander Mohamed Desaml Al Kuwari. The move came as Qatar's Ministry of Defense said on Wednesday the country signed off on a deal to buy F-15 fighter jets from the United States for \$12 billion.

Source: [globalnews.ca](http://globalnews.ca), 19 June 2017

### **Boeing Gets Contract to Boost Readiness of Indian Navy's Patrol Aircraft**

part from this, Boeing will also provide material support, including a 737-based component services program. The current initial production contract is scheduled to expire in October this year. "This contract will substantially bolster Boeing's performance-based support to the Indian Navy and should maintain or increase the

operational capability of the eight-aircraft fleet," Stephen Schmidt, P-8I sustainment program manager, said.

Currently, Indian Navy operates eight P-8I long-range maritime reconnaissance and anti-submarine warfare aircraft including one at the strategic location of the Andaman Island, which is very close to the Strait of Malacca. India's permanently deployed P8 maritime surveillance and attack aircraft in the Andaman & Nicobar Islands had intercepted a Yuan class conventional Chinese submarine in April this year which was deployed to check piracy. The Indian Navy will also receive four additional P-8I aircraft from 2020. The \$ 1 billion contract was approved by the Narendra Modi government last year. India's apex government auditor, the Comptroller, and Auditor General, had lambasted the \$2.2 billion deal of P-8I in 2012 for not following the country's offset policy under defense procurement policy. According to the report, Boeing did not provide those facilities which qualify to be declared as offsets under defense procurement rules.

Source: [sputniknews.com](http://sputniknews.com), 19 june 2017

### **Indian Navy gets high-tech floating dock from L&T**

In a bid to enhance the technical repair infrastructure for ships based in the Andaman and Nicobar Islands, Indian Navy on Tuesday gets high-tech Floating Dock (FDN-2), which specifically designed and built by Larsen and Toubro for the Indian Navy at the company's greenfield shipyard at Kattupalli in Tamil Nadu near Chennai. The Floating Dock was formally lowered into the waters of the Bay of Bengal. L&T was mandated by the Ministry of Defence in May 2015 to design and build the FDN-2 for an order value of Rs. 468 Crores. The Floating Dock will be delivered at Port Blair. On completion of its launch at Kattupalli, FDN-2 would be put through a series of harbour trials before delivery to the Navy. Once operationalised, it would enhance the technical repair infrastructure of the Navy for ships based in the Andaman and Nicobar Islands as well as for visiting Naval ships. The Floating Docks 185m long and 40m wide and is designed for docking Indian Naval ships and submarines of up to 8000 T displacement with draughts of up to 7 m, during both day and night. Simultaneous docking of multiple ships and off-center docking options are also feasible. The dock, which conforms to internationally accepted norms, incorporates a fully automated ballast control system, State-of- the-art technology in its equipment. L&T has also been

mandated by the Coast Guard to design and build seven Offshore Patrol Vessels (OPVs). Two of these OPVs are to be launched in the second half of this financial year, on schedule.

Source: [www.deccanherald.com](http://www.deccanherald.com), 20 June 2017

### **Indian Navy gets high-tech floating dock from L&T**

In a bid to enhance the technical repair infrastructure for ships based in the Andaman and Nicobar Islands, Indian Navy on Tuesday gets high-tech Floating Dock (FDN-2), which specifically designed and built by Larsen and Toubro for the Indian Navy at the company's greenfield shipyard at Kattupalli in Tamil Nadu near Chennai. The Floating Dock was formally lowered into the waters of the Bay of Bengal. L&T was mandated by the Ministry of Defence in May 2015 to design and build the FDN-2 for an order value of Rs. 468 Crores. The Floating Dock will be delivered at Port Blair. On completion of its launch at Kattupalli, FDN-2 would be put through a series of harbour trials before delivery to the Navy. Once operationalised, it would enhance the technical repair infrastructure of the Navy for ships based in the Andaman and Nicobar Islands as well as for visiting Naval ships. The Floating Docks 185m long and 40m wide and is designed for docking Indian Naval ships and submarines of up to 8000 T displacement with draughts of up to 7 m, during both day and night. Simultaneous docking of multiple ships and off-center docking options are also feasible. The dock, which conforms to internationally accepted norms, incorporates a fully automated ballast control system, State-of- the-art technology in its equipment. L&T has also been mandated by the Coast Guard to design and build seven Offshore Patrol Vessels (OPVs). Two of these OPVs are to be launched in the second half of this financial year, on schedule.

Source: [www.deccanherald.com](http://www.deccanherald.com), 20 June 2017

### **China Launches Next-Generation Guided-Missile Destroyer**

-Franz-Stefan Gady

The People's Liberation Army Navy (PLAN) has launched a new 10,000-ton warship at Shanghai's Jiangnan Shipyard on Wednesday morning, the Chinese Ministry of

Defense (MoD) announced on June 28. Measuring about 180 meters long and over 20 meters wide, the new Type 055 guided-missile destroyer—the lead vessel of a new class of PLAN surface warships—has been hailed as “a milestone in the PLA Navy’s strategic transformation and development,” according to the Chinese MoD.

General Zhang Youxia, member of China’s Central Military Commission (CMC) and head of the CMC Equipment Development Department, presided over the ceremony and delivered a speech in which he underlined that the warship launch marks an important step towards China’s dream of having a strong and modern naval force. “Equipped with new types of air defense, anti-missile, anti-ship and anti-submarine weapon systems, the new destroyer has strong capabilities of information detection, air and missile defense, and maritime target attacking,” the MoD notes in a statement. “A series of technical breakthroughs in overall vessel design, information integration and assembly has been made during the shipbuilding process.”

The PLAN is slated to receive four ships of the class divided into two groups, although some sources indicate that the PLAN could commission up to eight Type 055 ships. As Robert Farley pointed out in October 2016, the new ship will likely form the core of a long-range PLAN battlegroup and will be an integral part of the Chinese Navy’s first carrier strike group. The Chinese MoD did not reveal details on the ship’s armament. According to earlier reports, the warship, featuring a stealth shaped superstructure, is to be fitted with two 64-cell vertical launch system capable of firing anti-ship (e.g., YJ-18) and land attack cruise missiles; as well medium and long-range air defense missiles (such as the HHQ-9). The ship will also be armed with a 130 millimeter main gun and will be able to accommodate two Z-18 anti-submarine warfare helicopters.

The ship also boasts two Type 1130 close-in weapons systems (CIWS) and four powerful Type 346x naval active phased array radar systems for the detection of aircraft, missiles, and ships. “There is no denying that the Type 055 has a better combat capability than the U.S. Navy’s *Arleigh Burke*-class Aegis destroyer in several areas, and its main mission is to protect large surface vessels like an aircraft carrier and amphibious transport dock,” a Beijing-based naval expert told the *Global Times* on Wednesday. “We can confidently say that, as far as destroyers are concerned, there is no generation gap between China and the U.S. anymore,” Li added.

Some analysts, however, have pointed out major design flaws in the ship including the low positioning of its flat-array radar system. The latest U.S. Defense Department report on China’s military modernization calls the Type 055 a “cruiser” rather than a

destroyer given the ship's size. "Next, it is learnt that the new guided-missile destroyer will carry out equipment debugging and sea trial as planned," the ministry noted. Following extensive sea and weapons trials, the lead ship of the new Type 055 class is expected to be commissioned in 2018 or 2019.

Source: [thediplomat.com](http://thediplomat.com), 29 June 2017

## **India, Russia to 'Soon' Set Delivery Date for S-400 Missile Air Defense Systems**

- Franz-Stefan Gady

Russia and India will soon conclude the final contract for the delivery of five regiments of Russian-made S-400 Triumf advanced Air Defense Systems (NATO reporting name: SA-21 Growler), according to a senior Russian defense industry official. The head of Russian arms exporter Rosoboronexport, Alexander Mikheyev, told *TASS* news agency on the sidelines of the Le Bourget international aerospace show on June 21 that the signing of a final contract is imminent. "Rosoboronexport is carrying out pre-contractual work with Indian partners. We are discussing the technical issues of the deliveries. I can assure you that both our company and the Indian side are set to sign the contract soon," the chief executive officer said.

As I reported previously (See: "India and Russia Ink S-400 Missile Air Defense System Deal"), Indian Prime Minister Narendra Modi and Russian President Vladimir Putin signed an intergovernmental agreement for the procurement of five regiments of S-400s in October 2016 during the eighth BRICS summit. India will be the second country after China, which ordered six S-400 battalions in 2014, to receive one of Russia's most advanced air defense systems. China is expected to receive the first S-400 units in 2018. "The S-400 Triumf long-range air defense missile systems will be delivered to China in strict compliance with the contract concluded between Rosoboronexport and the Chinese side. There are no causes to doubt the timely and qualitative fulfillment of the accords," Mikheyev said this Wednesday.

The S-400 is capable of engaging missiles of all types and ranges, stand-off jammer aircraft, as well Airborne Warning and Control System (AWACS) aircraft. It can also engage targets in an electronic countermeasures environment. The new weapons systems will significantly boost India's and China's anti-access/area denial (A2/AD) capabilities. As I explained elsewhere:

In comparison to its predecessor, the S-300, the S-400 air defense system features an improved radar system and updated software; it can purportedly fire four new types of surface-to-air (SAM) missiles in addition to the S-300's 48N6E, a vertical tube launched, solid fuel, single stage SAM with an estimated range of 150 kilometers (93 miles), and the improved 48N6E2 missile with a reported range of 195 kilometers (121 miles). One of the S-400's new missiles is the so-called 40N6 SAM with an estimated operational range of 400 kilometers (248.5 miles) and an altitude of up to 185 kilometers (607,000 feet). The missile is reportedly capable of exo-atmospheric interception of intermediate-range ballistic missile warheads in their terminal phase. However, it is unclear whether the weapon is operational in Russia yet and no images of the 40N6 SAM have surfaced so far.

The S-400 is also armed with an improved variant of the 48N6E2 with an alleged range of 250 kilometers (160 miles). The air defense system can also fire two additional missiles, the 9M96E and 9M96E2 with respective ranges of 40 km (25 miles) and 120 km (75 miles). Improved S-300 air defense systems such as the S-300PMU-2 Favorite (*sold to Iran*), can purportedly also fire the 9M96E and 9M96E2. The S-400 can purportedly fire missiles at a rate 2.5 times faster than its predecessor, the S-300. The India military is expected to deploy three S-400 regiments in the country's west, facing Pakistan, and two regiments in the east near the Sino-Indian border. One S-400 is divided up into two battalions. Each battalion consists of eight launchers armed with up to 32 missiles.

Source: [thediplomat.com](http://thediplomat.com), 21 June 2017

### **India pushing to buy US drones for navy**

The U.S.-based company that makes the drones, General Atomics Aeronautical Systems Inc, said on Friday that the U.S. government had approved the sale of a naval variant of the Predator drone to India. The senior White House official said any arms transfer would take into account the regional situation. "We want to avoid a situation that escalates the tension" between India and Pakistan, the official said. India and Pakistan should engage in direct talks and seek a normalization of ties, the official said. "Some of the defense systems we're talking about we don't believe impact Pakistan," the official added. The Indian navy wants the surveillance drones, variants of the Predator drones, to keep watch over the Indian Ocean. The deal would be the first such purchase by a country that is not a member of North Atlantic Treaty Organization.

India, a big buyer of U.S. arms that was recently named by Washington as a major defense ally, wants to protect its 7,500- km (4,700-mile) coastline as Beijing expands its maritime trade routes and Chinese submarines increasingly lurk in regional waters. But sources tracking the discussions say the U.S. State Department has been concerned about the potential destabilizing impact of introducing high-tech drones into South Asia, where tensions are simmering between India and Pakistan, particularly over Kashmir, which is divided between them. Such a sale of sensitive military hardware must be authorized by the State Department before being sent to Congress for review. The drone deal would still require approval by Congress. The State Department declined comment ahead of any notification. Defense cooperation, the U.S. trade deficit with India, counter-terrorism efforts and regional tensions are expected to be discussed between the two leaders. Modi's two-day visit to Washington begins on Sunday. Trump met Chinese President Xi Jinping in April and has also had face time with the leaders of nations including Japan, Britain and Vietnam since taking office in January, prompting anxiety in New Delhi that India is no longer a priority in Washington.

Other strains have emerged in U.S.-India relations, with the United States vexed by a growing bilateral trade deficit and Trump accusing New Delhi of negotiating unscrupulously at the Paris climate talks to walk away with billions in aid. U.S. officials expect a relatively low-key visit by Modi, without the fanfare of some of his previous trips to the United States, and one geared to giving the Indian leader the chance to get to know Trump personally and to show that he is doing so. India and the United States will also discuss the sale of U.S. fighter jets during Modi's trip, in what could be the biggest deal since they began deepening defense ties more than a decade ago. – Reuters

Source: [www.samaa.tv](http://www.samaa.tv), 24 June 2017

### **Mergers, mega-ships weigh on port profits**

he forecast 4 percent growth in global container terminal throughput in 2017 is expected to hold into 2018 on the back of a strengthening global economic outlook led by the United States and emerging markets, according to shipping consultants Drewry, but ports and terminal operators expect less shipping lines and greater infrastructure demands will be a drag on profits. Throughput at a sample of global ports selected by the London-based company grew by 3.6 percent year over year in the first quarter, a significant pick up from the 2.1 percent achieved in the final quarter of 2016. “We have recently revised upwards our 2017 forecast for global container port throughput to around 4 percent, and 2018 is expected to be at a similar level,” said the company’s senior analyst for ports and terminals, Neil Davidson.

On a regional basis, ports in Africa and Latin America showed the strongest growth over the course of the first quarter. In Africa, throughput at ports handling more than 125,000 TEU annually rose by around 13 percent year over year, and throughput at a sample of similar-sized ports in Latin America rose by close to 10 percent. The good numbers for Africa indicate volumes may finally be starting to come back following a lengthy decline mainly due to the low price of oil, which pulled down throughput at the major oil exporting economies of West Africa. Despite the strong showing at the beginning of the year, throughput at African ports is still down by 13 percent since 2014. “Volumes are slowly recovering and in the medium- to long-term; it is reasonable to expect good growth in the region,” said Davidson.

The outlook for business on the continent is further boosted by the increasing size of vessels deployed, which is expected to drive more hubbing in West Africa. Throughput at North American terminals also expanded above the global average of 3.6 percent in the first quarter, and the improving volumes are expected to continue with stronger economic data from the region. IHS Markit expects US real GDP to jump from a 0.7 percent annual rate in the first quarter to 3.4 percent in the second as consumer spending is supported by rising employment, real incomes, and household wealth. Brisk sales and rising prices are also expected to encourage more homebuilding, further supporting growth on the trans-Pacific, said Sara Johnson, senior research director with IHS Markit. JOC.com senior economist Mario Moreno has forecast Asia

to US TEU trade will rise by 6.9 percent this year. Oceania and China port volumes also grew above the global average in the first quarter, but growth was more moderate in traditionally high-growth regions such as Southeast Asia, the Middle East, and South Asia. “Within [the combined Middle East, South Asia region], there are wide variations at the port level. Bandar Abbas saw huge growth in the first quarter [over 50 percent] and several Indian ports showed double-digit growth [Mundra, Cochin, Kolkata], but other Indian ports lost market share and saw declines,” said Davidson. Despite relatively good demand across most major regions, terminal operators say they expect pressure on margins due to the twin impacts of industry consolidation and ever-increasing vessel sizes to continue.

IHS Markit data show that with outstanding liner merger and acquisition (M&A) deals included, seven carriers will shortly control 70 percent of global fleet capacity, which currently sits at around 20.2 million TEU. At the same time, three resized alliances now account for 75 percent of the capacity of the fleet, the data show. The more concentrated customer environment means some loss of negotiating power for terminals, and the so-called “tariff effect” from customer M&A — where merged lines are in a position to choose the lowest cost supplier contract — is also impacting revenue. IHS Markit data show over 80 percent of the current orderbook consists of tonnage in excess of 10,000 TEU. The ongoing influx of larger vessels to the market continues to put pressure on port infrastructure, requiring investment in upgrades and new equipment. According to Davidson, in locations such as the US East Coast, there is significant activity due to increased vessel sizes and although much of the infrastructure and equipment upgrades are complete, there is still work to be done. “13,000-TEU neo-Panamax vessels are already calling and ship sizes will increase, service frequency will drop, and peaks will get worse ...” “By and large the US East Coast ports have done the physical investments and so now is the time to look at the soft side — sharing information, data, and coordinating operations, investments.” Average container ship sizes through the Panama Canal have increased by roughly 47.5 percent to 6,000 TEU since the June 26 opening of the Panama Canal’s larger locks that enabled ships of 13,000 TEU through the waterway. Increased state input into port and terminal development is also adding considerable complexity to the global ports market at the moment. Unprecedented in terms of its ambition and method, China’s Belt and Road program is generating a lot of new activity in the sector as well as a significant level of unpredictability. In the case of some Belt and Road port projects with a strong geopolitical slant, the focus on ports and related infrastructure is secondary, which has implications for the capacity balance in some regions, such as the strategic Strait of Malacca. Higher-level drivers behind

Belt and Road port projects can also push up the price of asset acquisition when immediate financial returns are not prioritized.

Source: [www.joc.com](http://www.joc.com), 16 June 2017

### **Coastal India-Bangladesh port network expands**

-Syful Islam

A pact between India and Bangladesh to provide coastal shipping services between the two countries has expanded to include six ports of calls for each, with the addition of Pangaon and Dhubri. The Protocol on Inland Water Transit and Trade (PIWTT), signed between the two countries in 1972, saw several amendments, last time renewed in June 2015 for five years, during Indian prime minister Narendra Modi's visit to Bangladesh. The protocol facilitates passage of goods between two places in one country and to third countries through the other's territory. Pangaon Inland Container Terminal joins fellow Bangladesh ports Narayanganj, Khulna, Mongla, Sirajganj, and Ashuganj in the network, and Dhubri will round out the six Indian ports including Kolkata, Haldia, Karimganj, Pandu, and Silghat.

India has already started to use transit facility by sending cargoes from Kolkata to its seven sister states in the northeast using Bangladesh territory, which helped cut distance and transportation costs drastically. Apart from adding the ports and routes, the two sides are in discussion over amending Article 3.5 of PIWTT where India proposed that Bangladesh will bear 20 percent of the maintenance cost of Indo-Bangla water transit route. Under the last amendment of the protocol India had been paying Bangladesh Tk 10 crore (\$1.25 million) annually to keep the route navigable. Besides, India has proposed amendment of Article 15 of the protocol allowing crew members of vessels, possessing a valid passport but having no visa, to embark and disembark at the identified ports of call and bunkering stations in both countries for 72 hours after completion of immigration and customs formalities.

Until now, only a negligible volume of Indo-Bangla trade is being done through waterways, although the duos signed a coastal shipping agreement in June 2015. The treaty came into operation almost a year after its signing following the endorsement of standard operating procedure.

Business circles says poor navigability of the rivers, problems in port handling, and lengthy and complicated customs procedures have kept the potential of using water routes for bilateral trade untapped. They say transportation cost of goods between Bangladesh and India can be cut by \$3 per metric ton by shifting the freight from road to waterways. For bilateral trade, until now, waterways are mainly being used for transporting cement clinker. However, under bilateral transit arrangement India so far transported food grains, steel rods, and over-dimensional cargoes for powerplants in Tripura. The two-way trade between Bangladesh and India amounted to over \$6 billion. In fiscal year 2015 to 2016, Bangladesh exported goods worth \$689 million to India and imported goods worth \$5.452 billion from there.

Bangladesh mainly exports woven garments, knitwear, home textiles, agricultural products, frozen foods, leather and leather products, footwear, raw jute, jute goods, and bicycles. On the other hand, the country imports cotton, cotton yarn, cotton fabrics, vehicles, nuclear reactors, boilers, machinery and mechanical appliances, cereals, edible vegetables, iron, and steel among other items.

Source: [www.joc.com](http://www.joc.com), 19 June 2017

### **Top Chinese firm signs MoU with Adani group to invest USD 300 million in Mundra port**

Indian conglomerate Adani Group has signed an MoU with one of China's largest private companies to invest USD 300 million in a manufacturing unit of an Indian port. The memorandum of understanding (MoU) signed between Adani and East Hope Group proposes to set up manufacturing units in Mundra special economic zone in Gujarat to produce solar power generation equipment, chemicals, aluminium and animal feed, a statement by the Indian Consulate in Shanghai said. It will also put in place East Hope Group's engineering and industrial integration chain to recycle and economise the product cost at Mundra SEZ, it said.

The MoU was signed between Amit Uplenchar, President of Adani Ports and Special Economic Zone and Meng Changjun, President of East Hope Group (Investment) in the presence of Consul General Prakash Gupta yesterday. The MoU is proposed to convert into a definitive agreement within a period of 180 days and would cover areas of specific cooperation outlined as per agreement between the two sides, the statement said.

An estimated investment of more than USD 300 million is expected to be made by the East Hope Group in India, as part of the proposed cooperation between the two companies. East Hope, the Chinese counterpart signing the MoU, is a Renminbi 70 billion Group, and is one of the largest corporate house in China, having business interests in aluminium, polysilicon, power and animal feed.

Source: [www.newindianexpress.com](http://www.newindianexpress.com), 20 June 2017

### **Shipping Losses Continue to Drop Despite ‘Perfect Storm’ Risk Environment**

Shipping losses dropped 16 percent overall in 2016, amounting to a 50 percent decrease in the last 10 years, according to a new report. Despite the positive news, a “perfect storm” risk environment continues to plague the industry due to political instability, regulatory constraints and increasing cyber risk, the report says. “We continue to see improvements in maritime safety, but the price of safe navigation is constant vigilance,” said Captain Andrew Kinsey, senior marine risk consultant at Allianz Global Corporate and Specialty (AGCS), which produced the report. “The maritime sector is entering a period of considerable change and unrest from economic pressures, technology and political factors,” he said in the report. “There is a perfect storm of increasing regulation and narrowing margins.”

The decline in losses is “driven by improved regulation and the development of a more robust safety culture,” the report says, but “disparities by region and vessel type remain. The recent downturn in the shipping economy could also be a factor in benign loss activity.” Although the global number of losses is down, regional “hotspots,” such as South China, Indochina, Indonesia and the Philippines, continue to plague the industry. More than a quarter (23) of the total 85 ship losses in 2016 occurred in these four regions—almost double that of the next highest region (12), the East Mediterranean and the Black Sea. Meanwhile, losses are up year-on-year in maritime regions of Japan, Korea and North China; the East African Coast; the South Atlantic and East Coast South America; and the Canadian Arctic and Alaska. Cargo vessels took the biggest hit in 2016, suffering 30 losses. Passenger ferries losses increased year-on-year to 8. Foundered (sunk/submerged) vessels were cited as the most common cause of loss, accounting for more than half. The report attributed those losses most often to bad weather; fire/explosion claimed another 8 ships, up slightly over 2015.

“While the decline in the number of total losses and casualties is encouraging, there is no room for complacency, especially at a time of inherent economic challenges,” the report says, citing environmental scrutiny that is producing “record fines” for pollution and new ballast water management rules that are adding “a significant cost” and potentially new risks to shippers, as well as political risk in Yemen and the South China sea “posing increasing threats.” Meanwhile, the piracy threat is evolving—although the number of ships hijacked is down, crew kidnappings is increasing. In 15 separate incidents last year, 62 people were kidnapped for ransom. Incidents of piracy (191) last year continued a downward trend, dropping 22 percent compared to 2015 (246), representing the lowest total since 1998. “The reduction reflects the success of measures to contain the threat of Somali pirates in the Gulf of Aden and Indian Ocean, including the introduction of armed guards on-board vessels and the presence of a multinational naval task force,” the report says. “There were just two recorded incidents off Somalia in 2016, compared with 160 in 2011.” However, in the first quarter of 2017, pirates attacked 43 ships and captured 58 crew members; more than 60 percent of kidnappings were in the Gulf of Guinea, with Nigeria a hotspot, according to the report. The weakened economic state of global shipping emerged in full force with the collapse of Hanjin Shipping. “Bankruptcies are on the rise and economic strains have led to cost-cutting,” the report says. The report warns of an over-reliance on technology as safety-enhancing technology is finding its way into shipping. “This could bring huge benefits, as it is estimated that 75 percent to 96 percent of marine accidents can be attributed to human error,” the report says. “A number of incidents have occurred where crews have relied too much on technology, particularly involving electronic navigation tools.”

The ever-increasing reliance on technology is also elevating the risk of cyber attacks. “To date, most attacks have been aimed at breaching corporate security, rather than taking control of the vessel but there are concerns that a major cyber-attack of this nature could occur in future,” the report says. “Cyber security should not be neglected at a time when crew, training and maintenance budgets are already under pressure. Standard practices, such as crew education and identifying measures to back up and restore systems, should be implemented to reduce cyber risk.” The brunt of the shipping loss problem comes down to human error, which accounted for about 75 percent of more than \$1.6 billion in claims over the last five years. And while autonomous vessels might go a long way in eliminating the human element from the equation and revolutionizing the industry, the report says, “on a scale not seen since containerization,” safety considerations will be crucial to the development of autonomous shipping, along with the “challenges around regulation and liability

issues,” the report says. “A critical element will be whether there will be sufficient backup if things go wrong.”

Source: [www.brinknews.com](http://www.brinknews.com), 29 June 2017

## **India-Bangladesh Maritime Trade: Protocol on Inland Water Transit and Trade (PIWTT)**

-Vasudha Chawla

### *Introduction*

After the 1971 India-Pakistan War leading to the creation of Bangladesh, India and Bangladesh signed a Treaty of Peace and Friendship, in 1972. Since then, more than 50 bilateral institutional mechanisms were forged between the two countries. Evidently, issues concerning the sharing of river waters, illegal migration, and border security are still outstanding.

At present, India is a part of two economic initiatives that create economic corridors for the landlocked countries of South Asia to the sea, viz. the Bangladesh-Bhutan-India-Nepal (BBIN) Initiative, and the Protocol on Inland Water Transit and Trade (PIWTT). The former is a quadrilateral initiative, focusing on issues such as water resources management, connectivity of power, transport, and infrastructure; the latter is a bilateral protocol connecting the inland waterways of India and Bangladesh. These economic initiatives showcase India’s interest to connect with northeast India, and further on with the South East Asian countries.

In the past five years, trade between India and Bangladesh has grown more than 17 per cent.<sup>1</sup> Bangladesh seeks to enhance bilateral trade further towards the northeastern states of India. As indicated by the officials of Bangladesh, 100 Special Economic Zones (SEZs) are being planned in Bangladesh, of which, two SEZs in northwest Bangladesh are dedicated to Indian businesses.<sup>2</sup> Bangladesh has been welcoming the Indian private sector to help achieve the desired growth, benefitting both. Companies like Reliance, Adani, Tata, and Godrej are already present in Bangladesh. The northeastern states of India offer Bangladesh a desired market, particularly in the FMCG sector.

This issue brief examines the geostrategic dimensions of the India-Bangladesh bilateral Protocol on Inland Water Transit and Trade, and its ramifications for the two countries.

### *Protocol on Inland Water Transit and Trade (PIWTT)*

In 1972, India and Bangladesh signed the Protocol on Inland Water Transit and Trade (PIWTT). It was initially renewable every two years; however, since October 2001, the renewal was done in a haphazard manner. In June 2015, Prime Minister Modi's visit to Bangladesh propelled the bilateral ties and the two governments renewed the protocol on 6 June 2015.

The protocol is an agreement between the two governments for the transportation of goods and keeping their respective waterways navigable, while providing infrastructure facilities. The protocol further states that both countries will mutually decide the proposed expenses; voyage permissions shall be taken at least four days prior to the actual journey; and the vessels shall share equal tonnage.<sup>4</sup> The cargo tonnage share between the two parties on paper seems highly attractive, questioning its viability, as the routes are dominated by Bangladeshi vessels.

In May 2017, the two governments also signed an MoU on river cruises on the PIWTT routes, which will see the upcoming cruise vessel Charaidew 2 begin its voyage from September 2018.<sup>5</sup> The execution of plans on waterways between the two countries has been quite efficient, portraying their individual interests.

The EXIM trade between India and Bangladesh is of great economic salience for the two countries. However, in terms of quantity, Indian exports to Bangladesh are higher than the imports from Bangladesh.<sup>6</sup> This has led to a one-way traffic on the waterways, and increased costs for vessel operators. Other than this, the protocol has a five-year automatic renewal, until either government terminates the protocol. The termination is valid on the expiry of the protocol, and shall not affect the actions already taken.<sup>7</sup> This clause shall prove to be beneficial for the two countries, as the initial developments would not come to a standstill with the change in governments or the expiration of the protocol.

The India-Bangladesh Protocol Routes include parts of rivers Ganga, Hooghly, Brahmaputra, and Barak, and the Sundarbans delta. Developments under this protocol have taken major strides. Initially, Bangladesh allowed a transshipment of food grains

to Tripura on humanitarian grounds, and another transshipment of equipment for ONGC's power plant.<sup>8</sup> In 2015, Prime Minister Kolkata Haldia Mongla Chandpur Sirajganj Dhubri Shilghat Shilghat Dhubri Sirajganj Chandpur Mongla Haldia Kolkata Haldia Chandpur Ashuganj Karimganj Karimganj Ashuganj Chandpur Haldia Kolkata Karimganj Ashuganj Chandpur Sirajganj Dhubri Shilghat Shilghat Dhubri Sirajganj Chandpur Ashuganj Karimganj Rajshahi Godagari Dhulian Dhulian Godagari Rajshahi 4 Modi's visit to Bangladesh further strengthened the ties. In May 2017, India and Bangladesh initiated the process to make River Brahmaputra (also known as Jamuna in Bangladesh) navigable through dredging. In this, India bears 80 per cent of the total cost.<sup>9</sup> Though the primary aim of the PIWTT is economic, it will also help the two countries geostrategically.

The signed protocol between the two governments will primarily drive their respective economies towards growth. While Bangladesh aims to grow its economy through an increase in trade, India's interest is not only restricted to the economy but also includes geostrategic issues. If Bangladesh is enclosed by India on three sides, India is separated by Bangladesh, while being connected via a narrow corridor. Thus, India's primary interest is to efficiently connect the northeast with the main hinterland by using the waterways.

### *Strategic Interests of Bangladesh*

Bangladesh's economy has grown by 0.6 per cent in the financial year 2016–17, pushing its GDP to 7.2 per cent. With an aim to increase its trade with India, Bangladesh would benefit from the services it would offer to Indian vessels during their voyage, which will further facilitate growth in their service industry and enhance their logistics businesses. Since Bangladesh is looking forward to export to the northeastern states of India, the protocol opens various opportunities for Bangladesh to enhance their trade, which will in turn generate revenues. Being a deltaic country, Bangladesh is home to 54 rivers that flow from India into the Bay of Bengal, of which the Ganga and the Brahmaputra are vital for both the countries. In Bangladesh, they are famously known as Padma and Jamuna, respectively.

Bangladesh's political leadership is often driven by either the Bangladesh Awami League, which has a pro-India tilt, or the Bangladesh National Party, which has an anti-India tilt. The most favourable bilateral ties with India have taken place under the leadership of the Awami League. But there have also been a few instances that have weakened the ties. Former Indian Prime Minister Manmohan Singh lacked West

Bengal's Chief Minister Mamta Banerjee's support during his visit to Bangladesh to sign the Teesta agreement. The agreement was not signed as Mamta Banerjee argued that water sharing would harm agriculture in northern West Bengal. Also, the water sharing agreement on the Ganges signed in 1996 created problems for Bangladesh. After the construction of the Farrakka Barrage, Bangladesh had issues with the water flow, which had been diverted into the Hooghly River, causing water scarcity in Bangladesh for drinking and agriculture. The 30-year agreement is approaching its renewal, which might be difficult with problems persisting.

On the other hand, recent developments such as resolving the maritime boundary dispute under the Permanent Court of Arbitration and the signing of the Land Boundary Accord, have shown progress in the bilateral relationship. Bangladesh surely is looking forward to the settlement of Teesta water sharing. But, Mamta Banerjee's proposal (made during Sheikh Hasina's visit in 2017),<sup>10</sup> for sharing the water of the river Torsa instead of the river Teesta, might further delay the signing of Teesta agreement.

A major part of the PIWTT routes inevitably passes through Bangladesh, which will give Bangladesh leverage to control the river routes. At present, Bangladeshi vessels enjoy cheaper diesel costs, cheaper labour costs, and lower capital costs vis-à-vis Indian vessels, due to lower safety standards adopted in Bangladesh.<sup>11</sup> The dominance of Bangladeshi vessels in the region will also give them an opportunity to put pressure on India for signing the Teesta agreement. Bangladesh has also remained silent on Mamta Banerjee's proposal of water sharing of the Torsa river. In short, the strategic advantages of Bangladesh would create geopolitical ramifications for India.

### *Strategic Interests of India*

India's primary interest to integrate with the northeast is quite evident with the recent developments on the protocol. Bangladesh provides India access to northeast India, both via land and by the waterways. The waterways are known for their cost-friendly and environment-friendly characteristics. Thus, transportation through waterways seems to be the best alternative to land routes. Also, the poor infrastructure of roads led to the signing of the Protocol on Inland Water Transit and Trade.

In 2001, the Ministry of the North-East Region (NER) was founded to have complete commitment towards the development of the region, and to tap the potential of its people and natural resources.<sup>12</sup> The NER was vital for former Prime Minister

Narsimha Rao's Look East policy, whereas it is crucial for the current government's Act East policy to connect to the South-East Asia.

The northeastern states do not have direct access to the sea, and are landlocked. Their situation is similar to other landlocked countries of the world, as their economic prosperity is the lowest among the developing countries.<sup>13</sup> They especially lack infrastructure development and the role of private players, which generate efficiency, higher productivity, and incomes. The north-eastern states of India would benefit the most from the waterways. There would be sufficient availability of goods and services in the region. The vessel services and river fishing would generate employment; the maintenance of waterways would help prevent floods in the areas; and mainly, the seven sisters would be accessible for the transportation of goods, especially at the time of any calamity.

Being economically viable, waterways would benefit Indian traders because of reduced transport costs. The existing infrastructure development of river ports and multimodal transport networks under the Project Sagarmala will further enhance the overall logistics costs and bring economic prosperity.

The lack of accessibility to the northeast has been under discussion for decades, and even the few recently proposed developments by the Indian government have mainly centred around road and rail connectivity projects. But the Siliguri corridor, known for its vulnerability because of its narrow width, is not sufficient to connect to the seven sister states. Famously known as the 'chicken's neck', the corridor is 100km long and the width comes down to as low as 17km at one point.<sup>14</sup> Thus, to supplement the land routes through the corridor, strong bilateral ties with Bangladesh on waterways is the only viable option left for India. India looks forward to strengthening the ties and revive the lost water routes in the region.

Moreover, Bhutan's exit from the BBIN Motor Vehicle Agreement might turn out to be fruitful for the development of inland waterways between the two countries as an alternate route. The reason for its exit is environmental concerns.<sup>15</sup> Thus, for India, it is the best opportunity to move forward with the development of waterways to transport goods in an environment-friendly manner. This might even solve the problem for Bhutan, as they would enjoy equal benefits by using waterways as a mode of transportation.

### *Possible Challenges*

The execution of navigable waterways will no doubt face some serious challenges in its course to become efficient. The siltation of rivers is a common problem in the Sundarbans delta, being the largest delta in the world. This will require regular dredging in the waterway routes. As mentioned above, India is bearing 80 per cent of the dredging costs initially; but the requirement of dredging is more frequent in deltaic regions. Thus, the cost incurred by both the countries, especially India, will increase. Also, an effective and efficient management is needed to perform regular dredging in the entire protocol route.

The Ganga and Brahmaputra rivers are seasonal in nature and thus, proper infrastructure is necessary. The construction of locks should be the primary concern after dredging. The locks help in maintaining efficient water levels for vessels to ply smoothly. As mentioned in a report, transportation in Assam becomes unpredictable during the monsoon. Operating small passenger ferry boats is risky. Similarly, between December and March, big vessels are unable to ply due to low water levels. This has led to the untapped potential of trade and transit through the waterways.

### *Way Ahead for India*

India has been endeavoring to keep good relations with its neighbour despite the conflicting interests within Bangladesh's political parties. India's efforts to connect its north-eastern states might prove to be fruitful after the rivers are made navigable. But, Bangladesh's leverage in the region will continue to hinder smooth navigation till the Teesta agreement is signed.

The protocol routes will open doors for India to trade with the South East Asian countries through Bangladesh. The development of waterways in this landlocked region will be a boon for their economy, simultaneously also satisfying the individual interests of each country. The effective development of these routes might also benefit the BBIN agreement if Bhutan opts for waterways to supplement roadways. The above developments in the region support the Indian Prime Minister's initiative: 'Sabka Sath, Sabka Vikas'. The collaboration will further benefit every country in the region because of mutual interests.

Source: [maritimeindia.org](http://maritimeindia.org), 16 June 2017



## MARINE ENVIRONMENT



### **Coral Reefs Suffer Under Climate Stress, But Curbing Pollution Can Help**

Kiho Kim, a professor in the department of environmental sciences at American University, and his colleagues have examined the ratio of nitrogen isotopes in the coral on the eastern side of Guam, a US territory that has undergone disturbing ecological changes over the past six decades. The study showed that the damage mostly came from nitrogen derived from sewage dumped by community sewage plants and septic tanks into the Togcha River watershed and flowing downstream to the reefs. "For our study, we focused on nitrogen, which is commonly used in pollution studies because different sources of nitrogen have distinct ratios of heavy nitrogen ( $^{15}\text{N}$ ) to light nitrogen ( $^{14}\text{N}$ )," Kim explained in the study, published in the journal *Marine Pollution Bulletin*. "Fertilizer, for example, has a low ratio of heavy nitrogen to light nitrogen. Sewage, on the other hand, has a higher ratio of heavy nitrogen to light nitrogen. By analyzing the ratio of heavy to light nitrogen in the biological material, we can figure out where most of the nitrogen came from. Often, it's either fertilizer or sewage, the two common sources of nitrogen in coastal environments."

The researchers also noted that the nitrogen pollution they recorded correlated with the island's population, which grew tenfold between 1960 and 1980 alone. Kim expressed concern over the impact of pollution and climate stress on coral reefs in Guam, but pointed out that there still are ways to neutralize the negative effects. "In general, reefs are resilient and can come back if the stressor is removed. If we can clean up our coastal waters, perhaps the corals and other creatures can better adapt to climate change," he said. "Technology is available to remove nutrients like nitrogen from sewage, although it's very expensive... But we have to weigh the costs of upgrading treatment plants against the costs of losing the reefs and the ecosystem. With the proper accounting, the math generally favors paying to protect the coral reefs and other coastal ecosystems."

Source: [sputniknews.com](http://sputniknews.com), 16 June 2017

## **Plastic pollution wreaking havoc on marine life along Pakistan's coast**

Beaches in Pakistan, especially Clifton, are littered with plastic pollution contributing to around 50 percent of the total garbage found on the beach. This non-degradable pollutant is seriously affecting marine life along coastal and offshore waters, maintained a World Wide Fund for Nature–Pakistan's (WWF-P) study on marine pollution in the country. The study released to the media on Friday, revealed that even remote beaches along Pakistan's coast including Kund Malir and Gwadar are littered with plastic pollution. It has been reported that globally one out of three marine mammals have been found entangled in plastic litter. Similarly, researches indicate that around 90 percent of sea birds digest plastic. Fish and other animals are also not spared as they consume micro-plastic or become entangled in plastic debris, the study maintains.

In a rare incident, a flat needlefish (*Ablennes hians*) locally called 'Alore' was found entangled in the handle of a plastic cup by Momin Khan, a WWF-Pakistan trained fisherman, on Thursday around 270 km southwest of Karachi. The fish alive when found could not survive after fishermen tried to remove the cup, attached to its midsection, said Muhammad Moazzam Khan, WWF-P's technical advisor (Marine Fisheries). Uncontrolled dumping of plastic products in the terrestrial and marine environment has become a serious threat to animals and plants inhabiting coastal and offshore waters of Pakistan. According to one estimate, around 6.4 million metric tons of trash, mostly plastic, is dumped in the world's oceans every year. If plastic bags, bottles, toys and packaging material are not disposed of properly, they reach the sea and damage coastal ecosystems. "Plastic waste, which decomposes very slowly, keeps floating in the open sea or piles up on beaches. Pakistan is no exception to this, as improper dumping of city garbage at unauthorised locations such as along the shores of Ibrahim Hyderi, Karachi, has resulted in an unprecedented increase in plastic pollution on the beaches and sub-tidal environment along the coastline," the official maintained.

He added that, "Plastic pollution come from flotsam and jetsam generated from ships including fishing vessels operating in the sea. Floating plastic is mistaken for food items by marine animals who become engulfed in it, in most cases, with serious and deadly consequences." Khan added that high concentrations of plastic material, particularly plastic bags, have found to restrict the breathing and stomachs of many marine species, including whales, dolphins, seals, seabirds, and turtles. According to him, flat needlefish is a fast moving fish which usually misidentifies floating plastic cup for food

and became entangled in them. “No such case of entanglement was ever reported from any other parts of the world,” he added. WWF-P Senior Director Programmes Rab Nawaz urged the local administration to properly remove garbage from the city and called for adequate disposal at dumpsites and controlling of unauthorised dumping of garbage at Ibrahim Hyderi and other coastal areas of the country.

He further stressed the need for creating awareness among the general public about rational use of plastic in their daily chores and also promoting use of recyclable material instead of plastic. “It is a persistent chemical and takes hundreds of years before degrading.” According to Nawaz, accumulation of plastic in the ecosystem, especially along the coast and in offshore waters, poses serious threats to marine biodiversity; hence urgent steps are needed to address this growing issue all over the world.

Source: [www.thenews.com.pk](http://www.thenews.com.pk), 25 June 2017

### **Plastic pollution poses serious threat to marine life**

-Faiza Ilyas

How polluted our sea has become was indicated on Thursday when fishermen at sea around 270km south of Karachi caught a flat needlefish stuck in the handle of a plastic cup in their catch, the World Wide Fund for Nature-Pakistan (WWF-P) reported. According to the organisation, fisherman Momin Khan took the fish on board with the aim to release it back into the water, but it died when he attempted to do so. “Continued dumping of plastic products in the terrestrial and marine environment has become a serious threat to animals and plants inhabiting coastal and offshore waters of Pakistan. There is a dire need for efforts to control this pollution,” said Mohammed Moazzam Khan, technical adviser on marine fisheries at WWF-P. Plastic pollution, he pointed out, was also contributed through flotsam (debris not deliberately thrown overboard) and jetsam (debris thrown overboard by a crew of ship in distress) generated from ships, including fishing vessels operating in the sea. “Floating plastic is mistaken as food and many animals get entangled or stuck in such stuff with serious, often deadly consequences. High concentrations of plastic material, particularly plastic bags, restrict breathing of marine species, such as whales, dolphins, seals, seabirds, and turtles,” he said. It had been reported that globally one out of three marine mammals were found entangled in plastic litter, he added.

Studies initiated by WWF-P show that on beaches such as Clifton, plastic pollution contributes up to 50 per cent of beached garbage. Now, even remote beaches along Pakistan's coast, including Kund Malir and Gwadar, are littered with plastic, which is affecting marine life, including sea birds along coastal and offshore waters. According to some estimates, around 6.4 million tonnes of trash, which mostly contains plastic, is dumped in the world's oceans every year. Around 90pc of sea birds take in plastic. Fish and other animals are also not spared as they consume microplastic or become entangled in plastic debris.

If plastic bags, bottles, toys and packaging material are not disposed of properly, they reach the sea and damage coastal ecosystems. Plastic waste, which decomposes very slowly, remains floating in the open sea or piles up on beaches. Senior director programmes at WWF-P Rab Nawaz called upon the local administration to ensure proper waste collection and disposal, especially in the coastal areas like Ibrahim Hyderi. "There is also a need for creating public awareness of how to ensure minimum use of plastic in daily life and also promote use of recyclable material instead of plastic, a persistent chemical which takes hundreds of years [to decompose]. "Accumulation of plastic in the ecosystem, especially along the coast and in the offshore waters, poses serious threat to marine biodiversity," he said.

Source: [www.dawn.com](http://www.dawn.com), 24 june 2017

### **PHL oceans in trouble: Overfishing, pollution, climate change ail our seas**

- Jonathan L. Mayuga

WHEN ocean explorer and filmmaker Alexandra Cousteau visited the Philippines in September last year, she told journalists the world's oceans are in trouble. The Philippines, Cousteau said, is no exception. She could not have described the situation any better. The country's coastal and marine ecosystems are degraded, and efforts to protect and conserve the country's coastal marine ecosystems remain wanting. The decades of neglect that led to ocean degradation in the Philippines, in fact, have already taken its toll on the fishery sector. The dwindling fish catch of municipal fishermen—from an average of 10 kilos per day to just 5 kilos per day and/or lower—over the past decades pose a serious challenge. Small fishermen confided that, because of the depleted fish stocks, they are forced to resort to destructive and unsustainable fishing practices—from blasting, or use of cyanide; use of trawl and unprescribed fish nets; and

encroachment in marine-protected areas (MPAs), fish sanctuaries and spawning grounds, which are supposed to be “no-take” zones to cover for the high cost of production and make ends meet.

### *Ecosystem services*

THE open ocean provides a wide range of goods and services essential to human development and survival. The World Wide Fund for Nature (WWF) listed five important benefits of maintaining a healthy ocean. These include food, particularly fishery; transportation or shipping; oxygen production; carbon sequestration or sink; and temperature and weather control. Aside from the obvious ecosystem services that oceans provide, such as food and transportation, the phytoplankton in the ocean are estimated to produce over half the oxygen that many needs. The ocean waters also have the capacity to absorb vast amounts of greenhouse gas that help buffer global warming. The surface layer of the ocean absorbs over half the heat reaching the Earth from the sun. “By distributing this heat around the world, ocean currents—which flow for thousands of kilometres, both at the surface and far below—are extremely important in determining the climate of the world’s continents,” the WWF said.

### *Economic potential*

THE Philippines is composed of 7,641 islands and islets, with approximately 266,000 sq km of coastal waters and bay areas, excluding the Philippine Rise, the country’s newest territory 250 km off Aurora Province. The country is at the apex of the Coral Triangle, declared by scientists as “the center of the center of marine biodiversity in the world”. The Coral Triangle, according to a broad scientific consensus, represents a global epicenter of marine life and abundance and diversity. “Spanning only 1.6 percent of the planet’s oceans, the Coral Triangle region is home to the highest coral diversity in the world with 600 corals, or 76 percent, of the world’s known coral species. It contains the highest reef-fish diversity on the planet with 2,500, or 37 percent, of the world’s reef fish species concentrated in the area,” the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security web site said. “It is also a spawning and nursery ground for six species of threatened marine turtles, endangered fish and cetaceans, such as tuna and blue whales.” The Philippines, along with Indonesia, Malaysia, Papua New Guinea, Solomon Islands and Timor Leste, known collectively as the CT6 (Coral Triangle 6), agreed to adopt a 10-year regional plan of action to safeguard the region’s coastal and marine biological resources.

### *Coastal, marine biodiversity*

The Philippine seas are home to at least five species of marine turtles, 28 marine mammals, 168 cartilaginous fishes, 648 species of mollusks, 1,755 reef-associated fishes, 1,062 seaweeds and 820 species of algae. The Philippine reefs contribute approximately P1.35 billion to the national economy per year. Many areas in the country continue to rake profit from ecotourism, showcasing its coastal and marine biodiversity, its white-sand beaches, lagoons and world-class diving spots, which attract both local and foreign tourists. Having one of the richest coral and reef-fish diversity in the world puts the Philippines in a better economic position than other countries within Southeast Asia. The Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015 to 2028 placed the country's ecosystem and biodiversity value at P2.3 trillion. The PBSAP added ecosystem services provided through fishery production is estimated to be worth P111 billion; coral reef, 62.1 billion; and mangrove, 7.4 billion.

### *Environmental degradation*

MUCH of the country's coastal and marine resources are already degraded. In Luzon the historic Manila Bay is dying because of pollution. Tons of garbage are washed along the shore. The degradation of coastal and marine areas, such as in Manila Bay, was a result of a number of factors. The massive land reclamation or dump-and-fill along Manila Bay destroyed much of its coastal ecosystem—including mangroves, sea grass and corals—decades ago. The indiscriminate dumping of garbage in Metro Manila has already taken its toll, as uncollected garbage finds their way into waterways, eventually ending up either in Laguna de Bay or Manila Bay. The coast of Manila Bay is known to be notoriously dirty and contaminated with toxic pollutants. Water quality in Manila Bay's shoreline did not improve much since the Supreme Court issued in 2008 a continuing mandamus ordering concerned government agencies to clean up and restore Manila Bay to its pristine state. The latest laboratory test along the stretch of Manila Bay revealed high levels of coliform and faecal coliform. The fecal coliform is particularly worrisome, as they may carry pathogenic bacteria in fishes and can be harmful to humans when consumed, said Salvador Batellar of the Manila Bay Coordinating Office of the Environmental Management Bureau (EMB).

The current coliform level of the water in Manila Bay's shoreline runs over a million most probable number (MPN) per 100 milliliters. This is way above the acceptable level of 100 MPN of coliform per 100 ml. This level allows authorities to declare fish caught in a particular water body safe for human consumption.

### *Sorry-state*

GLORIA Estenzo-Ramos, vice president of Oceana Philippines, an ocean conservation advocacy group, said she is saddened “to see only small fish underwater and some corals and sea grass smothered by sediments from land”. Humans are getting more and faster from our ocean than it can regenerate, Estenzo-Ramos added. “Overfishing, pollution, coastal developments and climate change are real threats to the health of the ocean and, of course, our survival,” she said. An environmental lawyer, Ramos added the collapse of the country’s marine species and their interconnected habitats, like corals, sea grass and mangroves, is of our own doing. “We should wake up, and take urgent action to restore its vitality and rebuild fisheries—Now!” she said. In a 2013 report, titled “Oceans in the Balance: Philippines in Focus”, Greenpeace noted that the Philippine seas are under threat—corals are dying, mangrove areas are being destroyed, sea-grass beds are being suffocated by erosion and vital populations of fish and other marine species are declining. In fact, the report said the overall picture of the country’s oceans depicted the Philippines as a nation in crisis because of the various threats to its marine and coastal ecosystems. On top of the massive damage to its coastal and marine ecosystem, the Philippine seas is becoming more and more polluted because of indiscriminate dumping of trash into the ocean.

Source: [www.businessmirror.com.ph](http://www.businessmirror.com.ph), 18 June 2017

### **Antarctic pollution five times worse than previously thought**

lastic pollution in the Antarctic is much worse than previously believed — five times worse, to be exact. According to a study by scientists at the University of Hull and the British Antarctic Survey, levels of microplastics in the region’s waters were much greater than formerly estimated. Microplastics derive from items like toothpaste, shampoo, cosmetics and clothing, or breakdown from larger pieces of plastic debris. And while they usually enter the ocean by way of wastewater, more than half of the research stations in the relatively untouched Antarctic don’t have any such wastewater treatment plants, meaning the plastic is making its way through the Antarctic Circumpolar Current, previously thought to have been almost impossible to pass through.

Antarctica is thought to be a highly isolated, pristine wilderness,” the researchers said in a press release Monday. “The ecosystem is very fragile with whales, seals and

penguins consuming krill and other zooplankton as a major component of their diet. Our research highlights the urgent need for a coordinated effort to monitor and assess the levels of microplastics around the Antarctic continent and the Southern Ocean." Seals lie on a frozen section of the Ross Sea at the Scott Base in Antarctica, Nov. 12, 2016. Photo: Getty Images

Up to 51 trillion microplastic particles exist throughout the world's oceans, an amount equal to 500 times the number of stars in the galaxy, according to the United Nations. "We have monitored the presence of large plastic items in Antarctica for over 30 years," the researchers said. "While we know that bigger pieces of plastic can be ingested by seabirds or cause entanglements in seals, the effects of microplastics on marine animals in the Southern Ocean are as yet unknown. This paper represents an excellent first step towards recognizing the presence of microplastics in Antarctica and allows us to call for international effort in monitoring the situation whilst it is still in its earliest stages." This isn't the first time scientists have been surprised by the sheer volume of pollution in some of the world's most remote places. Scientists at the University of Aberdeen revealed in a February study that they had found manmade pollution in the deepest reaches of the ocean — more than 36,000 feet down.

In that case, the pollutants found were polychlorinated biphenyls, or PCBs, a type of chemical used in paints, rubbers, plastic and other industrial applications. The toxic chemicals were banned in 1979 after researchers discovered their effect on humans and the environment, but PCBs continue to leach into the ocean to this day, making their way through the food chain and eventually sinking into the depths of the ocean. "We still think of the deep ocean as being this remote and pristine realm, safe from human impact, but our research shows that, sadly, this could not be further from the truth," Alan Jamieson, the leader of the study, said at the time. "The fact that we found such extraordinary levels of these pollutants really brings home the long-term, devastating impact that mankind is having on the planet."

Source: [www.rawstory.com](http://www.rawstory.com), 20 June 2017

### **Accelerating Sea Ice Floes Could Spread Pollution Faster**

As climate change speeds up sea ice drift in the Arctic Ocean, environmental disasters like oil spills could take an even greater toll, new research shows. Arctic ice floes have been accelerating 14 percent per decade since the late 1980s, according to a study published this week in *Earth's Future* by a team of Columbia and McGill university

researchers. Each year, that acceleration helps push about 1 million square kilometers of sea ice — an area bigger than France and Germany combined — between different countries' exclusive economic zones. “If you have a Deepwater Horizon-type spill where sea ice is forming, the oil can get into the ice and be transported to another country's waters,” study co-author Stephanie Pfirman, a researcher at Barnard College and Columbia University's Lamont-Doherty Earth Observatory, said in a statement. As warming temperatures make the Arctic more navigable, the surrounding countries — the United States, Canada, Denmark, Finland, Iceland, Norway, Russia and Sweden — are eyeing the region's untapped natural resources.

The Arctic holds about 90 billion barrels of oil, 1.7 trillion cubic feet of gas and 44 billion barrels of natural gas liquids, according to the U.S. Geological Survey. Most of those resources lie beneath the Arctic Ocean or the surrounding waters. The “nightmare scenario,” the researchers wrote, is that “when accidents occur, as they have in every major oil-field (Gulf of Mexico, Alaska, etc.), the extreme cold, seasonal darkness, remoteness, and presence of sea ice will make containment and recovery extremely difficult, if not impossible.” Arctic nations are well aware of how challenging that environment can be — that's exactly why in 2013 the eight-nation Arctic Council agreed to cooperate on oil spills, said Stephanie Pezard, a researcher at the RAND Corp. “There's been an understanding for a long time that this [type of disaster] would probably affect more than one country,” she said, explaining that the Arctic Council is becoming an increasingly important forum for shaping international policy in the region. Other binding agreements have covered search-and-rescue operations and scientific exploration.

Still, the Arctic Council's agreements have not yet faced a major test, she said. The researchers also suggest Arctic countries need to do more to protect the coastal waters where ice forms. “We all know that pollution in a watershed ends up in lakes and rivers downstream,” said Bruno Tremblay, one of the study's co-authors, who holds joint appointments at McGill and Columbia universities. “But I don't think the concept of an 'iceshed' is fully appreciated. The countries around the Arctic are all connected.”

Further warming could potentially shorten ice floes' reach by causing more aggressive melting, the study says. And depending on fuel prices and technological advances, serious drilling in the Arctic is likely still 30 to 50 years away, Pezard said. “That doesn't mean that these countries are not setting up claims for the continental shelf, because someday it will be exploitable,” she said. “And the decisions are being made now.”

Source: [www.scientificamerican.com](http://www.scientificamerican.com), 28 June 2017



## **Modi-Trump to give new thrust to Indo-US ties**

Prime Minister Narendra Modi will visit the US on June 25-26 during which he will meet US President Donald Trump for the first time. The two leaders will give a further push towards strengthening the strategic bilateral relationship. "One of the agenda of Prime Minister's visit is how to further push and develop economic and commercial cooperation for mutual benefit," External Affairs Ministry spokesperson Gopal Bagley said here today. He said India-US ties were "very robust" with the bilateral trade crossing nearly 150 billion dollars and several US companies have their strong presence in India. The two leaders would have wide-ranging discussion and they would not be limited by a strictly laid down agenda when they meet in person for the first time in Washington DC, he said. Prime Minister Modi has had telephonic conversations with President Trump on three occasions. The spokesperson said all matters of bilateral interest would be discussed between the two leaders. They are expected to focus on giving a thrust and direction to the already expanding relationship which has been described as a defining partnership of the 21st century.

"Their discussions will provide a new direction for deeper bilateral engagement on issues of mutual interest and consolidation of multi-dimensional strategic partnership between India and the US," External Affairs Ministry had said in a statement earlier this week. Modi will also meet CEOs of leading American companies and business representatives to give a thrust to India's economic agenda. Replying to a question on racial attacks on Indians in the US, the spokesperson said that not all attacks were racial. "Whenever there have been attacks on Indians, they have been condemned very strongly by the US Government," he said. The White House had said earlier this week that the leaders can be expected to set forth a "common vision" for expanding the US-India "partnership" in an "ambitious and worthy way". President Trump looks forward to "advancing our common priorities? fighting terrorism, promoting economic growth and reforms and expanding security cooperation in the Indo-Pacific region", according to White House press secretary Sean Spicer. En route to the US, Prime Minister Modi will also stop in Portugal for a brief working visit, the spokesperson said.

Source: [www.navhindtimes.in](http://www.navhindtimes.in), 23 June 2017

## **China's next One Belt, One Road plan: South China Sea-Indian Ocean corridor**

China on Tuesday proposed constructing a first-of-its-kind oceanic corridor linking the South China Sea and Indian Ocean, as it released a new maritime plan under President Xi Jinping's 'One Belt, One Road' (OBOR) initiative. The plan, released in Beijing by the National Development and Reform Commission and the State Oceanic Administration, calls for building three "blue economic passages", one of which is a "China-Indian Ocean-Africa-Mediterranean Sea" passage, running "westward via the South China Sea to the Indian Ocean".

The plan further suggests it will "link with the China-Indochina Peninsula Economic Corridor, and connect with the China-Pakistan Economic Corridor and Bangladesh-China-India-Myanmar economic corridor". The two other oceanic routes listed under the plan are a China-Oceania-South Pacific passage running southward from the South China Sea and to the Pacific Ocean, and a passage linking Europe via the Arctic Ocean.

### *Unilateral plan*

As with the OBOR, this plan appears to be unilaterally conceived by China and it remains unclear how it will be received by countries in the region. India, for instance, is unlikely to back a South China Sea-Indian Ocean corridor that the document says will link up with the CPEC, which India has opposed as it runs through Pakistan-occupied Kashmir. The South China Sea, most of which Beijing claims, is itself contested by as many as 10 parties, who are far from certain to back this initiative. China, however, could still go ahead with the corridor that aims to link Asia with Africa through its already on-going port projects in Myanmar, Bangladesh and Sri Lanka. One proposal calls for "jointly setting up marine disaster warning systems in the South China Sea, the Bay of Bengal, the Red Sea and the Gulf of Aden".

### *Port projects*

The plan also envisages strengthening connectivity through port projects along the routes, some of which China is accelerating under the OBOR, which comprises a land belt through Central Asia and Europe and a maritime silk road to Southeast Asia and the Indian Ocean."Efforts are needed to strengthen international maritime cooperation, improve shipping service networks among countries along the Road, and to jointly establish international and regional shipping centres," it says. "Countries along the Road are encouraged to enhance cooperation through pairing sister ports and

forging port alliances. Chinese enterprises will be guided to participate in the construction and operation of ports. Projects for the planning and construction of submarine cables will be jointly advanced to improve connectivity in international communications." The plan listed several OBOR projects as having made progress, such as the Malaysia Malacca Seaside Industrial Park, the Pakistan Gwadar Port, the port-industrial park-city mode of integrated development of the Kyaukpyu port in Myanmar, the Colombo Port City and the Phase II Hambantota Port Project in Sri Lanka, the railway linking Ethiopia and Djibouti, the railway between Mombasa and Nairobi in Kenya, and the Piraeus port in Greece.

Source: [indiatoday.intoday.in](http://indiatoday.intoday.in), 20 June 2017

### **China asks India and US not to disturb peace in South China Sea**

China on Friday asked India and the US not to disturb peace+ in the strategic South China Sea+ and play a "constructive role" in the disputes there, as the issue was likely to be discussed during Prime Minister Narendra Modi's meeting with President Donald Trump. Modi will meet Trump on June 26. He will hold talks with Trump on a range of bilateral, regional and international issues of common concern. Asked about the cooperation between India and the US on Indo-Pacific region which includes the South China Sea+ , Chinese Foreign Ministry spokesperson Geng Shuang said the situation in the disputed region was "cooling down". "With concerted efforts of China and ASEAN countries the situation there is cooling down. We hope other countries especially non-regional countries can respect the efforts by the regional countries to maintain peace and stability in the South China Sea and can play a constructive role in this regard," Geng said.

China claims sovereignty over all of South China Sea. Vietnam, Malaysia, the Philippines, Brunei and Taiwan have counter claims. China is engaged in hotly contested territorial disputes in both the South China Sea and the East China Sea. Beijing has built up and militarised many of the islands and reefs it controls in the region. Both areas are stated to be rich in minerals, oil and other natural resources. They are also vital to global trade. The US had recently sent a navy warship near an artificial island in the South China Sea as part of the first "freedom of navigation" operation under President Trump, a move China said challenged its sovereignty in the region. China termed the US' move as "irresponsible" and warned that America's

deliberate provocations would have "extremely dangerous consequences" to regional stability

Source: [timesofindia.indiatimes.com](http://timesofindia.indiatimes.com), 23 June 2017

## **Why China is rattled by growing Indo-US cooperation**

- Abheet Sethi

Indian PM Narendra Modi's visit to the US and his meetings with President Donald Trump have signalled the increasing Indo-US bonhomie. This appears to have irked China, which criticized India about the ill-effects of being a pawn in the US' hands, in an article in the Chinese state-owned Global Times.

### *US appears to endorse India's stance on China's OBOR initiative*

The Indo-US joint statement declared that countries must respect sovereignty while promoting regional economic connectivity. This argument has been used by India to express its doubts about China's One Belt One Road (OBOR) transcontinental connectivity and infrastructure initiative. Its mention in the joint statement is a significant development as it indicates the US' endorsement of India's stance on the subject.

### *Modi and Trump's "freedom of navigation" statement targets China*

Both Modi and Trump reiterated the "importance of respecting freedom of navigation" and called on countries to "resolve territorial and maritime disputes peacefully and in accordance with international law." These are words the US has used in relation to Beijing's territorial claims over the South China Sea and East China Sea. India's endorsement of the US stance will surely anger China.

### *Modi and Trump pledge to forge ahead with defense cooperation*

Both Modi and Trump pledged to enhance bilateral defense and security cooperation, built on the US designating India Major Defence Partner. India has bought billions of dollars' worth sophisticated defense equipment in a bid to balance China's growing

military prowess. The joint statement also mentioned that the US-India partnership is "central to peace and stability" in the Indian Ocean Region, which includes China.

### *China remains wary of India-Japan-US naval exercise*

The statement highlighted the large-scale Malabar military exercise involving the Indian, US and Japanese navies which will be held in the Bay of Bengal next month. The annual exercise helps improve interoperability between the three navies. China views it as a naval grouping aimed at containing it and had lodged a strong diplomatic protest against the Malabar exercise in the past.

Source: [www.newsbytesapp.com](http://www.newsbytesapp.com), 28 June 2017

### **Malabar Exercise Likely to Upset Chinese Equation in Indian Ocean**

The maritime alliance between India and the US is mainly to contain China's aggressive designs in the Indo-Pacific region. India and US agreed to cooperate with each other on maritime issues during the meeting between Indian Prime Minister Narendra Modi and US President Donald Trump on Monday. "Noting the importance of the upcoming Malabar naval exercise, the leaders determined to expand their engagements on shared maritime objectives and to explore new exercises," the India-US Joint Statement read.

Modi's major takeaway from the US visit is the convergence of India-US interest in containing China in the Indo-Pacific region. This is the continuation of Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region agreed by both the countries in 2005, which says that, "As the leaders of the world's two largest democracies that bridge the Asia-Pacific and Indian Ocean region... a closer partnership between the US and India is indispensable to promoting peace, prosperity and stability in those regions." The US Predator Guardian drones to be sold to the Indian Navy per a deal confirmed after Modi's visit will be mainly used to monitor Chinese activities in the Indian Ocean. The upcoming Malabar joint naval exercise can also be seen as a demonstration of the intention and ability to check China's increasing influence in the Indian Ocean. "Although India wanted combat drones from the US for the Indian Ocean security and surveillance, the US agreed to sell surveillance drones only. Nevertheless, it will be very useful for the Indian Navy. As far as the Malabar exercise is concerned, definitely it will be a show of strength

against Chinese maritime power. China's aggressive posturing in the Indian Ocean is a cause of concern for India," strategic expert Brahma Chellaney told Sputnik.

Source: [sputniknews.com](http://sputniknews.com), 28 June 2017

### **China just launched the mother of all ships and India needs to be worried; here's why**

Enemies to the North West, enemies to the North East, winter's coming and China's just built the mother of all warships. The cold war between India and China seems to be intensifying in recent times, China accusing Indian troops of "crossing the boundary" in the Sikkim section on Tuesday and demanding their immediate withdrawal being the latest spat between the two bordering nations. The People's Liberation Army had, on Monday, accused the Indian military of stopping the construction of a road in what it claims to be China's "sovereign territory" in the Sikkim section of the India-China border, adding that the move has "seriously damaged" border peace and tranquility. As if to immediately assert its dominance over India, China today launched its most powerful new generation naval destroyer, and it is considerably larger and more powerful than India's latest Project- 15B "Visakhapatnam". Weighing 10,000 tonnes, the Type 055, is among the largest warships in the world. The domestically designed and produced vessel was launched at the Jiangnan Shipyard in Shanghai, making it the first of the People's Liberation Army Navy's "new generation" destroyers.

While India's latest destroyers are designed to carry a mix of nearly 50 surface-to-air, anti-ship and land attack missiles. China's mammoth cruiser will combine nearly 120 missiles including new air defense systems, anti-ship and anti-submarine weapons, making it one of the most heavily-armed ships in the world. China has commissioned five Type 52D destroyers that are similar to India's 15B 'Visakhapatnam' class warships, since March 2014 and while India has planned to build seven of these warships, China plans to float more than double that fleet; sources say at least 18 ships of this class are in the works. What's worrying for India is that China is currently engaged in a bitter debate with the United States over its presence on artificially-created islands in the disputed waters of the South China Sea and India is an important ally of the United States Navy in the Indian Ocean. What's more, in the last five years,

China has constantly deployed submarines (including nuclear submarines), warships and support vessels in the Indian Ocean; India surely needs to be worried.

Source: [www.timesnow.tv](http://www.timesnow.tv), 28 June 2017

### **Tension at trijunction: India-China standoff over Bhutan clash**

- Praveen swami

Face-offs between Chinese and Indian troops over road construction on the borders of a 269-sq km plateau in Bhutan claimed by China has sparked off what experts are describing as the worst crisis in relations between New Delhi and Beijing since troops from the two countries confronted each other at Daulat Beg Oldi in 2013, diplomatic sources told The Indian Express. The clash on the Doklam plateau, which overlooks the strategic Chumbi Valley, Indian diplomatic sources said, involved troops serving with India's Brigade-sized mission at Ha — a formation meant to train Bhutan's armed forces, but which also deploys alongside the Royal Bhutan Army to patrol its frontiers against China. "Even though India has long had a presence along the Bhutan-China border, it has never acted in defence of its ally's interests. The Chinese are very upset by the Indian assertion, and are seeking to push back against what they see as a line having been crossed," a senior Indian official said. (A PTI report said Army chief General Bipin Rawat will visit Sikkim Thursday to take stock of operational matters and interact with top commanders in the formation headquarters. The agency also quoted Vetsop Namgyel, Bhutan's ambassador to India, saying his country had issued a demarche to China over the construction of a road towards its Army camp in Zomplri area of Doklam and asked Beijing to restore status quo by stopping work immediately.)

Meanwhile, Beijing upped the ante, telling New Delhi to "correct its errors" before reopening of the Nathu La Pass for Kailash Mansarovar pilgrims can be considered. China also described the construction of the border road as "legitimate", maintaining that it was being built on Chinese territory that does not belong to India or Bhutan and no other country had the right to interfere. Chinese Foreign Ministry spokesperson Lu Kang indicated that the point of friction was in the Donglong (Doklam) region, which he stressed belonged to China. "It is reported that the incidents happened at Donglong, (that it) is part of the disputed territory between China and Bhutan. The region is part of China and is indisputable. China's construction is a legitimate activity. If India wants

to raise an issue about it, I would say that it doesn't belong to India and neither does it belong to Bhutan," he said.

According to Lu, Indian troops crossed the boundary on the Sikkim side into Chinese territory. "This is different to what was before in India-China boundary. Bhutan is an internationally recognised country and its sovereignty is to be respected. Even if the boundary is delimited, no third party should interfere and make irresponsible comments," he said. Few details have emerged on the clash but two Indian officials said that Beijing has privately complained that Indian troops attacked a road-construction unit on the night of June 4-5, leading to an unarmed brawl in which two Chinese personnel sustained minor injuries.

Later, on the morning of June 5, Chinese troops retaliated in strength, destroying Indian sangars, or simple rock-and-earth bunkers, built on the Bhutan side of the de-facto border, near an Indian-guarded position identified by the code-name Laltain, or Lantern. Neither country has officially admitted to the clash having taken place, but an opaquely worded June 26 statement by the Chinese Foreign Ministry said Indian troops had crossed "the China-India boundary at the Sikkim section and entered the Chinese territory, obstructing Chinese border troops' normal activities in Doklam".

The Foreign Ministry did not explain how Indian troops had succeeded in traversing several dozen kilometres of mountain terrain required to move from Sikkim to Doklam – wording Indian diplomats said was likely intended to avoid drawing Bhutan into the controversy. Beijing's strategic equities in the Doklam plateau have multiplied in recent years, with the upgrading of the road from Lhasa to Yadong, which allows the 500-km journey to be made in just seven hours. The road, which passes through Bhutan's territory, has significantly enhanced China's military logistics in the region, which faces out on to India's defences in the so-called Chicken's Neck, through which all roads to the North-East must pass.

In addition, China is now in the process of extending the Beijing-Lhasa high speed railway line to Yadong, and is expected to begin test runs in less than two years. Beijing had, in 1996, offered to renounce its claims over the Pasam-Lung and Jakar-Lung valleys in northern Bhutan, 495 sq km, in return for Thimphu ceding its claims to the Doklam plateau. It was reported to have also pressured Thimphu by saying it would not agree to a border deal until Bhutan allowed it to open a diplomatic mission in that country. Former National Security Advisor Shivshankar Menon had travelled to Thimphu in 2013, amidst rumours that Bhutan was considering such an arrangement.

However, following Prime Minister Narendra Modi's visit to Bhutan in 2014, its Prime Minister, Tshering Tobgay, moved to quell the rumours, saying "We don't even have diplomatic relations. How can you open an embassy without diplomatic relations?" The genesis of the Doklam plateau crisis date back to the 1950, as tensions between China and India began to rise. Even in 1959, a Chinese Ministry Foreign Affairs document issued on December 26 that year records, "concerning the boundary between China and Bhutan, there is only a certain discrepancy between the delineation on the maps of the two sides in the sector south of the so-called McMahon Line."

In other words, China agreed that there were no discrepancies between its maps and those of Bhutan in the country's west, where the Doklam plateau lies. But in 1960, China's leadership sparked off panic in Bhutan by asserting, in a statement, that the "Bhutanese, Sikkimese and Ladakhis form a united family in Tibet. They have always been subject to Tibet and to the great motherland of China". Then, in 1966, Tibetan nomads entered the pastures of the Doklam plateau, escorted by People's Liberation Army guards, provoking fears of an attempt to occupy the territory. In 1988, things came to a head when the PLA crossed into Bhutan and took control of the Chumbi Valley, below the Doklam plateau. In the years since, PLA troops have been reported to have regularly threatened Royal Bhutan Army guards on the plateau, and sometimes occupying their posts for several hours or even days. With the standoff continuing, an opinion article in China's state-run Global Times stated that India needed to be "taught rules" of handling boundary disputes. "China avoids making an issue of border disputes which has indulged India's unruly provocations. This time the Indian side needs to be taught the rules. India cannot afford a showdown with China on border issues. It lags far behind China in terms of national strength and the so-called strategic support for it from the US is superficial," the article stated.

Source: [indianexpress.com](http://indianexpress.com), 29 June 2017

## **India-Maldives Relations: A Tale Of Two Concerns – Analysis**

- N Manoharan

Though small, the Maldives is India's important neighbour. India's Prime Minister Narendra Modi called the Maldives "a valued partner in the Indian Ocean neighbourhood" and said India-Maldives "ties are built on a very strong foundation"

the contours of which “are defined by shared strategic, security, economic and developmental goals.” However, the bilateral ties are not without irritants, which can be seen in two broad areas: political and strategic. Politically, India has consciously avoided interfering in the Maldives’ internal affairs despite invitation from the actors in the atoll state. However, New Delhi’s major concern has been the impact of political instability in the neighbourhood on its security and development. The February 2015 arrest of opposition leader Mohamed Nasheed on terrorism charges and the consequent political crisis has posed a real diplomatic test for Modi’s neighbourhood policy. Expressing concern over “the arrest and manhandling of former President Nasheed,” India urged “all concerned to calm the situation and resolve their differences within the constitutional and legal framework of Maldives.” As a result of the incumbent Abdulla Yameen government’s intransigence in heeding to India’s appeal on Nasheed, Modi had to drop the Maldives from his four-nation Indian Ocean tour in March 2015. The move did send a conspicuous signal to Maldives that India was disappointed with the developments that would undermine the political stability of the Maldives. However, the message from Malé was very clear: “India will adhere to the principle of Panchsheel and will not intervene in domestic politics of Maldives.” In diplomatic parlance, “Panchsheel” is generally used in Sino-Indian context. And, it was also to indicate China’s stand on the issue to New Delhi: “We are committed to non-interference in others internal affairs.” Despite this, Yameen went on to visit India three times since assuming power in 2013. In fact, during his latest visit in April 2016, Yameen reiterated “India first policy” and signed six agreements ranging from defence to taxation.

On the security front, there are at least two issues that impinged on India-Maldives bilateral ties that continued during the Modi government: Islamic radicalisation and the role of China. In the past decade or so, the number of Maldivians drawn towards terrorist groups like the Islamic State (IS) and Pakistan-based madrasas and other jihadist groups has been increasing. Protests bearing IS flags are not uncommon in the island. Approximately 200 Maldivian nationals have reportedly been fighting along with the IS. In terms of proportion to population, this number is quite high compared to other South Asian countries, irrespective of whether or not they are Muslim-majority countries. Political instability and socio-economic uncertainty are the main drivers of rise of Islamic radicalism in the island nation.

The fault lines are being used by Pakistan-based jihadists groups like Lashkar-e-Taiba (LeT). The LeT, through its front organisation, Idara Khidmat-e-Khalq, has established a foothold especially in the southern parts of the Maldives in the garb of the post-2004

tsunami relief operations. Events in West Asia, Afghanistan and Pakistan have also influenced Maldivians towards radicalisation. The youth, who return from their religious studies in certain Pakistani madaris controlled by various jihadist groups and from Saudi Arabian madaris, come back not only with radical ideas, but also with jihadi networks. The madrasa-educated youth are brainwashed to wage jihad in places like Afghanistan, Iraq and Chechnya. The returnees help in the recruitment of Maldivian youth for Islamic militant groups. India has two worries in this regard: one, the ex-filtration of members of Indian terror groups like the Students Islamic Movement of India (SIMI) and the Indian Mujahideen (IM) to the Maldives after their crackdown in India; and two, the possibility of LeT using remote Maldivian islands as a launch pad for terror attacks against India and Indian interests. Overall, India's concern is regarding how radical Islamic forces have been gaining political influence in the neighbourhood.

In the recent past, China's strategic footprints in India's neighbourhood have increased. The Maldives has emerged as an important "pearl" in China's "String of Pearls" construct in South Asia. Given the Maldives's strategic location in the Indian Ocean, Beijing has been vying for a maritime base in the atoll with the primary motive of ensuring the security of its sea lanes, especially the unhindered flow of critically-needed energy supplies from Africa and West Asia through the Indian Ocean.

Lately, the Chinese have remained among the top visitors to the Maldives. Beijing has evinced a keen interest in developing infrastructure in the Ihavandhoo, Marao and Maarandhoo Islands of the Maldives. During Chinese President Xi Jinping's visit in 2014, the Maldives agreed to become a partner in China's Maritime Silk Route. China has provided grant and loan assistance to the Maldives to build a bridge between the capital and the airport (called the "China-Maldives friendship bridge"). Chinese companies are involved in airport development and have now been handed islands for resort development.

Therefore, it is not without reasons that the current dispensation in Malé holds the view that "it will be to the detriment of the Maldives to not engage with China." Amendments to the Maldivian Constitution in July 2015 allowed foreigners to own land, including investments of over 1 billion dollars for projects where 70 per cent of the land has been reclaimed. Looking at the parameters, China will be the obvious beneficiary. Chinese nationals now account for the largest tourist arrivals in the islands.

India views the growing Chinese footprint in the Maldives with concern. India's concern stems from the increasing Chinese strategic presence in the Indian Ocean region. Though the Maldivian government under Yameen has reassured India that the Chinese presence in its atolls is purely economic, the concern of "places turning into bases" is genuine. From the Indian point of view, because of Chinese largesse to Maldives, economic leverages have not been working properly. It has become easy for the Maldives to play the China card against India. Being a small country, the Maldives may tend to use China card. However, it is well aware of India's importance in every sphere of its state-of-affairs. This has been proved time and again including in the recent water crisis. For its part, the main challenge to India's diplomacy is balancing out all the contradictions into harmonious relations.

Source: [www.eurasiareview.com](http://www.eurasiareview.com), 30 June 2017