



MAKING WAVES

Fortnightly E-News Brief of National Maritime Foundation

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'Act East': Modi's Maritime Mantra

- Udai Rao

The prime minister, with his maritime astuteness, may be the answer for 'sea blindness'. Prime Minister Narendra Modi's recently concluded tour of Seychelles, Mauritius and Sri Lanka attempts to strengthen New Delhi's influence in the Indian Ocean region. While New Delhi has enjoyed traditional ties over the years with these island states, now the need to consolidate economic engagement and defense/security ties with these countries, through maritime co-operation and capacity building.

Modi's mantra of 'Act East policy' evolved from the 1991 'Look East policy' is clearly our very own pivot. Modi is cognizant of India's centrality in the Indian Ocean and that its development lies across the indivisible waters of the Indo-Pacific. Accordingly, he seeks to shape the strategic security construct of the region which extends from Japan and Australia to Africa's east coast. Consequently, his vigorous attempts to influence countries and win friends on the back of enhanced bilateral and defense ties with regional countries namely Japan, Australia, Myanmar, Vietnam and Fiji have had a strong maritime element like the recent three nation tour.

Also, China's growing presence in the Indian Ocean Region, as an evolving maritime power, amounts to an extra-regional player which India needs to counter. Perhaps this prompted Modi to launch a coastal surveillance radar project and need to cooperate in hydrographic survey with Seychelles. For instance, in Sri Lanka, Modi also discussed the need to find a stable solution to the fishermen's problem. The transgression of territorial waters owing to paucity of fishing resources has the potential to flare up into bilateral political problems. To that extent, cordial India-Lanka maritime ties are a pre-requisite for regional harmony.

In Mauritius, Modi handed over an India-built ship 'Barracuda' to the Mauritius Coast Guard and outlined his Indian Ocean strategy during that ceremony. He stated: "We recognize that there are other nations around the world with strong interests and stakes in the region. India is deeply engaged with them. We do this through dialogue, visits, exercises, capacity building and economic partnership."

This policy pronouncement suggests potential for India-China maritime cooperation in the region. Also Chinese Ambassador Le Yucheng's recent statement that the Chinese 'One Belt One Road' initiative. This revives the ancient overland China-Central Asia – Mediterranean route and can be linked with India's 'Project Mausam' and 'Spice Route'. Evidently, New Delhi has reservations over Beijing's invitation to India to participate in its Maritime Silk Route. Instead, India has sought to counter this Chinese move with its own 'Project Mausam' that invokes our ancient monsoon enabled maritime links and revival of the ancient 'Spice Route' linking southern India with Europe.

Modi is, however, pragmatic enough to realise that Beijing's 'cheque book' diplomacy makes most regional countries support China's Maritime Silk Route. India, with its limited resources, could be left high and dry if New Delhi chooses a 'mutually exclusive' approach to these Indian Ocean initiatives vis-a-vis China. Clearly, the dragon has contributed to Modi's interest in 'matters maritime'. The Chinese surge into the Indian Ocean in recent years, the String of Pearls strategy, Chinese submarine operations in the Indian Ocean, the Maritime Silk Route initiative, the South China Sea disputes, have all stirred India to crank up its maritime outreach. Whether Chinese maritime initiatives are military or economy-oriented, remain fuzzy. Often what Beijing seeks to project as economic interests tend to have underlying military-strategic intent.

Maritime power

Apparently, Modi comprehends the various facets of maritime power which most definitely come from his stewardship of Gujarat. With 97 per cent of India's trade transported by sea, he realises that his development agenda, 49 per cent FDI move

and 'Make in India' campaign are all dependant on the security of the seas around us. This explains the prime minister's first visit soon after he assumed office to the aircraft carrier INS Vikramaditya which symbolises India's maritime power.

While he is yet to signal a grand vision for a 'Blue Economy' or an ocean-oriented economy, his push for 16 new port projects, which includes a move to corporatize our major ports, a policy to encourage the growth of Indian controlled tonnage, tax benefits for Indian seafarers and the 'Sagarmala Project' which encompasses ports, SEZs, multi-modal connectivity with the hinterland, supported by storage and warehouse facilities, are all with an eye to create jobs, increase industrial production and eventually enhance exports.

In a sense, the government's proactive maritime policy posture would also have been shaped by the 26/11 attack, the asymmetric maritime threats which emanate from a volatile neighborhood, the scourge of piracy off Somalia and India's vision of being a net security provider in the Indian Ocean region. US maritime strategist Capt Alfred Thayer Mahan had identified 'character of government' as one of the important ingredients of a great maritime power. Modi, with his maritime astuteness, may be the answer for 'sea blindness', which has afflicted Indian national security and foreign policy formulation since independence.

Source: [Deccan Herald](#), 30 Mar 2015

Keeping an Eye, Underwater

- Huma Siddiqui

Securing the waters pertaining to India's interest is set to acquire a whole *new* dimension, with the *entry* of versatile autonomous underwater vehicles (AUV) and submadrones, as force multipliers. While the Indian Navy is planning to indigenously source 10 such platforms mainly for intelligence, surveillance, and reconnaissance

(ISR), mine mitigation and sensor deployment, the Defence Research and Development Organisation (DRDO) has come a long way in designing and building a batch of multiple AUVs to meet the Navy's quality requirements. The defence minister Manohar Parrikar had recently informed the Parliament that DRDO has undertaken a feasibility study for the development of different types of AUV platforms that could be used for a variety of roles, like surveillance and mine counter measures etc; from hand-held slow-speed ones, to military-class, free-flooded platforms weighing 1.7 tonnes, with the capability to assist in the entire gamut of maritime security, straddling coastal and port defence to deep-sea operations.

AUV is an autonomous underwater vehicle and commonly known as unmanned underwater vehicle. AUVs can be used for underwater survey missions such as detecting and mapping submerged wrecks, rocks, and obstructions that can be a hazard to navigation for commercial and recreational vessels. What DRDO has designed for the Indian Navy is four-metre long, 1.4-metre wide, flat fish-shaped vehicle which can travel at a speed of about 7 km per hour at depths of up to 300 metres below sea level. The robotic vehicle is fully pre-programmed—in terms of algorithms and strategy, and mission requirements – and piloted by an on-board computer. There is no control of the vehicle once it is released into water. But, if the AUV deviates from its intended path, the guidance and control systems activate the propellers (technically called 'thrusters') and control planes to ensure that the vehicle returns to the original trajectory and continue moving along the desired path.

AUVs are the alternatives to the remotely operated vehicles (ROVs), which are controlled and powered from the surface but often prove to be inefficient at the places where communication between the operator and robot is constrained. With the development of the AUV, DRDO has enabled India to be at par with nations like US and Japan with such indigenous technology. The testing of this remotely operated vehicle has been done by DRDO and the programme has achieved objectives. The AUV project involves the Electronic Corporation of India (ECIL), Hyderabad, as the concurrent engineering partner. The cost of the AUV is roughly

\$8.4 million and it will augment underwater surveillance capabilities of the Indian Navy.

The AUV, which is very small in size and operates around a mother ship from where it is launched, controlled and recovered, is expected to aid the Indian Navy in surveying waters and help in the deterrence of hostile ships or submarines. Developed from a concept vehicle weighing 300 kg, the AUV has two interconnected cylindrical pressure hulls. Its multi-sensor intelligence robotic architecture provides for underwater monitoring and communication. Since the thrusters are inside the pressure hulls, vibration is next to nil. Vehicle deployment is done by a ship-independent launch and recovery system developed by R&D Engineers, Pune, another DRDO lab. DRDO has done extensive work in terms of harnessing various aspects of hydro-dynamics as well as the integration of control and guidance in the AUV. The technology is aimed to be transferred to industry through mission mode projects based on specific application and requirements.

The Indian Navy has been impressed by the DRDO's AUV that has undergone user demonstrations and has already elicited deep interest from the maritime forces following navigation trials at sea. DRDO's naval science and technology laboratory (NSTL) in Visakhapatnam is also trying to develop a variant of the AUV that can conduct more frontline activity like mine-laying. The AUV, smaller than the AUV-150 developed by the Central Mechanical Research Institute (CMERI), will have passive sonar and electro-optical sensors.

In-house technologies already available with the Naval Science and Technology Laboratory (NSTL), such as mission computer system (MCS), integrated instrumentation and recording system (IIRS), power management system (PMS), and electrical systems, were adopted for the development of the AUV.

Source : [Financial Express](#), 5 Apr 2015

This US Technology Could Give Indian Aircraft Carriers an Important Edge

- Ankit Panda

According to remarks by a senior U.S. Department of Defense official, the United States would not oppose Indian purchases of advanced U.S. aircraft carrier technology. Frank Kendall, under secretary of defense for acquisition, technology, and logistics, told Reuters that the U.S. government would support an Indian purchase of an electromagnetic launching system for aircraft carriers, specifically San Diego-based General Atomics' Electromagnetic Aircraft Launch System (EMALS).

"I'm optimistic about cooperating with them on that," Kendall told Reuters when asked about supporting a possible Indian EMALS deal. "They're going to have to make their own decision about what technology they want, but I don't see any fundamental obstacles to them acquiring some of our carrier technologies, if they want them," he added.

India currently operates two aircraft carriers, the INS Viraat and the INS Vikramaditya. The former is a Centaur-class carrier, purchased from the United Kingdom, and the latter is a modified Kiev-class carrier, purchased from Russia and in service in 2013. India is currently constructing an indigenous carrier design, the INS Vikrant, a 40,000 ton carrier expected to enter service in 2017. A second Vikrant-class carrier, the INS Vishal, is planned and expected to enter service before 2030.

The Vikrant-class carriers will use a ski-jump assisted Short Take-Off But Arrested Recovery (STOBAR) launch system for jets aboard the carrier. Only Russian, India, and Chinese carriers use this system for their carriers. Adopting EMALS would entail a switch to the more complex Catapult-Assisted Take-Off But Arrested Recovery (CATOBAR) launch system. EMALS refines the U.S. Navy's existing CATOBAR launch systems by imposing less stress on aircraft chassis. In general, CATOBAR

launch system impose fewer design constraints on carrier-based aircraft than STOBAR systems.

General Electronics describes the advantages of EMALS over conventional launch methods as follows:

- Reduced manning workload
- Reduced thermal signature
- Increased launch availability
- Reduced topside weight
- Reduced installed volume
- Launch capability for unmanned aerial vehicle

In operational terms, Indian carriers equipped with EMALS would enjoy greater flexibility in carrier operations over their competitors in the region. Though costlier, a successful implementation of EMALS would theoretically allow Indian carriers to operate a wider range of aircraft and deploy them with more ease. China's Liaoning, for example, is a STOBAR carrier a constraint that led the U.S. Department of Defense to estimate that Chinese J-15 fighters taking off from the carrier would be "limited in range and armament when operating from the carrier, due to limits imposed by the ski-jump takeoff and arrested carrier landings."

Kendall's comments come as India and the United States continue to make major strides in defense cooperation. Kendall, who heads the U.S.-India Defense Trade and Technology Initiative (DTTI), noted that the issue of an EMALS sale would be addressed by a joint U.S.-India working group.

Source : [Diplomat](#), 6 Apr 2015

Can China Woo India to the Maritime Silk Road?

- Shannon Tiezzi

Chinese President Xi Jinping promoted the Maritime Silk Road (MSR) during a tour of Indian Ocean states, Indian Prime Minister Narendra Modi prepared to launch India's own plan for maritime integration: Project Mausam. That initiative envisions India as the center of the "Indian Ocean world," which stretches from Africa in the west to Southeast Asia in the east. Like China's Maritime Silk Road, Project Mausam would boost regional commercial and cultural linkages – but where the MSR would have all roads leading back to China, Project Mausam seeks to return India to its role as the center of Indian Ocean trade.

The dueling Indian Ocean plans are a direct sign of India's mistrust of the MSR and of China's Indian Ocean ambitions more generally. To try and assuage those concerns, Beijing is now pushing for a linkage between Project Mausam and the MSR. Chinese Ambassador to India, Le Yucheng, recently said in an interview with *The Hindu* that Beijing wants to link its MSR and Silk Road Economic Belt projects with New Delhi's Project Mausam. "India is China's natural and significant partner in promoting the 'Belt and Road' initiatives," Le said, noting that India's participation in the Asian Infrastructure Investment Bank is a positive step in this direction. More generally, Le emphasized that "China is also willing to work with India to conduct trilateral cooperation and multilateral cooperation in the [Indian Ocean] region, to achieve win-win cooperation and common development."

As China and India prepare to hold their annual defense dialogue later this week, China's Foreign Ministry re-emphasized the two countries' common interests in the Indian Ocean region. When spokesperson Hua Chunying was asked about Le's comments, she responded that "China is ready to work with South Asian countries, including India [and] Sri Lanka, to strengthen policy communication [and] identify the meeting point of their development strategies."

On the surface, the two projects do have much in common – both seek to expand regional integration, especially when it comes to trade and commerce. But on a deeper level, both the MSR and Project Mausam are about expanding influence – culturally, economically, and even strategically. India devised Project Mausam to counter perceptions that China was becoming the major Indian Ocean power; the chances of New Delhi allowing its initiative to become a sidespur to the larger MSR are slim to none.

China has had success in other cases tying its MSR to another country's own development goals, most notably Indonesia's "maritime fulcrum" policy. But when it comes to India, China faces deeper issues of mistrust and strategic competition. India has yet to buy in to the MSR, holding out even during Xi's visit to India last year. Despite China's repeated insistence that the MSR is a multilateral project (a "chorus" rather than a Chinese "solo," in Xi's words), India isn't buying it.

To get India on board the MSR, Beijing will have to make real progress at dissolving the strategic issues between the two countries. Notably, China seems to be trying to do just that. China and India have raised hopes that they are newly committed to solving their long-standing border dispute – an ambitious goal that, if realized, could change the strategic calculus between the two neighbors. Both countries will be pushing for progress before Modi's planned visit to China this May. By next month, then, we should have a better idea if China's MSR can ever woo India.

Source : [Diplomat](#), 7 Apr 2015

China, Vietnam Pledge to Control Maritime Disputes

- Shannon Tiezzi

The general secretary of the Communist Party of Vietnam, Nguyen Phu Trong, is in Beijing this week for meetings with Chinese leaders. Trong's visit continues the trend

of warming China-Vietnam ties through direct party-to-party relations rather than state mechanisms, a point Carl Thayer noted in an earlier piece for The Diplomat.

Trong is in China at the invitation of his counterpart, Chinese Communist Party General Secretary Xi Jinping (who, of course, is also China's president). China and Vietnam are celebrating the 65th anniversary of the establishment of diplomatic ties this year and both the VCP and CCP are eager to move past last year's ugly dispute over a Chinese oil rig operating off the Paracel Islands.

Xinhua interpreted Trong's trip as a signal that both sides "cherish their strong and lasting bond," which is based on "geographical proximity, economic complementarity, cultural affinity and ideological similarity." Xinhua added that it is "naïve" to think that China and Vietnam's "deep-rooted partnership would eventually crumble because of the South China Sea row." Neither country "will allow anybody to drive a wedge between them," the piece continued, referencing speculation that Vietnam is moving closer to the U.S.

In a press conference, Chinese Foreign Ministry spokesperson Hua Chunying said that China places great importance on Trong's visit. She also emphasized China's commitment to "developing a future-oriented relationship [with Vietnam] featuring long-term stability, good-neighborliness and all-round cooperation, and the spirit of staying as good neighbors, friends, comrades and partners."

To do that, the two countries will have to overcome suspicion and mistrust stemming from maritime disputes in the South China Sea. In his meeting with Trong, Xi urged China and Vietnam to "seek common ground while shelving differences, and control their disputes to ensure that the bilateral relationship will develop in a right track." He also suggested that the VCP and CCP, as well as the two governments, should "boost high-level interactions to find out new solutions to their problems." Trong and Xi agreed to work to control their maritime disputes and pledged closer cooperation on defense, security, and law enforcement.

The Nikkei Asian Review said that Trong and Xi had also agreed to work together on the Maritime Silk Road (MSR), China's vision for a trade route stretching from its east coast to the Middle East and Europe via the Indian Ocean. Vietnam would be a crucial link in the MSR thanks to its geographic location, but has so far resisted committing to the project due to maritime tensions with China. Nikkei reports that "Xi and Trong focused on economic cooperation for the planned trade corridor at a meeting Tuesday in Beijing," coming to an agreement to set up task forces to explore cooperation on infrastructure projects and financial exchanges.

According to Xinhua, however, Trong merely said Vietnam was considering joining the MSR. Despite an emphasis on its relationship with Beijing, Vietnam made certain no one could accuse it of tilting too far toward China. Even while Trong was in Beijing, Vietnam was simultaneously hosting U.S. Navy ships in Da Nang for annual joint naval activities. Hanoi also welcomed Russian Prime Minister Dmitry Medvedev for a three-day visit. Trong himself will be visiting Washington, D.C. later this year.

Source : [Diplomat](#), 8 Apr 2015

Coast Guard Safeguards U.S. Waters with Small Force

- Mary Carr Mayle

Two weeks ago today, a helicopter crew from Coast Guard Air Station Savannah medically evacuated a mariner from the container ship Hanjin Rio de Janeiro about 12 miles off our coast.

Petty Officer 3rd Class Anthony Soto said watch-standers in the Coast Guard Sector Charleston command center were notified at approximately 3:30 a.m. that a crew member was bleeding and appeared to be suffering from internal injuries. A Coast Guard flight surgeon was briefed on the situation and recommended the patient be taken off the vessel rather than wait until the ship docked in Savannah later in the day.

The helicopter crew was dispatched and airlifted the 52-year-old man from the 850-foot container ship. He was transported to Memorial University Medical Center, where he was initially listed in fair condition. After being stabilized and undergoing a series of tests over the weekend, the mariner was released from the hospital the following Monday and flew home to South Korea shortly after.

Airlifting injured or ill mariners is all in a day's work part of just one of the 11 statutory missions the U.S. Coast Guard is tasked with carrying out, said Cmdr. Amy Beach, commander of Coast Guard Marine Safety Unit Savannah and Savannah's first female Captain of the Port. Speaking Thursday to the Propeller Club's monthly meeting at the Pirates' House, Beach outlined those missions and more for Savannah's maritime community.

"Although many people associate the Coast Guard with its most visible mission search and rescue along America's coasts and waterways the Coast Guard is actually a military, maritime and multi-mission service with a wide range of peacetime and wartime roles," she said.

As one of the five armed services, the Coast Guard has a long history of defending our country at home and abroad in every major conflict going back to the two-year undeclared naval war with France in 1798, Beach said. "Most recently, the Coast Guard has deployed cutters and forces, including members of the Coast Guard Reserve, to Iraq's theater of operations our largest overseas commitment of resources for defense operations since Vietnam," she said. As the nation's primary maritime law enforcement agency, the Coast Guard is also tasked with coordinating with other federal agencies and foreign countries to enforce immigration laws at sea, Beach said.

"Every year, thousands of people try to enter this country illegally using maritime routes," she said. "Interdicting those migrants at sea means they can be quickly returned to their country of origin without the costly process required if they successfully enter the United States. "But primarily, the Coast Guard maintains its

humanitarian responsibility to prevent the loss of life at sea, since the majority of migrant vessels are dangerously overloaded, unseaworthy or otherwise unsafe.”

In 2014, the Coast Guard interdicted 3,587 total illegal migrants, including 1,103 from Haiti and 2,111 from Cuba. The marine environmental protection program develops and enforces regulations to avert the introduction of invasive species into the maritime environment, stop unauthorized ocean dumping and prevent chemical and oil spills, Beach said.

In addition to its missions, the Coast Guard’s area of responsibility is vast, covering 95,000 miles of coastline, 361 U.S. ports, 3,700 marine terminals, 3.4 million square miles of water and 8,000 foreign vessels that make about 70,000 port calls in the U.S. every year, she said.

“And all of this is covered with an active duty force of 40,000,” she said. “To put it in context, the Coast Guard is smaller than the New York Police Department and we’re all over the world.”

Source : [Business in Savannah](#), 9 Apr 2015

An Indian Ocean Region Shared by India and China

- Rajeewa Jayaweera

Evidence that Cold War rivalries were extending to the Indian Ocean threatening the peace and security of its littoral states emerged when the USA secretly acquired the British Indian Ocean Territory (BIOT) of Diego Garcia as a military base moving its indigenous inhabitants to Mauritius. During the third conference of the Heads of State / Government of Non-Aligned countries held in Lusaka from 8 to 10 September 1970, Sri Lanka’s newly elected Prime Minister Mrs Sirima Bandaranaike proposed a new Foreign Policy initiative "the Indian Ocean as a Zone of Peace" (IOZOP) as a response. It was based on declaring the Indian Ocean a Zone of Peace though the

more recognized form was for an Indian Ocean free of nuclear weapons. Her proposal was reflected in the summit's final declaration.

"Declaration of the Indian Ocean as a Zone of Peace" was then included in the agenda of the 26th General Assembly in 1971. The resolution was adopted with 61 votes for, zero against and 55 abstentions. China voted in favour whereas USA, USSR, UK and France all abstained. The adopted Resolution 2832 (XXVI) called for the Indian Ocean with air space above and ocean floor within limits to be defined, to be designated as a zone of peace. It further called all nations to consider and respect the Indian Ocean as a Zone of Peace and to refrain from Power rivalries and competition enabling the exclusion of military bases and free of nuclear weapons. India's attitude in view of its Friendship Treaty with USSR signed in 1971 was lukewarm. An Ad Hoc Committee on the Indian Ocean was established during the 1972 General Assembly and tasked with the study of practical measures to achieve the objectives of the Declaration.

India exploded a nuclear device in 1974. Sri Lanka's one time High Commissioner to India and subsequently Permanent Representative to the UN, Shirley Amarasinghe, commented "Sri Lanka did not want super powers to be replaced by a hegemonic littoral power". It prompted Pakistan to follow suit and commence the nuclear rivalry the Indian sub-continent. Though Sri Lanka followed a non-aligned foreign policy till 1977, it changed course after JR Jayewardene took over the reins of power. He followed a pro-western foreign policy and showed no interest in IOZOP. The disintegration of the USSR in 1991 made USA the unchallenged single superpower in the world. China meanwhile was well on its way towards economic prosperity. India after losing its ally and guarantor of security in 1991 opened its economy. The opening of their economies by the two most populous nations in the world with a combined market of nearly 3 billion consumers made western powers change their attitudes, policies and outlook towards both China and India.

Today, the countries vying for supremacy in the Indian Ocean Region (IOR) are no longer America and Russia but China and India. China being an economic power

house, has been investing in countries in both South Asia and Africa for some time. In the process, China has developed close bilateral relations with countries around India i.e. Maldives, Sri Lanka, Myanmar Bangladesh, Nepal and Pakistan. China, in October 2013 announced its Maritime Silk Road (MSR) or officially, the 21st Century Maritime Silk Route Economic Belt, a Chinese strategic initiative to increase investments and foster collaboration across the historic Silk Road. US critics have called this a 'string of pearls' strategy. In November 2014, Chinese President Xi Jinping announced plans to create a Beijing based USD 40 billion development fund which would help finance infrastructure projects in the countries within MSR. Countries in the IOR would be the beneficiaries of these Chinese initiatives. The Asian Infrastructure Investment Bank would obviously dilute the monopoly of the American and western controlled World Bank and IMF. China has accelerated its drive to draw Africa into the MSR by the speedy construction of a modern standard-gauge rail link between Nairobi and Mombasa.

IOR's importance today has increased tenfold from the days of the cold war. The players in the arena too have changed with the then major contenders i.e. USA and USSR being replaced by China and the new entrant India. Judging from the recent developments in Indo – US relations, it would appear that USA has virtually outsourced its interests in the IOR to India for the 'containment' of China. It is noteworthy that despite a Foreign Service comprising of officers from a multitude of ethnic origins, the Asst. Secretary of State for South and Central Asian Affairs in the State Department Nisha Desai Biswal, current US Ambassador to India Richard Rahul Verma and US Ambassador Designate to Sri Lanka and Maldives Atul Keyshap are all US citizens of Indian origin. The IOR is important to USA, UK, EU countries, Japan and Australia besides China and India, for both economic and security reasons. Maritime Security and safety of sea lanes of communications are of primary concern to all these countries. It can be argued that China who depends on sea lanes of communications for over 75% of its oil needs, for its large volume of exports to over half the world and their investments in the region does have a legitimate interest in the IOR. Their situation is somewhat similar to that of Japan's in the 10–15 years prior to WW II. The world has witnessed first-hand in many

instances, the implications in the reduction in 1991 from two to one 'super power'. The two super power concept more often than not was an effective deterrent. The implications of having only India or China all powerful in the IOR would be no different.

Sri Lanka must benefit from China's quest for investment opportunities in addition to opportunities afforded by India, which in any case will not be in the same magnitude as from China. Let it not be a case of exchanging Chinese investments and influence with Indian investments and influence. In this context, the better suited option for Sri Lanka, other SAARC countries excluding India, Myanmar and the littoral states would be to remain non-aligned while being equally close to China and India. Both China and India could serve their own interests as well as those of nations located in the MSR region by assuming the role of joint guarantors of security in the IOR. With this in mind, President Xi Jinping's suggestion to President Sirisena for trilateral talks between China, India and Sri Lanka begs serious consideration.

Source : [The Island](#), 11 Apr 2015

Chinese Nuclear Subs in the Indian Ocean

- P K Ghosh

The deployment of a Chinese nuclear submarine presumably a Type 093 Shang-class as part of the anti-piracy patrol of two ships and a supply vessel operating off the Gulf of Aden has set alarm bells ringing loudly in the Indian Navy. The implications of such a strategically significant move are simply enormous, as analysts try to decipher the real reason behind deploying such a platform in the region.

Submarines are not appropriate platforms for dealing with pirates or with piracy. The Somali pirates are known to use small craft known as skiffs individually or as part of swarm tactics to attack ships, returning to larger mother ships nearby. This gives

them large operating ranges. Such highly manoeuvrable crafts can hardly be chased by relatively slow moving submarines or torpedoed from underwater, making submarines quite superfluous to anti-piracy operations. Apart from this, in a region where the incidence of piracy has declined to negligible levels, such that other navies are scaling back their presence, China is actually increasing its patrol strength.

China has been conducting independent counter-piracy deployments, mainly in the Gulf of Aden area, since 2008 as part of its Military Operations Other than War (MOOTW) and ostensibly for the common good. Since such patrols require coordination, the Chinese have been cooperating closely with the Indian, Japanese and South Korean navies, although they operate independently.

However, the deployment of the nuclear submarine from December 13, 2014 to February 14, 2015 with the PLA(N) flotilla the 18th convoy from its South Sea Fleet was unique and raises questions about China's agenda. The Indian Navy has told the government that the Chinese may have been conducting hydrological studies in India's western seaboard, as the Chinese task force was also joined by a research vessel capable of bathymetric studies: mapping the depth of the ocean floors. But the Navy also conceded that it did not spot the Chinese boats in Indian territorial waters.

Hence the rationale for the deployment of the submarine was open to interpretation and analysis. First, it is well known that the Chinese initiative to deploy ships under the benign guise of anti-piracy patrols was a master stroke aimed at operating for extended periods in distant seas, and more importantly in India's strategic backyard. Simultaneously, China was able to cooperate with adversarial navies such as Japan and India, enabling it to evaluate these navies (and vice versa).

Second, the deployment sent a strategic message, especially to the Indian security establishment, who have endlessly debated the strategic implications of the Chinese naval foray into the IOR. Clearly, the PLA(N) has the capability to project and sustain

its blue water reach, operating thousands of miles from its base for an impressive seven months.

Third, Chinese nuclear submarines like the earlier Xia class were constrained in their ability to operate for even short periods beyond nearby waters. The new Shang and Jin classes are far superior technologically, as this deployment has demonstrated. Consequently, China has reaffirmed its prowess in creating high-tech platforms, along with its ability to project power and demonstrate “blue water” capability in distant oceans.

Fourth, frequent operation in the Indian Ocean will enable China to get a feel for the hydrological conditions in the region, facilitating additional underwater deployments.

Finally, while other navies in the region are looking to reduce their presence in anti-piracy patrols because of the financial burden and the sharp fall in the number of piracy attacks in the region, China has not only maintained its strength but increased it at times. The most likely rationale for this is giving its ships, submarines and crew a “sustained feel” for the area, perhaps in anticipation of frequent deployments in the near future. Hence, it is not idle speculation to suggest that both the Bay of Bengal and the Arabian Sea may become frequent hunting grounds for Chinese submarines, which could lie waiting at choke points or off Indian harbours to operate against the Indian Naval fleet in a crisis.

Clearly, India has a new maritime neighbour in China, which has the capacity to operate near Indian shores and in the Indian Ocean. India neglects this potential threat at its own peril.

Source : [Diplomat](#), 12 Apr 2015

No Man’s Sea: CSBA’s Lethal Vision of Future Naval War

- Sydney J. Freedberg Jr.

The seas are shrinking. As missiles grow longer-ranged and more precise, as sensors grow ever sharper, there are ever fewer places for a ship to hide. “A ship’s a fool to fight a fort,” goes an old naval adage, because a land base can carry more ammunition and armor than anything that floats. Admirals have always been uneasy about bringing their fleets in range of shore-based weapons. But what does the US Navy do when those weapons can find you hundreds or thousands of miles out to sea?

“In the Med [in World War II], you have these no man’s lands where it becomes very difficult to operate on the surface of the water,” Krepinevich told me. “In a mature [precision strike] regime, the oceans may shrink to Mediterranean size.”

“If you have to reinforce Taiwan or some critical point,” said Krepinevich, “and you don’t have a lot of time to prepare the battlefield, you are confronted with the prospect of ceding that key interest or suffering high levels of attrition.”

On the other hand, if we take a more aggressive course, our own ammo may not last long enough. Fighting a high-tech enemy would eat up missiles, drones, and even manned systems with the loss of human life that entails at a rate far higher than relatively defenseless targets in Libya, Afghanistan, or the Islamic State. US commanders are already lamenting their low stockpiles of precision weapons, and US industry can’t churn out new ones very fast.

“In a prospective near-term conflict with the People’s Republic of China, we have little ability to surge production of munitions, let alone major platforms,” Krepinevich said. “So if you are the PRC, you may only need to plan to maintain a few months’ supply of oil. If you are Beijing and thinking long-term, you can stockpile which I understand they are or build underground pipelines on land,” for example to oil-rich Russia.

Stockpiling oil, however, is much easier than stockpiling precision-guided weapons. If China and other adversaries can make us run out of ammo, why can’t we make them run out of theirs? In the age of iPhones, the technology to make missiles smart

keeps getting cheaper, Krepinevich said, but the technology to make them long-ranged does not. That means even a major power will have a limited number of its most dangerous weapons.

“To a certain extent, cyber to this regime is kind of like airpower in the '20s and '30s,” he said, “where everybody knew it was going to be important,” but they didn't know how important or in what way.

With airpower, however, at least the uncertainty largely ended once the shooting began: You could see planes going down, the cities in flames. With cyber warfare and electronic deception, however, both attack and effects are largely invisible. If the enemy stops shooting long-range missiles at you, he may have run out, he may have been blinded by your cyber and electronic attacks — or he may be holding his fire for when you come closer, into his trap.

Eventually, though, US forces will have to come closer, if only because they're running out of long-range weapons. So what kind of future force will best survive the 21st century no man's land? Stealth will still matter, Krepinevich predicts, albeit continually challenged by ever more sensitive sensors backed by big data analytics. Submarines and land-based bombers larger and longer-ranged than any carrier aircraft will likely form the leading edge of the force, backstopped by land-based long-range missiles.

That said, Krepinevich hardly rules out a role for surface ships, even ones that present as big a target as an aircraft carrier. While they're more visible and vulnerable than submarines, surface ships also cost much less per pound of payload, potentially giving them much more firepower. The critical question is what that payload is. Currently, he warns, potential adversaries have cruise missiles that can hit a US carrier from ranges so long the carrier's aircraft can't strike back. (That is, not without mid-air refueling, a prohibitively risky maneuver in hostile airspace). Longer-ranged carrier aircraft — not necessarily manned ones — could keep the Navy's favorite flagships relevant.

“This is really version 1.0,” he said of his report. “This is a best first guess, and it’s based on trends,” he said, but there are a tremendous number of variables in play, more so perhaps than any previous time in military history. Nevertheless, he went on, “it’s better to have something like this, that provides that point of departure, than to have nothing at all and just keep stumbling toward the future.”

“It’s the beginning of the conversation,” Krepinevich said. “It’s not the end.”

Source: [Breaking Defense](#), 13 Apr 2015



Pakistan Set to Buy Eight Submarines from China

Pakistan is set to acquire eight submarines from China for nearly USD 5 billion, in what is likely to be the biggest arms export deal for the Communist giant which today defended the move, saying its defence ties with Pakistan adhered to international treaties.

"The National Security Committee has approved, in principle, the acquisition of eight Chinese submarines," Additional Secretary in the Defence Ministry Rear Admiral Mukhtar Khan informed the National Assembly's Standing Committee on Defence on Tuesday.

The deal was reportedly finalised during last month's visit by Pakistan Naval Chief Muhammad Zakaullah to China. He met Vice Chairman of China's Central Military Commission Fan Changlong on March 26. Often described as Pakistan's "all weather friend", China is likely to extend a long-term loan, possibly at a low interest rate, to cover the cost of the project.

Negotiations with China on the financial aspect of the purchase were in an advanced stage, a Pakistani media report said. Replying to questions on sale submarines to Pakistan, Chinese Foreign Ministry spokesperson Hua Chunying in Beijing said, "China and Pakistan are neighbours boasting traditional friendship, and the two sides maintain normal cooperation in the military industry and arms trade."

"Relevant cooperation adheres to international treaties, and complies with the consistent principles of China's military products export," she told reporters. Pakistan has been negotiating the purchase of submarines from China since 2011. No details were given about the type of submarines. However, there have been reports that Yuan-class Type-041 diesel-electric submarines were being considered.

The-Type 041 'Yuan' class is described by IHS Jane's Fighting Ships as a diesel electric attack submarine (SSK), potentially with Stirling air independent propulsion.

China is Pakistan's biggest supplier of military hardware which included battle tanks, naval ships as well as fighter jets. The two jointly manufacture J-17 Thunder warplane. Pakistan's submarine fleet comprises five Agostas two Agosta70 and three Agosta90B and three MG110 miniature submarines (SSI). One of Agosta90B -- Hamza (Khalid Class) was indigenously constructed and commissioned in 2008 and another was partially completed here. The third was built in France. "The navy has been pursuing different options for buying more submarines in view of the Indian move to expand its fleet," the report said.

Indian Navy currently operates about 15 submarines including the nuclear powered INS Chakra. In 2004, Pakistan had expressed interest in buying German Type 214 diesel-electric submarines. But the deal could not materialise due to opposition in Germany to the sale of submarines to Pakistan. Later, negotiations were held with France for acquiring Scorpene-class submarines. The NA committee was told that France had refused to sell the submarines to Pakistan because of various reasons one of them being that India was buying the same submarines. The Agosta submarine scandal of 1994 was another reason.

Source: [Outlook](#), 02 Apr 2015

PLA could be Developing Two Versions of Type 055 Destroyer

The April edition of the magazine made the suggestion after analyzing the latest leaked satellite images of a ground model of the Type 055, which experts believe may have been designed as the successor to the PLA Navy's highly successful Type 52D destroyer.

Based on the satellite images, the Type 055 is 19.34 meters wide, though the ship's length-side, which has only built its main gun, is yet to be finished. The distance between the main gun and the upper level structures, where vertical missile launchers will be installed, is estimated to be 16.93 m, which is particularly wide given that the typical length is around 10 m. The total length of the ship from the main gun to stern is 130 meters, while its displacement appears to be greater than 10,000 tons.

The model appears to have no helicopter pad, meaning that this version of the destroyer may only require small helicopter drones when attacking with guided missiles. Kanwa suggests that this means the Type 055 could be developed into two models, an anti-submarine version and an air-defense version.

By comparison, the total length and width of the four Type 052D destroyers currently in construction are 154 m and 16.33 m, respectively. On the other hand, the US Navy's Zumwalt-class destroyers are 182.9 m long and 24.6 m wide. The Type 055 appears to have adopted some of the DDG-1000's stealth concepts, such as using an integrated composite beam to increase the ship's inward tilt angle.

The PLA seems to be building a Chinese-version of the DDG-1000, the report said, noting that focusing on the ability to attack targets both on sea and on land would represent a major change in the PLA Navy's development strategy. The Type 055 will be able to achieve these objectives as it can fire either the YJ18 anti-ship missile or the CJ-10 land attack cruise missile from its vertical launchers.

At last year's Zhuhai Airshow in Guangdong, it was revealed that Chinese companies are developing 155-millimeter Type WS-35R/B guided missiles with a maximum range of 60 kilometers, who appear to have similar capabilities to the latest generation of US destroyer technology.

Each DDG-1000 has a total of only 80 vertical launch cells, which is believed to be sufficient given the US Navy's abundance of guided missile cruisers and destroyers. The original design was said to have included 128 cells. However, as China currently

only has 10 Type 052C/D destroyers, this means that the Type 055 could have around 90-96 cells, similar to that of the US Arleigh Burke-class destroyers.

Huanqiu, the Chinese-language website of the nationalistic Global Times tabloid, suggests that, based on the modeling process of the Type 052C/D destroyers, construction of the the Type 055 could take another one or two years to commence.

Source : [Want China Times](#), 6 Apr 2015

Parikkar Undocks First Indigenously-Built Scorpene Submarine

The Scorpene is part of the ambitious Project 75 of Indian Navy's submarine programme, undertaken with French collaboration, which will include six such vessels joining the fleet over the next few years.

Parikkar, along with Chief Of Naval Staff Admiral R.K. Dhowan, Chief Minister Devendra Fadnavis and others officials attended a puja ceremony to mark the auspicious undocking of the vessel.

The submarine is expected to be commissioned by September 2016. Presently, Indian Navy has 14 conventional diesel-electric powered submarines, which include 10 Russian Kilo Class and 4 German HDW class vessels.

Parikkar is in the city to review the progress of Project 75 program me undertaken by the Western Naval Command and is likely to get a status report on the Project 15 B-Class stealth destroyers being constructed at MDL.

Source : [Deccan Herald](#), 6 Apr 2015

Indian Navy's Operation Yemen Impresses World: 23 Countries Ask for Help

Even as the Indian Navy successfully braved bombs to evacuate more than 2300 citizens from Yemen, Minister of External Affairs Sushma Swaraj on Monday said that a further 23 countries have sought India's help to evacuate their citizens from the war-torn country.

While Swaraj did not name any of the countries who had approached India, she tweeted saying, "Twenty three countries have requested India to evacuate their citizens from Yemen." India on Sunday evacuated 806 of its nationals and Defence Minister Manohar Parrikar said on Monday that "Almost all Indians would be evacuated from strife-torn Yemen by this evening." The requests for help in evacuation by other nations come even as Swaraj tweeted that in a humanitarian gesture Indian Navy evacuated three Pakistani nationals from Al Hodeida by INS Sumitra.

Meanwhile, 11 Indians along with 172 others, were evacuated by a Pakistani ship from Yemen's southeastern city of Mokallah on Sunday, which is now almost entirely under control of al-Qaeda militants. The PNS Aslat set off for Pakistan on Saturday after successfully evacuating 183 people, including 35 foreigners, from Mokallah, the Foreign Office said.

Source: [First Post](#), 7 Apr 2015

Naval Experts, Students to Examine Littoral Challenge

The 2nd Annual War game Planning Session is being conducted by the Naval Postgraduate School's (NPS) Littoral Operations Center (LOC) in Monterey, Calif., on April 23, 2015; followed by a Surface Warfare - Littoral Combat Innovation Workshop on April 25, 2015.

"The purpose of our war game planning session is to share the expertise of defence leaders, tactical and technical experts and security analysts to increase the

resolution of war game scenarios set in the littorals. We also intend to identify associated research topics, to build toward future at-sea experimentation and exercises,” said Kalev I. Sepp, PhD, the director of the LOC.

“The workshops are important in helping us shape our understanding of the rapidly changing security environment in the global littorals,” said Sepp. The Surface Warfare-Littoral Combat Innovation Workshop will involve NPS faculty, US, and partner nation officers studying at NPS. The attendees will identify maritime-security-focused research opportunities, and to enhance the implementation of the new U.S. Navy Cooperative Strategy for 21st Century Sea power.

A series of panels will examine emerging opportunities for applied technology; accessing the littorals; operating and fighting in the littoral clutter; and lethality and survivability in the littorals. The LOC will also be conducting Littoral OP-TECH East in Japan in September of this year. The Asia event follows the successful OP-TECH West held in Stockholm, Sweden, last September.

Source: [Maritime Professional](#), 7 Apr 2015

US Sends Flagship Aircraft Carrier to Middle East

The US Theodore Roosevelt Carrier Strike Group joined the Fifth Fleet in the Middle East to protect commercial sea-lanes and maintain regional stability, the US Navy said in a press release. “TRCSG's presence in the region is part of a long-standing commitment to stability and the free flow of commerce in the region,” the release, issued on Tuesday, said.

People pose for photos in front of Navy aircraft carrier USS Gerald R. Ford during the christening of the ship in November 2013. Navy Jets Carrying Extra Fuel Can't Launch from New Aircraft Carrier. The strike group, according to the release, will conduct a wide range of operations alongside coalition partners to build trust and set conditions for regional stability. TRCSG includes the flagship Theodore Roosevelt

aircraft carrier, a destroyer squadron, a guided-missile cruiser, nine aircraft squadrons and 6,000 sailors and Marines, the Navy said.

The full spectrum of the TRCSG's capabilities will be called upon and include maritime security operations, strike warfare, anti-submarine warfare and surface warfare, the release explained.

The US Fifth Fleet is part of US Naval Forces Central Command, which is responsible for approximately 2.5 million square miles of area including the Arabian Gulf, Gulf of Oman, North Arabian Sea, Gulf of Aden and the Red Sea.

Source: [Sputnik News](#), 8 Apr 2015

US, Japan Echo Pledge of Defence, Maritime Cooperation with Philippines

The former World War II enemies both vowed to uphold previous agreements with the Philippines in the face of new threats in the region, such as China's expansion of outposts in the South China Sea (West Philippine Sea).

Japanese Ambassador Kazuhide Ishikawa, during the Day of Valor rites in Mt. Samat, Bataan, said collaboration between his country and the Philippines, in the context of security and defense cooperation, has been expanding.

"Our cooperation in maritime security issues based upon the rule of law is a good example," he said. "Just this January, two defense ministers signed a memorandum of defense cooperation and exchange in Tokyo." Defense Secretary Voltaire Gazmin and Japan's Defense Minister Gen Nakatani signed the agreement in January.

Like the Enhanced Defense Cooperation Agreement with the US, the memorandum provides for a framework for the defense relations and strategic partnership of Japan and the Philippines. Both Japan and the Philippines have territorial disputes with China. Despite its role during the World War II, Japan has become a close ally of the United States.

Goldberg said the Philippines could expect the assistance of the US against terrorism and during times of calamities. He said the "great alliance" was the oldest in the region "and one that has helped preserve and protect the security and stability of the entire Pacific region." "We are joined in our efforts to protect the security and defense of this region by Japan. Yesterday's enemies are today's allies and strategic partners yet another legacy of the sacrifice and heroism of US and Filipino soldiers so long ago," he said.

April 9 has been proclaimed Day of Valor to honor those who died defending Philippine independence and democracy. It commemorates three important events during World War II the fall of Bataan, the fall of Corregidor and the Battle of Besang Pass.

Source : [Inquirer. Net](http://Inquirer.Net), 9 Apr 2015

China Tells US to 'Speak and Act with Caution' in South China Sea Island Dispute

China's Foreign Ministry urged the United States on Thursday to act and speak cautiously after the U.S. defense chief repeated Washington's opposition to any "coercive unilateral" actions by China over a group of islets disputed with Japan.

Visiting Tokyo, U.S. Secretary of Defense Ash Carter expressed opposition to any moves by China to undermine Japan's administrative control of uninhabited islands in the East China Sea, known as the Senkaku in Japan and the Diaoyu in China. Chinese Foreign Ministry spokeswoman Hua Chunying said that no matter what anyone said or did, it would not change the facts of China's sovereignty or its determination to defend its territory.

"We urge the U.S. sides to speak and act with caution, to strictly abide by their promises not to take a position on the relevant territorial ownership issue, and do more to benefit regional peace and stability and not the opposite," she said. Carter

also welcomed progress toward the first update in U.S.-Japan defense cooperation guidelines since 1997.

The revision will expand the scope for interaction between the allies in line with Prime Minister Shinzo Abe's push to ease the constraints of Japan's pacifist constitution on the nation's military.

Source : [Business Insider](#), 9 Apr 2015

Massive Evacuation from Yemen Ends, Indian Navy and IAF Pull Out 5,600

India has ended its massive evacuation efforts of its nationals in Yemen, pulling out 5,600 people, including 4,640 Indians and 960 nationals from 41 countries, the government said. External Affairs Minister Sushma Swaraj tweeted: "The evacuation operation from Yemen is over. General V.K. Singh is returning tonight. We are closing our Embassy there."

Earlier the External Affairs Ministry spokesperson Syed Akbaruddin tweeted that India concluded its evacuation efforts in Sana'a by airlifting over 630 people by three special Air India flights from the Yemeni capital. Akbaruddin said the security situation in Yemen has deteriorated further with a bomb blast at Aden port on Thursday. "India completes its air evacuations from Sana'a".

"The total no. of Indians evacuated from Sana'a by air has crossed 2,900 by 18 special flights since the beginning of the air operations," he tweeted.

"Indian naval vessels have also evacuated over 1,670 Indians from Aden, Al Hudaydah and Al Mukalla ports in Yemen since 31 March," he wrote. "Indian Naval Ship INS Sumitra evacuated 349 persons, including 46 Indians and 303 foreign nationals from Al Hudaydah port on April 9," he said.

Source : [First Post](#), 10 Apr 2015

The Night that Tested the Navy

For the Indian Navy, Operation Rahat has become not just a people-rescue mission, though the force can take credit for helping to ferry home 5,000 Indians safely. In the choppy waters of war-torn Yemen, amid strafing and crossfire, the officers and seamen had to brave heavy odds, as on April 10.

“It was a riot-like situation, with bombs going off, Saudi airstrikes continuing to pound the city, and hundreds of people [of various nationalities] surrounding our ship to get on board and flee the violence,” recounts one of the men on board INS Tarkash of that night that threw the toughest challenge to Indian forces.

The Hindu has accessed photographs and eyewitness accounts from those on board the naval ship of the horrors of that night as the vessel stayed in the waters off Aden, waiting for the last of Indians who could find their way out of a country aflame. Hundreds of men and women arrived on boats, demanding that they be taken to Djibouti by the ship.

One witness said people trying to clamber on to INS Tarkash included armed men, some toting AK-47s. “We turned away anyone who was armed, but later we recovered live and fired ammunition from them, and knives as well,” an official said.

The body of one Indian, Manjeet Singh, who died of injuries when caught in the crossfire coming out of Aden, was brought to Djibouti by the ship, which carried pregnant women, people with cancer and malnourished children.

Yemenis and those of other nationalities desperate to get on to the ship forced Indians to stay back at the harbour until they boarded. “After taking in 200 evacuees and finding that more than 90 per cent of them were Yemenis, we realised they were stopping Indians from coming out to the ship,” one officer said. “We told the Aden port control sternly that unless they send Indians to us on the boats, we would not take Yemenis; they finally budged.” Even so, the ship carried only 50 Indians among more than 460 evacuees to Djibouti.

Asked if the ship had been in any danger, Naval Public Relations Officer Captain D.K. Sharma said: "If our men are stuck and we have to rescue thousands, we use force-protection measures. Our ships are well equipped and the men know how to handle such situations."

Speaking about the challenges that the naval personnel faced, Captain Sharma said, "When you are going to a place that has fallen to rebels ... all the authorities and infrastructure fail. Our men have been working as a sea bridge without respite, to bring Indian citizens out of Yemen, stopping in Djibouti only to make them disembark and then going back into the war zone."

Source : [The Hindu](#), 13 Apr 2015

China Militarizing Disputed Waters

The Philippines on Monday accused China of moves to increase its presence in the disputed West Philippine Sea (South China Sea), saying such move jeopardizes the region's peace and stability.

Charles Jose, a spokesman for the Department of Foreign Affairs (DFA), voiced concern over remarks by a Chinese Foreign Ministry spokesman last week that after the completion of its reclamation activities in the South China Sea, the islands and reefs in the waters would provide "comprehensive services to meet civilian demands and satisfy the need of necessary military defense."

"Such statements by China only serve to raise the specter of increasing militarization and threaten peace and stability in the region," he said. Jose also said China's reclamation activities in the disputed sea are destroying the region's maritime environment. "China's massive reclamation activities are causing irreversible and widespread damage to the biodiversity and ecological balance of the South China Sea," he said, adding that the Philippines "cannot accept" Beijing's claim that they have not caused damage to the ecological environment in the waters.

"China has pursued these activities unilaterally, disregarding peoples in the surrounding states who have depended on the sea for their livelihood for generations. The destruction of 300 acres of coral reef systems resulting from the reclamations is estimated to lead to economic losses to coastal states valued at US\$ 100 million annually," Jose said.

Jose reiterated Manila's call on Beijing to discontinue its reclamation activities and be aware of its responsibilities as one of the claimant states as well as a key member of the international community. "We call on China to respect the letter and spirit of the 2002 ASEAN-China Declaration on the Conduct of Parties in the South China Sea and to cooperate in discussing constructive long-term solutions to the peaceful resolution of disputes in the South China Sea, in accordance with international law," Jose said.

He added, "We should not allow China to distract us from the real issues in the South China Sea, which are China's illegitimate 'nine-dash line' claim, and China's unilateral and aggressive behavior in asserting that claim, as exemplified by its massive and unrestrained reclamation." China has been asserting control over the land features and waters encompassed by its U-shaped "nine-dash line" in the territorial dispute over the South China Sea, which is also claimed by Taiwan and Vietnam and in part by Brunei, Malaysia and the Philippines.

Philippine authorities say Beijing's rapid expansion and upgrading of military infrastructure on its occupied reefs in the Spratly Islands are aimed at transforming these tiny features into fortified man-made islands where it could station military helicopters, maritime surveillance ships and gunboats. The disputed Spratlys, which straddle major shipping lanes in the South China Sea, are a cluster of islands, reefs and atolls rich in fishing areas and also thought to contain huge deposits of oil and natural gas.

Source: [ABS-CBN](#), 13 Apr 2015



Turkey to Build Drill Ship, Drilling Platform: Yildiz

Turkey's next aim is to build a drill ship and drilling platforms in the country, Energy Minister Taner Yildiz has said. In remarks made during his meeting with The Anadolu Agency's Editors' desk Friday, Yildiz recalled Turkey's milestone last week, when it launched its first Turkish-made seismic vessel, the Turkuaz, at a cost of 300 million Turkish liras.

The vessel, which operates under the state-owned General Directorate of Mineral Research and Exploration, has the capacity to carry out oil-and-gas exploration apart from conducting climate change and ecological research.

Yildiz revealed that after building Turkuaz, Turkey would now work on building a drill ship and a drilling platform in the country. He said that Turkey currently paid around a million U.S. dollars per day as rent for such drill ships. "If we can build our own ships and platforms, we can amortize our costs in a few years," Yildiz said

At the moment, Turkey has one more oil-and-gas exploration ship, the Barbaros Hayrettin Pasa, which is involved in marine seismic research. About Turkey's Akkuyu Nuclear Power Plant, Yildiz said that the Russian nuclear company, Rosatom, would build the plant.

There may be some delays in its construction, but for me, the time that the plant comes into operation is more significant. If the first unit comes into operation later than 2020, then we can say the plant is delayed. However, any costs caused by the delay will be paid by Russia, according to our agreement," he said. When completed, the Akkuyu Nuclear Power Plant will be Turkey's first nuclear power plant with a capacity of 4,800 megawatts

Source: [Turkish Weekly](#), 4 Apr 2015

Cyprus: 'Shipping Sector in Need of Rebranding'

The Cyprus shipping industry is in need of rebranding and restructuring to enhance competitiveness, Communications, Works and Transport Minister Marios Demetriades said last night. Demetriades was addressing the Annual General Meeting of the Cyprus Shipping Chamber in Limassol.

He said Cyprus had become “a fully-fledged, well-known and respected maritime centre, combining both a sovereign flag and a resident shipping industry which is prominent for its high quality services and standards of safety”. In addition, despite the international adverse economic conditions and the financial difficulties in recent years, the Cyprus shipping sector managed to maintain its competitiveness and perspectives, as a result of combined efforts from the public and private sectors, he said.

“Shipping has, in fact, evolved in the recent years, as one of the leading sectors of our economy and `navigates` Cyprus to recovery, in its capacity to act as a wide gateway of foreign investments to our island.” However, he added: “Both I, as the political leader of merchant shipping, and our government do recognize that the shipping sector has stagnated during recent years and action is needed. This is due to both the increasing competition that Cyprus faces from competitive maritime centers, as well as the problems that the shipping industry has been experiencing. Our shipping product needs indeed some kind of rebranding and restructuring. We need to become more aggressive in promoting our flag and intensify efforts to attract additional companies to the island.”

Demetriades said that in an effort to develop a holistic strategic development plan for the Cyprus shipping industry, a study had been recently completed. The study proposes measures that would strengthen the Cyprus merchant fleet and shipping cluster.

Taking into consideration the study, he continued, “as well as other recommendations made from both the department and the private sector, we are

planning to implement a number of operational changes in the next few months. Among others, it includes the offering of incentives to the private sector for business development, the strengthening of offices abroad, the intensification of promotion events and other operational changes, including the upgrading of our software programs and 24 hour service for our clients”.

“I also intend to create a permanent link between the private and public sector with the objective to find ways to promote shipping in Cyprus. Our first mission will be to prepare a package of incentives that could be offered to maritime companies to relocate to Cyprus”, he added.

In the medium term, he said, Cyprus needed to change the way it worked by offering to the department of merchant shipping the necessary flexibility to fulfill both its regulatory, as well as its business development role. This has already been included in the terms of reference of the restructuring study, which is currently ongoing.

Source: [Hellenic Shipping News](#), 6 Apr 2015

India's Shipping Market could be out of Bounds for Global Fleet Owners

India's shipping market, worth a freight bill of \$57 billion annually, could soon be out of bounds for global fleet owners after the government scrapped a key tender condition that tilts the scale in favor of local ship-owners. In a public tender, an Indian ship has the so-called right of first refusal to match the lowest rate quoted by a foreign-flag ship and take the contract, according to the rules set by the director general of shipping, India's maritime regulator, in 2004 to extend cargo support and develop the local shipping industry.

This is subject to the condition that the difference in the bid price between the Indian-flag vessel exercising the right of first refusal and the lowest rate quoted by the foreign flag vessel shall be limited to 10%. The right of first refusal is not available to India-registered ships if the difference in bid price is more than 10%.

The director general of shipping scrapped this requirement last week for tenders to finalize a so-called contract of affreightment (CoA) and channel deepening works at ports using dredgers. A CoA is a long-term contract under which a ship-owner agrees to transport a specified quantity of cargo at a specified rate per tonne between the designated loading and discharge ports during a specified period. The change will help local fleet owners get assured business. In the earlier rule, local fleet owners were at risk of losing business if their price quotation did not come in the 10% range of the lowest foreign bid. Now, they can quote any price and still enjoy the privilege of the right of first refusal. The downside of such an arrangement is that global fleet owners will have no incentive to participate in tenders as the process would be rendered meaningless.

Secondly, the rate discovery mechanism the purpose of all open, competitive bidding will suffer as local fleet owners could be tempted to indulge in cartelization. Entities looking to hire ships for transporting cargo could possibly end up paying more on ship rentals due to reduced competition. The maritime regulator also said that India's ship chartering (hiring) guidelines will soon be reviewed in toto, in line with the government's policy of promoting and strengthening Indian shipping. Indian ship-owners have always raised the bogey that the share of India's external trade carried on India-registered ships has fallen from about 40% in the late 1980s to less than 10%, while clamoring for cargo support from the government. They have only themselves to blame for this situation. Indian ship-owners have always preferred deploying their ships in international trades when the market is good to maximize their earnings.

There is nothing wrong in this. But, when the market conditions turn bad, they always look to the government for support, as is the case now with the Baltic Dry Index (BDI), a benchmark for shipping dry bulk commodities, at record-low levels. During such times, Indian ship-owners have tended to quote higher rates partly because of the high cost of doing business in India. On the other hand, foreign fleet owners have been able to quote competitive rates because they are not subjected to the slew of taxes that their Indian counterparts pay. India plans to boost its home fleet by an

ambitious 400% to 43 million gross tonnages (GT) by 2020 from the current 10.31 million gross tonnage.

The Narendra Modi government has taken several facilitative measures since coming to power in May 2014 to achieve this target. These include issuing life-time licenses to Indian ships to reduce red tape so that they can ply un-interrupted, re-writing the rules for seafarers working on Indian-flag ships to qualify them for non-resident status and allowing Indian ship-owners to register ships in overseas tax-friendly jurisdictions without the need to open subsidiaries abroad.

This will enable Indian shipping company's access cheaper sources of funds abroad to acquire additional tonnage (shipping capacity) while not having to set up multiple enterprises abroad to acquire and maintain such tonnage. By altering the terms of exercising the right of first refusal, the government appears to be giving local fleet owners a quid pro quo when demands from container terminal operators for opening up the country's coastal trade to foreign container shipping lines ship-owners are growing.

India's coastal trade shipping cargo between local routes is reserved for India-registered ships and foreign ships can be hired when Indian ships are not available, with the approval of the maritime regulator. Indian ship-owners do not own sufficient container ships, unlike other types of ships, and container terminal operators have been urging the government to allow foreign container lines to operate along the coast to ensure that their facilities are fully utilized.

Source: [Hellenic Shipping News](#), 6 Apr 2015

Chinese Fleet to Become World's Largest by 2030: Shanghai International Shipping Institute (SISI)

The Shanghai International Shipping Institute announced the release of its 2030 China Shipping Outlook report, predicting China's fleet will become the world's

largest in 15 years' time. According to the report, which SISI described as a "blueprint for the medium term future of China's shipping industry," the Chinese fleet will account for 17 percent of the world's "shipping volume."

Bulk carriers will account for 70 percent of the country's fleet, predicted SISI, while 18 percent will be tankers and 9.5 percent will be box ships. In addition, China will become the world's largest cruise market and Chinese shipyards will be handling 11 percent of global orders for cruise ships by 2030.

The growth in China's fleet will see the country surpass Greece in terms of total capacity, said SISI. China will also account for 30 percent of global ship financing, according to SISI. The report further predicts that Chinese iron ore and coal demand will continue to slow down as grain and oil imports into the country accelerate. Meanwhile export-import container volumes will reach 200 million twenty-foot equivalent units.

Source: [Ship and Bunker](#), 7 Apr 2015

Yemen Ports Blockade Begins to Affect Shipping Activity

A Saudi Arabia-backed blockade of ports in Yemen is starting to affect shipping activity including the delivery and loading of oil and gas shipments, shipbrokers and traders in Singapore said. The Grace Acacia, a Bahamas-flagged liquefied natural gas tanker, was scheduled to load cargo at the Balhaf LNG terminal on Friday, but the loading has been delayed and the tanker is currently anchored at the Fujairah port in the United Arab Emirates, a trader said.

The Yemen LNG plant has a capacity of 6.7 million tons a year and supplies a large portion its output to Asian markets. However, the impact on LNG prices could be limited due to existing excess supply in Asia, traders said.

Chinese oil traders have meanwhile, been making enquiries in the Singapore spot market for alternative oil supplies, according to Singapore-based traders. Yemen's oil exports are relatively small with China importing around 50,000 barrels a day in 2014, less than 1% of its total oil imports, while India imports only a handful of cargos.

Marine insurer Skuld P&I said in a weekend advisory note that it has received reports of an increasingly tight blockade at Yemeni ports. "Members [of the insurer] with vessels at Yemen, or proceeding to Yemen need to urgently review the situation in the light of this development," it said.

It said reports indicate that Saudi Arabia-led naval forces have started to enforce a blockade on Yemeni ports, particularly targeting those, which may be under the control of the Houthi-led rebels fighting government forces across Yemen. Yemen regularly imports petroleum products like diesel or gasoil, and these shipments may be affected, traders said.

Bimco, a shipping trade group, said Monday that "navigation in Yemen's territorial waters has been banned and ships are not allowed into Yemen unless inspected and approval by the Saudi-led coalition forces." "Yemen has banned entry into the territorial waters and has authorized coalition countries to implement the decision, adding that the ban has been imposed on the country's maritime zones," it said, citing a statement from Yemen's Ministry of Foreign Affairs.

Bimco said only emergency food and medical aid vessels will be allowed entry after being searched and has advised its members to transit the Gulf of Aden and Red Sea outside Yemeni territorial waters where possible.

"Of course, the big concern for everyone is the risk that the Yemeni conflict will get out of hand and rebels would try to sabotage Saudi oil trade by, say, targeting with rockets ships traversing the Bab Al-Mandeb strait," Ralph Leszczynski, research director at shipbroking firm Banchemo Costa, said.

However, no attacks have happened so far and there's no significant impact on shipping up to this moment with most shippers taking precautionary measures, he added.

Source: [Hellenic Shipping News](#), 14 Apr 2015



Emission Limits: Time to Act

The shipping industry has been going through turbulent times. For a sector accustomed to planning decades ahead, the sequence of unexpected major events, from the financial crisis to depressed freight and charter rates, and from dropping fossil fuel prices to new international tensions, has certainly added plenty of headaches to investment decisions. Many ship-owners delayed investing in new anti-pollution technology hoping for a clearer field of vision, while others took action early to gain competitive advantage.

With new sulphur limits now in force for European Emission Control Areas, and the North American and US Caribbean Sea ECAs also regulating NOX and PM, those who chose to wait must act now. Further regulations will take effect soon, and additional regional and national regimes are emerging around the globe. Investing now will save ship-owners money and protect their reputation. However, the substantial capital requirement, a lack of mature technology and uncertainty regarding compliance documentation add to the complexity of this decision.

The IMO's new ECA regulations, in effect for Northern Europe and North America since 1 January 2015, were announced as far back as 2008. As the year advances, the majority of ship-owners will without doubt take the required steps since full compliance has to be substantiated now. Ship-owners and operators hammering out their ECA strategies have to find answers to a number of difficult questions, and DNV GL is ready to help them devise the right compliance and technology strategy.

More than 40 per cent of the ships trading in the Baltic Sea are general cargo vessels, which typically do not cross larger oceans; they either sail within the Baltic Sea only, or within Northern European waters. Oil and chemical tankers, bulk carriers, and passenger ferries are other major ship types operating in the Baltic Sea. The age of these ships is evenly distributed from new to about 40 years old, which means that old vessels are being replaced at a steady pace. In other words, it

takes about ten years to replace 25 per cent of the fleet. The ship owners' point of view the most obvious choice to ensure compliance with ECA regulations is switching to low-sulphur distillate fuel. The investment requirement is moderate, but detailed guidelines for the fuel changeover should be prepared, and the crews must be trained properly to understand the technical implications of the switchover procedure. The following special considerations should be made to avoid engine failure:

- *Temperature:* As the operating temperatures of the two fuels differ by about 100 degrees, special care must be taken.
- *Viscosity/lubricity:* Heavy fuel oil (HFO) and marine gas oil (MGO) have very different viscosities, which may cause fuel pump failure.
- *Fuel incompatibilities:* HFO and MGO are mixed in various ratios during the changeover procedure, which may clog filters and cause engine shutdown.
- *Cylinder lubrication – acidity:* Decreasing the sulphur content affects fuel acidity so another type of cylinder oil must be used.
- *Contamination:* Tanks formerly used for HFO need to be cleaned thoroughly before switching to MGO. The solution is often dedicated fuel tanks and separate tanks for different lubrication oils.

An alternative solution is to use a scrubber while continuing to burn HFO. A scrubber washes the SOX out of the exhaust gas by spraying either seawater on it or a freshwater solution with chemicals added. Seawater scrubbers are simpler to install since the water is not recirculated but used once in a so-called open-loop system before being treated, neutralized and discharged to the sea. To achieve the right efficiency levels, seawater scrubbers rely on high-capacity pumps, which consume significant amounts of energy.

Scrubber installation

A more sophisticated installation is a closed loop scrubber, which dissolves chemicals in freshwater and recalculates this solution after each use, partially replacing it. The spent part of the solution is purified and released to sea. These scrubbers consume less electrical power but rely on chemicals. All scrubbers produce a hazardous sludge which must be properly disposed of in ports. One scrubber can treat exhaust fumes from several engines; some can switch between closed and open-loop operation, depending on the shipmaster's preference. In general, scrubbers increase fuel consumption by one or two per cent, thereby raising the overall fuel costs and CO₂ emissions.

Many ships have been retrofitted with scrubbers to ensure ECA compliance. For example, the US-based cruise ship fleet has adopted scrubbers as its preferred means of complying with ECA regulations. Globally more than 160 ships have installed or ordered scrubbers.

The cleanest option

The third alternative is to fuel the ship with LNG. Natural gas is the cleanest fossil fuel available, and when fuelling a ship with LNG no additional abatement measures are required to meet the ECA SOX requirements.

The additional cost of the on-board LNG equipment can be recovered in three to six years, depending on the LNG fuel price and the extent of ECA exposure. An LNG-fuelled ship requires purpose-built or modified engines and special fuel tanks, a vaporizer, and double-insulated piping. Accommodating the LNG fuel tanks can be challenging and will reduce cargo space, but with new prismatic tanks entering the market the negative effects can be minimized. DNV GL estimates see the fleet of LNG-fuelled ships increasing over the coming decade, forming a diversified fleet of smaller coastal vessels and large ocean-going ships.

More than 50 LNG-equipped vessels are currently in service, and more than 75 LNG-fuelled new builds have been ordered. New technical solutions are under development, and work on the new International Code of Safety for Ships Using Gases or Other Low Flashpoint Fuels (IMO IGF Code) is practically finalized. The code will create a common platform for LNG-fuelled ships. Vessels currently in service or under construction are covered by the IMO interim guidelines for LNG as a ship fuel (MSC-285(86)) and related class rules, which together form the basis for flag administrations to issue the required SOLAS certificates.

Having served both industries for decades, DNV GL is in an excellent position to help find smart solutions to advance LNG as a ship fuel. For ports, DNV GL has published a five-step methodology for LNG fuel logistics assessments:

1. Define future LNG bunker demand for a given port over typically 10 to 20 years, broken down by the port's main ship categories.
2. Define alternative elements in various relevant LNG supply chains.
3. Estimate cost-efficiency of alternative LNG main supply concepts.
4. Perform a detailed analysis of an LNG main supply and distribution concept, covering incoming and port logistics, bunkering operations, port investments and utilization.
5. Create and recommend a solution, accounting for annual volumes and fluctuations.

Beyond this, ports should develop their safety regimes for LNG bunkering, bunkering practice, a scheme for licensing LNG providers, and port traffic safety assessments with present LNG-fuelled traffic. DNV GL has been working on these topics on a global scale for over ten years and performed financial analyses for LNG providers. The conclusion is that LNG bunkering can be a safe, lucrative business for providers, especially around ECAs, which, by coincidence, have relatively low LNG feedstock prices.

DNV GL encourages major ports around the ECA regions to assess their options regarding LNG fuel. A number of recent initiatives and new construction projects

seem to indicate that the development of an LNG infrastructure is picking up speed. While LNG fuel offers great opportunities to shipping, many owners prefer scrubbers or low-sulphur fuels. New and even more cost-effective solutions will emerge and there are some financial support programmes available. DNV GL looks forward to seeing more clean ships plying the seas these coming years!

Source: [Hellenic Shipping News](#), 7 Apr 2015

US Funding Announced for Clean marine Diesel Projects for Tribal Fishing

The U.S. Environmental Protection Agency has announced over \$925,000 in grant funds for tribes in Washington to remove older marine diesel engines that emit harmful air pollutants and replace them with newer engines for more efficient marine vessels.

All the grant funds will go to the North Puget Sound tribal communities of the Upper Skagit Tribe, the Swinomish Indian Tribal Community, and the Lummi Nation. “Puget Sound tribal communities depend on fishing, and this funding for cleaner marine engines results in tribal fleets that are better for the air and for the health of tribal communities,” said Dennis McLerran, Regional Administrator for EPA Region 10. “Funding through the Diesel Emission Reduction Act provides an important opportunity to leverage public and tribal funds for cleaner marine vessels.”

The Swinomish Indian Tribal Community is receiving \$792,000 to reduce diesel pollution from the Swinomish Fishing Fleet. The project will replace 12 marine diesel engines with new, low-emission diesel engines. The project is expected to improve the air quality for the Swinomish Indian Tribal Community. The proposed project will also achieve emissions reduction from vessels using the shore power pedestals at the fisherman’s docks by allowing engines to be shut down while loading and unloading.

The Lummi Nation is receiving \$77,250 to reduce diesel pollution from two marine fishing fleet vessels that are used to harvest salmon, halibut, crab, and shrimp. The Lummi Reservation is located in Whatcom County and is ranked among the 80th percentile of the worst counties in the United States for the number of people living in areas where cancer risk from HAPs (Hazardous Air Pollutants) exceeds 1 in 10,000, for which diesel emissions is a high contributing factor. The average year of diesel engines in the Lummi fishing fleet is 1992. Repowering marine vessels is one of the most efficient and cost-effective techniques for cleaner air and a healthier environment.

The Upper Skagit Tribe is receiving \$55,890 to fund a marine engine repower project. The project will repower the Upper Skagit Indian Tribe's Fisheries Regulatory Compliance vessel by replacing an older, more polluting engine, with a newer, more efficient marine diesel engine. Waterways immediately adjacent to the Skagit/Samish watersheds experience a disproportionate amount of air pollution from diesel fleets. This project will reduce emissions from the compliance vessel, which will be used in the ports around Skagit, Island and Whatcom counties.

Source : [World Fishing](#) , 9 Apr 2015

White House Tightens Oil-Drilling Rules as BP Spill Anniversary Nears

Five years after the country's worst maritime petroleum spill, the Obama administration took steps Monday to tighten regulations for offshore oil rigs, saying the new measures would help prevent oil-well blowouts and minimize environmental damage from future leaks.

The proposals announced by the Interior Department would substantially overhaul the technical guidelines for drilling on the U.S. continental shelf, adding dozens of new requirements aimed mostly at stopping high-pressure undersea wells from blowing their tops. Interior Department officials said the proposals draw extensively from the findings of multiple investigations into the 2010 Deepwater Horizon spill

and, if approved, they will dramatically reduce the likelihood of a failure similar to the one that killed 11 workers and polluted hundreds of miles of Gulf Coast beaches.

“As offshore production continues to grow, we owe it to the American people to ensure the resource is being developed safely,” Interior Secretary Sally Jewell said in announcing the regulations. She called the proposals “one of the most significant safety and environmental protection regulations the department has launched.”

The proposals incorporate numerous technical recommendations from the petroleum industry, which conducted its own investigations of the 2010 spill. The American Petroleum Institute, the industry’s largest trade association, said it was reviewing the proposals and hoped they would complement voluntary safety measures already put in place since the accident.

“A great deal of effort has been put into strengthening spill containment and response, but our first goal is always to prevent accidents from happening at all,” said Erik Milito, the institute’s Upstream Group director.

Many of the proposal’s technical requirements address systems known as blowout preventers, or BOPs, one of multiple points of failure in the 2010 accident. Under the new rules, both well heads and BOPs would have to be built to more stringent standards and subjected to rigorous monitoring, mandatory reporting and regular testing. Other proposals would raise requirements for containment gear to capture any spilled oil from an undersea leak.

Source: [Washington Post](#), 13 Apr 2015

Philippines Slams China for Destroying Marine Life with Reclamation Works

The Philippines accused China of damaging rich marine environment by destroying 300 acres of coral reef systems in its massive reclamation activities in the heavily contested South China Sea or West Philippine Sea.

The Philippine government said the destruction has taken away US\$ 100 million in potential economic revenues annually from coastal states. The Department of Foreign Affairs pointed out elaborately for the first time the environmental consequences of the infrastructures China has been building in contested areas, citing results of studies made by the United Nations Environment Programme.

Recent reports and images have shown that China has been building “great wall of sand” with dredgers at work at Mischief Reef in the Spratly Islands, which is also being claimed by Vietnam, the Philippines and Taiwan. He said China has pursued these activities unilaterally, “disregarding peoples in the surrounding states who have depended on the sea for their livelihood for generations.”

The DFA also slammed China for “tolerating environmentally harmful fishing practices by its nationals” at Bajo de Masinloc, a large coral atoll west of Luzon, which has been among the areas being claimed by China. This, Jose said, breached China’s obligations under the 1982 United Nations Convention on the Law of the Sea (UNCLOS), the Convention on Biological Diversity, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The DFA expressed concern over the statement of China’s Foreign Ministry spokesperson Hua Chunying who said that the reclamation activities would provide “comprehensive services to meet civilian demands and satisfy the need of necessary military defense.”

“Such statements by China only serve to raise the spectre of increasing militarization and threaten peace and stability in the region,” Jose said. Asked if the DFA would include the information on the environmental consequences in its diplomatic protests against China and its arbitration case at the United Nations Arbitral Tribunal, Jose said it would consider that option.

“We will see if there is an opportunity to do that, especially during the oral arguments at the UN arbitral tribunal,” Jose said. China’s reclamation works began immediately after the Philippines filed an arbitration case asking the UN arbitral tribunal to rule on

its maritime entitlements and 200 nautical mile exclusive economic zone under the UNCLOS. “We have been pursuing the legal and diplomatic approaches. The Philippines have been working closely with members of the Asean for the early conclusion of the legally binding Code of Conduct, and the implementation of the 2002 Asean-China Declaration on the Conduct of Parties in the South China Sea” Jose said.

The Philippines reiterated its call on China to stop its activities and be mindful of its responsibilities as a claimant state in the South China Sea and as a member of the international community. The DFA cited the growing international concern on China’s works after US President Barack Obama issued his first strong statements saying the superpower has been bullying its small neighbors.

“We should not allow China to distract us from the real issues in the South China Sea, which are China’s illegitimate “nine-dash line” claim, and China’s unilateral and aggressive behavior in asserting that claim, as exemplified by its massive and unrestrained reclamation,” Jose said

Source: [Inquirer. Net](#), 13 Apr 2015

German Marine Scientists Reconstruct Variations in Past Arctic Climate

In the past decades ferromanganese crusts have been the focus of interest due to their resource potential of valuable metals such as cobalt, nickel or rare earth elements, which are highly enriched in these crusts. For the moment, however, the cost of underwater mining outweighs their cost of recovery.

Future price development will change this and deep-sea mining may one day become profitable. In their new study, the German marine scientists show that their metal content is not the only value of these crusts but that they are also archives of past climate changes.

Ferromanganese crusts are up to 26 centimeters in thickness showing laminated growth, comparable to tree rings, but on a much longer time scale. Crusts grow at incredibly slow growth rates of only a few millimeters per million years. Forming on the summit and slopes of submarine mountains these chemical sediments thus record changes in ocean chemistry reflecting the evolution of ocean currents and climate on the continents over the course of millions of years.

But how is the information stored in the crusts? The main ultimate sources of chemical substances in seawater are the rocks of the continents. Weathering erodes and dissolves the rocks and transfers the chemical components to the oceans. Some of these substances inherit the "geochemical fingerprints" of their source regions and travel around the globe together with the ocean currents. Changes in climatic conditions, such as the emergence of large-scale glaciations on the continents during the ice ages, have led to a change in the chemical composition of seawater. The huge ice shields grind the rocks more efficiently and release greater amounts of certain chemical compounds to the oceans. "This is how we can track how the conditions on glacial North America changed during the establishment of large past glaciations", Veit Dausmann, lead author of the study, points out.

Three ferromanganese crusts from water depths between 2200 and 3600 meters were analysed in the study. The specimens are only a few centimeters thick and were recovered from the Canada Basin of the Arctic Ocean during a cruise of U.S. Coast Guard icebreaker Healy in 2005 to explore the US Exclusive Economic Zone in the Arctic Ocean. "Seven million years of the ocean's past are archived in these crusts", states James R. Hein, Santa Cruz-based geologist at the USGS and co-author of the study. The ages were determined using the naturally occurring radioactive isotope beryllium-10 at ETH Zurich.

The time series of the geochemical fingerprints show that due to the sluggish mixing of deep waters in the Arctic Ocean, changes in climatic conditions on land have left a particularly distinct record.

The new data show that approximately four million years ago large climatic changes started to emerge that promoted increased glaciation of North America. Since one million years ago this effect has even been amplified in response to the drastic alternations between warm and cold phases of the ice ages. "Deciphering the climatic records preserved in these ferromanganese crusts closes a large gap in our knowledge of the Arctic regions' past" explains Martin Frank, professor at GEOMAR and co-author of the study. "Due to harsh conditions and inaccessibility of Canada Basin's long sedimentary records, our commonly used archives of long-term climate change, have not up to now been available."

Source: [Azo Cleantech](#), 13 Apr 2015