



MAKING WAVES

A maritime news brief covering:

- **MARITIME SECURITY**
- **MARITIME FORCES**
- **SHIPPING, PORTS AND OCEAN ECONOMY**
- **MARINE ENVIRONMENT**
- **GEOPOLITICS**

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MARITIME SECURITY

POMPEO TO FIND 'NEW WAYS' TO COOPERATE WITH INDONESIA IN SOUTH CHINA SEA

- Tom Allard

JAKARTA (Reuters) - U.S. Secretary of State Mike Pompeo on Thursday said Washington would find new ways to cooperate with Indonesia in the South China Sea and respected Jakarta's efforts to safeguard its own waters while rejecting China's "unlawful" claims in the area. Pompeo's visit to Indonesia comes amid a five-nation swing through Asia, where he has sought to strengthen strategic and economic ties amid rising tensions between the United States and China. In a joint news conference with his Indonesian counterpart, Retno Marsudi, he hailed Jakarta's "decisive action" to protect its sovereignty in the waters near the Natuna Islands, which China also claims as its territory. Pompeo said China's claim was "unlawful". "I am looking forward to co-operating together in the new ways to ensure maritime security protects some of the world's busiest trade routes," Pompeo said in a streamed news conference after his meeting with Indonesia's foreign minister. Retno said she wanted a "stable and peaceful" South China Sea where international law is respected. Indonesia has repeatedly turned away Chinese coast guard and fishing vessels that have entered the North Natuna Sea. Retno said Indonesia and the United States would enhance defence cooperation by boosting military procurement, training and exercises, intelligence sharing, and maritime security cooperation in the region. Although sharing the same position in opposing China's territorial claims in the South China Sea, Indonesian officials have expressed concern about Washington's strident anti-China policies and rhetoric alongside rising superpower tensions. "I re-emphasized the need to pursue inclusive cooperation amidst this challenging time," Retno said. "I underlined the need for every country to be part of the solution in the collective contribution towards world peace, stability and prosperity." This year, Indonesia rejected a U.S. request for landing and refuelling rights in Indonesia for its P-8 Poseidon maritime patrol aircraft that monitor China's military activity.

ECONOMIC COOPERATION

Retno said on Thursday she reminded Pompeo of the "free and independent" foreign policy of Southeast Asia's largest country and called for greater economic co-operation. Indonesia's economic ties with China have increased at the same time Washington has considered downgrading Indonesia's preferential trade treatment under the Generalized System of Preferences (GSP) facility. That review is ongoing and Retno told Pompeo that the GSP facility was important to both nations.

"I encouraged U.S. businesses to invest more in Indonesia, including for projects in the outer islands of Indonesia, such as Natuna Island," Retno added. Next month, senior government officials say Indonesia is expected to sign the world's biggest trade

pact – the Regional Comprehensive Economic Partnership - that involves Southeast Asian states and China, but not the U.S. Pompeo said he recognised the deficit in the economic relationship of the two countries, but made no commitment to retaining Indonesia's access to the GSP facility, which gives more than 3,500 Indonesian products duty-free status. "There should be much more investment here from the United States, especially in the digital, energy and infrastructure sectors," Pompeo said. Pompeo also met Indonesian President Joko Widodo, commonly known as Jokowi, on Thursday, and is scheduled to make an address to an Islamic youth group. "President (Jokowi) emphasised that Indonesia wants economic cooperation between the two countries increasing in the future, including extension of GSP facilities for Indonesia," Retno said of Pompeo's meeting with the Indonesian leader. She added that the president urged Pompeo to "understand Southeast Asia and Southeast Asian countries so as to create peace, stability and cooperation in the region". Before his visit to Indonesia, Pompeo visited India, Sri Lanka and the Maldives. He is scheduled to fly to Vietnam later on Thursday.

Source: [reuters.com](https://www.reuters.com); 29 October 2020

FOUR-NATION MALABAR EXERCISE TO KICK OFF ON NOVEMBER 3

NEW DELHI: The first phase of the Malabar exercise featuring the navies of India, US, Japan and Australia will take place from November 3 to 6 in the Bay of Bengal off Visakhapatnam coast, officials said on Friday. The second phase is scheduled to take place from November 17 to 20 in the Arabian Sea, they said. This will be the first time in 13 years the four nations — collectively known as Quad — will join forces for the mega war games. Earlier this month, India had announced that Australia will participate in the naval exercise, a move that will bring the four key partners in the Indo-Pacific region together. The invitation by India to the Australian navy for the exercise next month came two weeks after the foreign ministers of the Quad held extensive talks in Tokyo with a focus on enhancing their cooperation in the Indo-Pacific, a region that has been witnessing increasing Chinese military assertiveness.

China has been uncomfortable with the informal coalition of the four democracies, which was first formed in 2004. China had earlier "taken note" of Australia's inclusion in the drill and underlined that military cooperation should be "conducive" to regional peace and stability. The Indian Navy will deploy a number of key platforms in the exercise which will include destroyer Ranvijay, frigate Shivalik, off-shore patrol vessel Sukanya, fleet support ship Shakti and submarine Sindhuraj. In addition, advanced jet trainer Hawk, long-range maritime patrol aircraft P-8I, Dornier maritime patrol aircraft, and a number of helicopters will also be participating in the exercise, the officials said.

Source: timesofindia.com; 30 October 2020

BITTER DISPUTE SEES US-JAPAN NAVY PLAY WAR GAMES AGAINST CHINA'S COAST GUARD

- Jamie Seidel

China's Coast Guard has been elbowing its way around some remote Japanese islands all year. Now a large-scale US-Japan naval exercise is practising how to seize them back. Tens of thousands of US and Japanese troops are engaging in an island-hopping campaign not seen since World War II. It's part of exercise Keen Sword 21. Its mission is "to deliver combat troops to defend the Senkakus or respond to other crises or contingencies". The Senkaku Islands are a group of uninhabited rocks some 1900km southwest of Tokyo, just a few hundred kilometres from Taiwan. They're at the heart of a bitter dispute with Beijing. Imperial Japan surveyed and claimed the islands in 1895. Communist China laid claim to them in 1952. Since July, Chinese navy-controlled Coast Guard vessels have been relentlessly plying their waters as though they are in control. "The security situation around Japan has become increasingly severe," the chief of Japan's defence force, General Koji Yamazaki, told media aboard the Kaga helicopter carrier on Monday. "This gives us the opportunity to demonstrate the strength of the Japan-US alliance." The USS Ronald Reagan Carrier Strike Group is contributing to the 20 warships, 170 aircraft massing in the area. Some 46,000 troops will be participating in the war game operating out of Okinawa and mainland Japan.

"Our arrival today was simply to demonstrate the ability to move a few people, but the same capability could be used to deploy combat troops to defend the Senkaku Islands or respond to other crises and contingencies," said US commander Lieutenant General Kevin Schneider. Ownership of the Senkaku Islands is complicated. Imperial Japan claimed the uninhabited outcrops after surveying the region during its 1890s war with Imperial China. The islands were occupied by the United States after World War II but returned to Tokyo's control in 1972. In 1952, Communist China declared it owned the islands as a legacy of its centuries-old Imperial empire. It's the same basis of claim Beijing asserts over the entirety of the South China Sea. An international court of arbitration rejected this in a 2016 ruling as historically baseless. Beijing has rejected the ruling. This has profound implications as the US-Japan mutual defence treaty commits Washington to defend the disputed islands as though they were US territory. Keen Sword is the first major military exercise with Japan since Yoshihide Suga took over the role of Prime Minister of Japan last month. He's vowed to counter China's pressure on Japan's territories. For his part, General Schneider, the US force commander in Japan, says Washington is "100 per cent absolutely steadfast in its commitment to help" defend Japan's ownership of the Senkakus.

SHARPENED SWORDS

Marines swam ashore to scout the islands. Follow-up forces were then inserted by tilt-rotor MV-22 Ospreys. Watching protectively over all was a fleet of AH-1Z Viper attack helicopters. "Our ability to rapidly seize and operate from critical maritime terrain will support naval operations to ensure we are ready to fulfil our treaty obligations to Japan

and maintain a free and open Indo-Pacific," a US navy statement declares. Exercise Keen Sword forces "will train in a comprehensive scenario designed to exercise the critical capabilities required to support the defence of Japan and respond to a crisis or contingency in the Indo-Pacific region," adds General Schneider. This includes mixing and matching the use of helicopters, fighters and personnel of different nations among the multinational force. "Demonstrating interoperability between the two forces in realistic scenarios is as important, if not more so, than displaying any shiny new hardware," says Kanagawa University international relations analyst Corey Wallace. The joint US-Canadian-Japanese exercise is due to end on November 5.

'COERCIVE AND UNILATERAL'

Japan's biggest warship, the helicopter carrier Kaga, is soon to be rebuilt to operate F-35B "Jump Jets" to enhance its combat capability. But the 248m long vessel is currently leading the international force in the simulated island-hopping campaign. Its refit – and that of its sister ships – represents Tokyo's growing concerns at Beijing's ambitions. Japan's defence white paper, also released in July, warned of a surge in China's "coercive and unilateral actions". That same month the US signed a deal allowing Japan to purchase 105 F-35B jump-jets as part of a \$US23 billion (\$A32 billion) package that will eventually deliver a total of 147 stealth fighters. Mr Suga this month visited Vietnam and Indonesia to strengthen Japan's ties with its South East Asian neighbours. He's also hosted talks aimed at reinforcing the informal "Quad" relationship between Japan, the US, Australia and India.

FOOD FIGHT

Even as the combined US, Japanese and Canadian naval fleet plies the disputed waters, China's fishing militia is accused of pushing Tokyo's boats out of their own exclusive economic zone. The chase for diminishing flying squid stocks has seen the Communist Party-controlled fleet push its way into North Korean waters. It is allegedly behind the deaths of North Korean crews and a spate of so-called "ghost ships" washed up on the shores of Japan. Now the Chinese ships are moving on to the Japanese side of the Sea of Japan. So far, Tokyo's Fishery Agency has warned some 2600 Chinese vessels they are breaching its territory – four times more than last year. Japan has imposed a ban on its own fishing fleet operating in the Yamatotai area to preserve squid stocks.

Source: [nzherald.co.nz](https://www.nzherald.co.nz); 31 October 2020

JAPAN MULLS RESTRICTIONS ON CHINA-MADE DRONES

- Reuter, Tokyo

Japan might shut off China from supplying drones to its government agencies to protect sensitive information, six people in the Japanese government and the ruling party familiar with the matter said, adding that the move would be part of a broad effort to bolster national security. They said that the primary concerns were centered

on information technology, supply chains, cyber security and intellectual property — worries that have been rising outside Japan as well. However, Japan must balance such fears — particularly Beijing's growing push to export sensitive technologies such as commercial drones and security cameras — against deep economic dependence on China.

It must also navigate increasingly choppy waters between China and Japan's closest ally, the US, which is at odds with Beijing over many things, including technology. "China is a big market, and it is important for Japan," one of the senior government officials said. "On the other hand, there are worries that advanced technologies and information could leak to China and could be diverted for military use." The Japanese Ministry of Defense has several hundred drones, including some made by Chinese companies; the Japanese coast guard has about 30, and most are China-made. Both agencies said that they were not using those drones for security-related issues. Other Japanese government entities also maintain China-made drones. It is unclear whether all would need to be replaced, but new drones, used for sensitive work, such as criminal investigation, infrastructure work and emergency rescues, would have to be secured against data leaks and go through stricter vetting procedures, the official said. The tightened rules, set to come into effect in April next year, do not mention any country by name, they added. However, the sources said that the policy was created with China in mind. The initiative also includes investment rules for foreign entities enacted last year, and ruling party lawmakers are preparing a proposal on an all-encompassing law to promote economic security that would be unveiled later this year.

Separately, the Japanese National Security Council in April set up a unit to examine how economic matters, such as advanced technologies, could affect national security. Domestic drone makers expect to benefit from the changes, as ministry level agencies would most likely do their drone shopping at home. Aviation equipment manufacturer Tokyo Aircraft Instrument Co has developed a camera drone that can fly in high winds — making it ideal for surveying damage after a disaster — and the company is talking potential applications with the Japanese government. "The drone platform, flight-control system and radio communication equipment are all domestic-made, and it is our unique model based on our years of experience in avionics components," Kazuya Sumida of the company's drone division said. "We plan to further enhance the security of the drone's information and communications functions." However, government purchases make up a small part of the nation's drone market, which stood at ¥140.9 billion (US\$1.35 billion) in the fiscal year to March, up 51 percent from the previous year, Impress Research data showed.

The market is expected to grow to ¥642.7 billion in the fiscal year to March 2026. The aim is not to boost local drone makers, the measure's backers said — it is to keep Japan secure. "Japan will keep diplomatic ties with China, but we will more carefully respond to sensitive technologies and information," another senior government official said. Analysts say that the US cannot fully cut off China because it would hurt the US economy. "I think allied nations will discuss critical technologies, especially information and technologies which could give military advantage to China," said Tsuneo Watanabe, a senior fellow at the Sasakawa Peace Foundation. Japan has

already set aside about ¥300 billion to diversify its supply chains and reduce reliance on China by bringing production home or expanding production in Southeast Asia.

Source: [taipeitimes.com](https://www.taipeitimes.com); 31 October 2020

AUSTRALIA'S FIRST MQ-4C TRITON WILL ENHANCE MARITIME SECURITY IN THE PACIFIC

- Redazione di Aviation Report

Northrop Grumman has initiated the build process for Australia's first MQ-4C Triton, a game-changing unmanned maritime intelligence, surveillance and reconnaissance (ISR) aircraft. In a ceremony broadcast to a virtual audience, speakers from the Australian Government, Royal Australian Air Force (RAAF), U.S. Congress, U.S. Navy and Northrop Grumman emphasized the significance of this event. "The MQ-4C Triton will be a very important ISR capability for Australia," said Air Commodore Terry van Haren, the RAAF's air attaché to the Australian embassy. "It is ideally suited for Australian operating conditions, given its high altitude, long endurance, and impressive sensor suite. The Royal Australian Air Force looks forward to operating the MQ-4C alongside its other ISR and response aircraft such as the P8A Poseidon."

Capt. Dan Mackin, the U.S. Navy's Triton program director, applauded the continued progress of the program, stating, "With much of our team working remotely, geographically dispersed, and across many time zones, I am so impressed with the continued productivity I have seen and the great work being done. Our partnership near and far remains strong as we prepare to deliver the first Triton aircraft to Australia in 2023." "As a strategic partner in the cooperative development program, Australia is a critical part of Triton's development and production," said Doug Shaffer, vice president, Triton programs, Northrop Grumman. "This game-changing system will boost Australia's ISR capability and enable them to meet their surveillance needs to manage the world's third largest exclusive economic zone." The MQ-4C is a cooperative development program between the Royal Australian Air Force and the U.S. Navy, and provides a round-the-clock maritime wide-area ISR. Operating at altitudes exceeding 50,000 feet, Triton can cover more than one million square miles, or two and a half million square kilometers, of ocean and littorals in a single flight, bringing unprecedented awareness to commanders' common operating pictures. Northrop Grumman solves the toughest problems in space, aeronautics, defense and cyberspace to meet the ever evolving needs of our customers worldwide. Our 90,000 employees define possible every day using science, technology and engineering to create and deliver advanced systems, products and services.

Source: en.aviation-report.com; 30 October 2020

INDIA RESISTS U.S. PRESSURE TO BUY ARMED DRONES AS TRUMP LOOKS FOR FOREIGN POLICY 'WINS'

- Paul D. Shinkman

THE U.S. PRESSURED India to purchase sophisticated armed drones during a high-level meeting between top officials this week but was not successful, officials confirm to U.S. News, robbing President Donald Trump of a sought-after foreign policy "win" in the waning days of his reelection bid.

The State Department has already cleared the way for India to purchase MQ-9 Reaper drones, which have become prolific in American-led counterterrorism wars and which U.S. officials believe would perform a critical role in better preparing India's army for the kind of deadly border clashes with China that have escalated in recent months. Multiple current officials speaking on the condition of anonymity confirm that the sale was at the top of the agenda for Secretary of State Mike Pompeo and Secretary of Defense Mark Esper going into their trip to India earlier this week to meet with their local counterparts, the latest in a series of high-profile summits known as the 2+2 Ministerial Dialogue.

However, India, at least for now, refused.

The sale, like many weapons deals the president has previously touted, would have served as a sterling example of the domestic and foreign policy doctrine Trump has espoused. It would enable another country to carry out a White House foreign policy goal, in this case the foundational promise Trump has stressed in recent weeks of deterring and containing China. And following the Air Force's announcement earlier this year it plans to transition away from relying on the MQ-9 as it prepares for its own potential confrontations with Russia and China, a new deal with an economic powerhouse like India would secure American jobs at the General Atomics assembly plant for the Reaper in California. It would also serve as a symbolic step toward incorporating more American hardware into India's arsenal and move away from the Russian and Soviet equipment that currently comprises much of it – a key goal of the Pentagon's as it continues to court a greater alliance with the South Asian powerhouse. "For a customer like India, we get a strategic bang for our buck and at the same time we get the economic benefits," says Karl Kaltenthaler, a professor at the University of Akron who frequently advises various elements of the U.S. government on drone policy and other security matters. "This is a good story in that we're keeping American jobs, we're sticking it to China." Pushing for an MQ-9 sale to India also meets a set of requirements that have become a new reality for the national security elements of the government during this administration: It achieves a goal set by the Pentagon, is easy to sell the president and does not conflict with Trump's vision of the world or his style of leadership. "For the Trump administration, this issue is much more a political one rather than a strategic one," Kaltenthaler says. "And this is one of those cases where Trump's incentives or motivations for doing this don't conflict with the Pentagon." It

was not immediately clear why the Indian government declined the U.S. offer at this time, and its Ministry of External Affairs did not respond to requests for comment. However, multiple sources familiar with the discussions and speaking on the condition of anonymity cited the expense of these drones – which as of last year cost roughly \$16 million each. They also say New Delhi plans to hold out for a larger and more comprehensive arms package at some point in the future, but certainly not before Election Day next week. The State Department declined to answer questions on-record about why it was so eager for India to agree to the sale, or criticism that the timing of the U.S. pressure amounted to an attempt to grant Trump a foreign policy "win" in the lead-up to next week's election. A spokesperson speaking on the condition of anonymity says the U.S. has "strived to meet India's defense requirements in recent years," and noted that "defense trade has increased significantly over the past two decades." "As of 2020 the United States has authorized more than \$20 billion in defense sales to India," the spokesperson says, adding that the country maintains the largest fleets of C-17 and P-8 aircraft outside of the United States.

At the summit this week, the four senior officials signed a much-anticipated Basic Exchange and Cooperation Agreement, a significant achievement that formalizes future military and intelligence cooperation between the two powers. And Esper indicated in public remarks that the prospect of drone sales in the future, as well as other military equipment, remains a likelihood. "Our defense trade and technology cooperation continues to grow, as reflected in India's acquisition of Apache and Seahawk helicopters earlier this year," the defense secretary said at a press conference with the other officials. "We look forward to advancing sales for other key defense platforms, including fighter aircraft and unmanned aerial systems." Trump has made arms sales a central component of his foreign policy and routinely boasts about how he perceives their benefit. Early in his administration, Trump sped up the approval process for arms sales abroad by reducing oversight, prompting widespread concern. In April 2019, Trump withdrew from an international weapons pact that had previously bolstered efforts to limit the spread of arms globally, saying it undermined American sovereignty. "As of 2020 the United States has authorized more than \$20 billion in defense sales to India," the spokesperson says, adding that the country maintains the largest fleets of C-17 and P-8 aircraft outside of the United States. At the summit this week, the four senior officials signed a much-anticipated Basic Exchange and Cooperation Agreement, a significant achievement that formalizes future military and intelligence cooperation between the two powers. And Esper indicated in public remarks that the prospect of drone sales in the future, as well as other military equipment, remains a likelihood.

"Our defense trade and technology cooperation continues to grow, as reflected in India's acquisition of Apache and Seahawk helicopters earlier this year," the defense secretary said at a press conference with the other officials. "We look forward to advancing sales for other key defense platforms, including fighter aircraft and unmanned aerial systems." Trump has made arms sales a central component of his foreign policy and routinely boasts about how he perceives their benefit. Early in his administration, Trump sped up the approval process for arms sales abroad by reducing oversight, prompting widespread concern. In April 2019, Trump withdrew from an international weapons pact that had previously bolstered efforts to limit the spread of arms globally, saying it undermined American sovereignty.

Source: en.aviation-report.com; 30 October 2020

MARITIME FORCES

THE WORLD HAS JUST WITNESSED A “PEARL HARBOR MOMENT” IN ARMENIA

- Xavier Vavasseur

Inspired by the British attack on the Italian fleet at Taranto a year before, on Dec. 7, 1941, Admiral Isoroku Yamamoto directed six Japanese aircraft carriers to launch an air raid against the U.S. Navy base at Pearl Harbor where they would sink six and damage three battleships, and damage several light cruisers and destroyers, all at a cost of only twenty-nine aircraft. Naval vessels are prohibitively expensive, none more so than capital ships like battleships. In economic terms, this was probably the most lopsided battle in human history. Even as the smoke was clearing, the world was coming to realize that the reign of the battleship was over. Never again would the pinnacle of naval warfare be one side's fleet maneuvering to “cross the T” of the enemy's fleet (as the British Grand Fleet did twice against the German High Seas Fleet at the Battle of Jutland in the Great War). From that day forward, battleships were effectively relegated to be floating artillery in support of amphibious assaults on beaches. Pearl Harbor was not the first great paradigm shift in warfare. Examples abound, from the use of stirrups by Mongol cavalry to the English longbow at Agincourt, from the introduction of steam-powered ships in the early 1800's (our nuclear-powered ships today are powered by steam) to the first ship sunk by a cruise missile in the Falklands War. The world's militaries have just witnessed another such shift.

The tank has ruled the battlefield for 102 years, from the last great battle of WWI in 1918 until 2020, but no longer. The U.S. Army is estimated to have just under 6300 tanks, all of which have just been made obsolete. This is one example of what now rules the battlefield:

The cost of that Turkish-made unmanned drone is about \$5M USD. The cost of the newest version of the venerable M1 Abrams main battle tank is about \$20M USD, not counting the cost of the lives of the soldiers inside. And if the graphic above is any indication, each drone can kill two tanks. Per mission. Research by Forbes indicates that Armenian losses currently include nearly 200 armored vehicles and over 300 soft-skinned vehicles, all destroyed by unmanned drones. To be sure, the tanks destroyed by the drones were relatively geriatric Soviet-era T-72's, but the top armor of tanks is always the weakest — and that's where the drones' missiles always strike. We also know that Turkey has used its drone force to destroy dozens of tanks and other armored vehicles and artillery in northern Syria, and has positioned itself as one of the world's major producers of armed drones and unmanned combat air vehicles (UCAV's). Just as bomber pilot Billy Mitchell demonstrated in 1921 that battleships were too vulnerable to air attack, forward-thinking military leaders have known for

years that the battlefield utility of the tank was drawing to an end. Of course there are deniers who, in the words of Mark Twain, claim that “the report of the death of the tank has been greatly exaggerated,” but the evidence says otherwise. To the drone operator, a tank is a big, slow-moving target easily seen in infrared, and throughout all military history, whoever holds the high ground has a big advantage. The current war between Armenia and Azerbaijan is in fact a continuation of an on-off conflict that has continued since the late 1980’s. What is new is the technology at use, and how both nations are being used as proxies: Armenia is a Russian ally (though Russia is selling advanced munitions to both sides) and Azerbaijan is building close ties to Turkey. Most students of Asian history know that Russia, desirous of the Bosphorus Strait that allows travel between the Black Sea and the Mediterranean, has long wanted to establish control over Turkey. Even twenty years ago, one would think that in such a proxy war, it would be no contest, that whoever mighty Russia backed against Turkey would win in short order. But Azerbaijan’s sustained military successes enabled by Turkish drones may well soon bring Armenia to the bargaining table.

Nor is this the only proxy conflict between Russia and Turkey. Just this week a cease-fire was signed between the warring sides of the Libyan civil war. The Turks had been supporting the government, whereas the Russians had been supporting the rebels. Turkey and Russia are also facing off against each other in the ongoing Syrian civil war. But in any case, in all three conflicts, the unmanned combat drone is playing a major — and perhaps even a decisive — role by economically providing crucial reconnaissance and tank-busting firepower. And right now, Turkey seems to hold the advantage of the high ground.

Source: glennroccess.medium.com; 28 October 2020

CHINA’S NEW AIRCRAFT CARRIER KILLER IS WORLD’S LARGEST AIR-LAUNCHED MISSILE

- H I Sutton

Navies are racing to develop hypersonic missiles which may change the pace of naval warfare. Russia will deploy the Zircon hypersonic missile aboard warships and submarines. The US Navy has started down the path of the common hypersonic glide body (c-HGB) for its destroyers. Meanwhile China’s latest hypersonic weapon is something completely different; it is air launched. The massive new missile, labelled CH-AS-X-13, is probably the largest air-launched missile in the world.

The missile was first reported by Ankit Panda, the Stanton Senior Fellow at the Nuclear Policy Program, Carnegie Endowment for International Peace, in April 2018. More recently candid images have appeared on Chinese social media. These provide a clearer view of the novel weapon. Analysts believe that it may be intended to target high-value warships, particularly aircraft carriers. This makes it an anti-ship ballistic missile (ASBM). And it appears to be carrying a hypersonic glide vehicle (HGV). This may give it extended range and increase survivability against air defenses. The CH-AS-X-13 may be closely related to the ground based DF-21D anti-ship ballistic missile.

Image analysis suggests that it has different dimensions however, so may use a different rocket motor. The most likely reason for this would be the physical restrictions imposed by carrying it under an H-6 bomber. Additionally it appears to be equipped with a hypersonic glide vehicle (HGV) similar to the one seen on the DF-17 ballistic missile. Clearer images in the future may clarify this.

The DF-21D is believed to have a range in excess of 1,500 km. The CH-AS-X-13 may have a similar range, or possibly further due to the aerial launch and a hypersonic glide vehicle. Either way, being carried by a bomber will massively increase its overall reach. The H-6N version which carries it has aerial refueling to further increase their range. The CH-AS-X-13 is therefore a threat beyond the first island chain and South China Sea. It could potentially hit targets in the vast expanse of the Pacific Ocean, or Indian Ocean. Even if the missile has this incredible range it will face challenges reaching its full potential. Finding and tracking an aircraft carrier at extreme ranges may be the Achilles' heel. And a lot may depend on the survivability of the bomber itself, and the number of aircraft available for the mission. Context, of course is everything. The H-6 bomber is not limited to the CH-AS-X-13 however. It can also carry a range of anti-ship missiles. Foremost among these is the YJ-12 supersonic missile. This is similar to the Russian Kh-31 (AS-17 Krypton) missile, but significantly larger. At least four YJ-12s can be carried, meaning that a squadron of bombers could launch a saturation attack on a Carrier Battle Group. The subsonic KD-63 (also commonly referred to as the YJ-63) can also be carried. Having anti-ship ballistic missiles may also be used to message China's potential adversaries. On August 26 China test fired a DF-21D ASBM into the South China Sea. This was just weeks after the US Navy aircraft carrier USS Ronald Reagan had been exercising in the area. The CH-AS-X-13 adds another dimension to the threat to carrier battle groups, so its development alone can be seen as sending a clear message of China's increasing military confidence.

Source: [navalnews.com](https://www.navalnews.com); 01 November 2020

ANOTHER LITTORAL COMBAT SHIP BREAKS DOWN ON DEPLOYMENT

- David B. Larter

WASHINGTON – The littoral combat ship Detroit is limping back to Mayport, Florida from a deployment to South America in a move that marks the latest setback for the Freedom variant's complicated propulsion system. Three sources familiar with the situation told Defense News the casualty is in Detroit's combining gear, which is a complex transmission that connects power from two large gas turbine engines and two main propulsion diesel engines to the ship's propulsion shafts, which propels the ship through the water with water jets. Detroit will redeploy to Southern Command when repairs are completed, U.S. 4th Fleet Commander Rear Adm. Don Gabrielson said in a statement. "USS Detroit (LCS 7) experienced an engineering casualty during routine operations, and a technical evaluation determined that in-port repairs would be required," the statement read. "USS Detroit has been a vital and productive asset and

will be redeployed as soon as possible.” Detroit’s Freedom-class sister ship *Sioux City* and the trimaran Independence-class LCS *Gabrielle Giffords* remain on station, Gabrielson said.

The Freedom-class LCS has been bedeviled by issues with its combining gear, which is an imperfect solution engineered to meet the 40-knot-plus speed requirement. The ship can make between 10 and 12 knots with just its diesel engines, but to go any faster it must engage the gas turbine engines. The combining gear fuses and transmits the power to the propulsion shafts, but is a system with a lot of moving parts and has proven unreliable. The string of combining gear casualties dating back to at least late 2015, when the LCS *Milwaukee* broke down on its maiden voyage to its home port in Mayport, Florida, and had to be towed into Little Creek amphibious base in Hampton Roads, Virginia. Early the next year, the littoral combat ship *Fort Worth* suffered a casualty to the combining gear in port when sailors accidentally ran the system without lube oil running through it. The trimaran Independence-class also suffered breakdowns in 2016, including a serious casualty on the *Montgomery* and the *Coronado*. The Navy has proposed decommissioning the first four littoral combat ships, citing misalignment with the rest of the fleet. The Navy has procured 35 littoral combat ships. Several sources familiar with the issue who spoke to Defense News said the Freedom variant’s propulsion train has proven generally unreliable when the combining gear needs to be engaged. The trimaran Independence-class also suffered breakdowns in 2016, including a serious casualty on the *Montgomery* and the *Coronado*. The Navy has proposed decommissioning the first four littoral combat ships, citing misalignment with the rest of the fleet. The Navy has procured 35 littoral combat ships. Several sources familiar with the issue who spoke to Defense News said the Freedom variant’s propulsion train has proven generally unreliable when the combining gear needs to be engaged. It also means that the Navy will have to make a decision about whether it wants to spend the money on systems that are being designed for the hulls, such as the mine warfare and anti-submarine mission modules, which are both years late. ‘We need to get on with it’ The issues with LCS reliability are not lost on the Navy’s senior leaders. In a July interview with Defense News, Chief of Naval Operations Adm. Michael Gilday said he was committed to addressing the reliability issues with the platform. “There are things in the near term that I have to deliver, that I’m putting heat on now, and one of them is LCS,” Gilday said. “One part is sustainability and reliability. We know enough about that platform and the problems that we have that plague us with regard to reliability and sustainability, and I need them resolved. “That requires a campaign plan to get after it and have it reviewed by me frequently enough so that I can be sighted on it. Those platforms have been around since 2008 — we need to get on with it. We’ve done five deployments since I’ve been on the job, we’re going to ramp that up two-and-a-half times over the next couple of years, but we have got to get after it,” he added. “LCS for me is something, on my watch, I’ve got to get right.” The Navy has already begun to try some new approaches to boosting reliability, said Gabrielson, the Fourth Fleet commander. The Navy deployed the expeditionary fast transport ship *Burlington*, operated by Military Sealift Command, along with the *Gabrielle Giffords*, *Sioux City* and, until lately, the *Detroit* to act as a kind of tender for the ships to conduct repairs and maintenance as needed. “USNS *Burlington* (T-EPF-10) is deployed to test her utility as an afloat staging base

supporting the Planned Maintenance Availabilities (PMAV) for deployed LCS ships, showing real promise,” his statement said.

As for operations in Latin America, the show will go on without Detroit until it is able to return, Gabrielson said, with the annual “Unity in the Americas” exercise preparing to kick off. “Both Gabrielle Giffords and Burlington will participate in the upcoming UNITAS exercise hosted by Ecuador, joined by 8 other partner nations contributing 10 ships, along with U.S. Marines, naval aircraft, as well as U.S. Air Force aircraft, a U.S. Coast Guard Cutter, and a U.S. Army ship, building and exercising regional maritime readiness,” the statement reads. For Gilday, the continued reliability issues on LCS are a lesson the Navy needs to learn as it pushes forward with new classes of ships and unmanned surface vessels as part of a push to grow the Navy, he told Defense News. “I go back to: Do I really need a littoral combat ship to go 40 knots?” Gilday mused. “That’s going to drive the entire design of the ship, not just the engineering plant but how it’s built. That becomes a critical factor. So if you take your eye off the ball with respect to requirements, you can find yourself drifting.”

Source: [defensenews.com](https://www.defensenews.com); 28 October 2020

MDL AUGMENTED TO BUILD 11 SUBMARINES AND 10 SHIPS AT ANY GIVEN TIME: RADMIRAL AK SAXENA, DIRECTOR, MAZAGON DOCK

- Manish Kumar Jha

The P17A stealth frigates are follow on of P17 Shivalik class stealth frigates, three of which were delivered in 2010-12. Under P17A, seven ships are going to be built, four by MDL and three by GRSE. MDL will also perform the role of the lead yard. While P17A ships are said to be follow on of P17 Shivalik Class, there are changes in design of the Platform, equipment fit and construction methodology. New concepts of Shipbuilding have been used in design and construction of these ships. P17A Ships are larger in size compared to Shivalik Class, with 4.5% GeoSim expansion. Most of the weapons/ sensors on Shivalik Class Ships were imported from Russia.

However on P17A ships these have been substituted by western or indigenous system. Also some additional weapons and sensors have been incorporated to enhance the combat capability. Stealth features have been improved by reducing Radar Cross-Section, Infrared signatures and noise signatures. The Ship’s machinery including the propulsion system has been retained same as on Shivalik Class. There are various new technologies which are being adopted on these ships. MDL was the first shipyard in India to establish a Virtual Reality Lab (VRL), Extensive use of VRL is being made for optimization of layouts of highly congested compartments in a virtually immersed environment, This will reduce rework, efforts and time on board ships. We are also implementing PDM/ PLM in Project 17A. Product Lifecycle Management (PLM) helps

manage the entire lifecycle of ship efficiently and cost effectively right from conceptualizing the idea, to design and manufacture, to exploitation, maintenance, repair and subsequent disposal. Product Data management (PDM) makes it possible to have a single view of all the data by having a single reference point instead of searching it through different repositories. The whole data need not reside in the central location but is accessible from the single location through links. PLM uses the concept of digital twin or duplicating a physical system digitally. The digital twin simulates the characteristics of its physical twin so that the potential problems in designing and manufacturing can be predicted and simulated before the item is actually manufactured. In case of a ship, due to its massive size and complexity it can substantially reduce the time and effort in actual construction. Problems that would traditionally be identified once the ship is built can be identified in the digital twin.

Frigates like the P17A have an open structure, they have a lot of equipment, fittings and many weapons displayed in the open, how do you define the stealth character then?

The stealth features (Radar cross section) are predicted by modeling of the above water structure of ship, including all fittings, weapons and sensors on upper deck and on the super structure. In fact, we have softwares in Directorate of Naval Design where I was Director General for about 6 years, to predict radar cross section. The hotspots or areas of higher RCS are reduced by shaping the geometry of relevant structure or by using radar absorbent or radar transparent material. Most of the weapons are vertically launched, and deck fittings are concealed to provide a much cleaner deck. By reducing RCS of ship, the ship becomes less vulnerable to detection by enemy ship.

Stealth features not only include the reduced radar cross section but also reduced noise signatures and infrared signatures. Noise signatures can be further divided into hydrodynamic noise Generated by ship's hull and by Propeller as well as that produced by Propulsion and Auxiliary machinery. Because when they run into water, they produce a noise. The propellers have been designed to have onset of cavitation at higher speeds to reduce hydrodynamic noise. The machinery running inside the ship produce noise which is transmitted through ship's structure into the water and then these sound waves travel to a long distance and can be picked up by a submarine or a ship's sonar. A lot of work has been done on designing of the suitable mounts for installation of machinery to reduce structure borne noise. Also special acoustic enclosures have been provided for some of the machinery to reduce air borne noise from stealth and habitability considerations. To reduce infrared signatures, temperatures of exhaust from propulsion and power generation machinery have been reduced by using Venturi effect and fluid injection. These reduce the plume and hot metal temperatures of exhaust and make the ship less vulnerable to attack by enemy weapons. So, on infrared signatures, radar signatures on the noise signatures, a lot of work has been done to improve the signatures on Project 17 Alpha ships compared to P17 ships.

There are 7 warships to be built under P17A . What is the time line and if this could be a potential export opportunity for India to our friendly foreign countries?

The timeline for all ships are very challenging, much lesser than the Shivalik Class Frigates. And to meet the stringent timeline we are adopting various innovative methods to shorten our build periods. We are first time following the concept of integrated construction in which the fitting out of blocks will be undertaken in more conducive environment of workshops and then these blocks will be joined on slipway. Pre-outfitting of blocks before joining will save lot of effort and time. The other new concept we are using is of parallel construction. The blocks of these ships are being built in different geographical locations simultaneously, which increases production output and in turn compresses the build period. P17A ships are being manufactured at 5 different locations, in MDL premises using its own manpower, at a different location in MDL by Subcontractor, in Nhava yard which is about 10 kms away across the channel, in Gujarat by a MSE Shipyard and some parts are being manufactured by another MSE Shipyard in Goa. In a way, we are using the concept of Public Private Partnership, in Project 17 A. Apart from these new shipbuilding concepts we have also evolved new method of shafting and shaft alignment by using software based simulation, which will reduce the overall shipbuilding period by 8-10 months.

All these concepts will not only help in meeting the challenging timelines of P17A, but will also go a long way in reducing the build period for the future ships as well. With regard to the export opportunity for India to our friendly foreign countries, MDL certainly has capacity and capability to build these Ships for export. If the friendly foreign countries require minor changes in design, or want some specific equipment to be fitted, then that can also be carried out. However, warships export has to be with involvement of the Govt. Also since the basic design has been carried out by the Navy and detailed design by MDL, Navy will have to be onboard during the process of design and construction of Ships for the foreign customers.

Could you give us the update on Stealth Destroyers (Project 15B-Visakhapatnam Class) which is according to MDL is one of the world's most technologically advanced guided missile destroyers. Along how does vessel ensure efficient helicopter handling of indigenously developed HAL Dhruv?

Project 15B- Visakhapatnam class destroyers include four ships, which are in advanced stage of construction. The first Ship is being made ready for Basin trials and Contractor's Sea Trials towards the end of this year. The first ship is likely to be delivered next year and the other three Ships with an interval of one year each.

These Ships are follow on of Kolkata Class destroyers, which were the follow on of Delhi Class destroyers. A lot of refinement in design and change in equipment have taken place from Delhi Class to Kolkata Class and now in Visakhapatnam Class. Although the Hull and machinery have remained same, the weapons /sensors have undergone complete change. Most of the weapons/ sensors on Delhi Class Ships were imported from Russia. However, on Kolkata Class and now on Vishakhapatnam Class Ships, most of the weapons/ sensors are from indigenous or western sources. A lot of equipment have been indigenized on these ships including the weapons and sensors by PSUs and private industries. The overall indigenization has reached upto 75% on these ships, which does not only reduce our dependencies on foreign countries but also reduces the acquisition and life cycle cost.

With regard to handling of ALH, Flight deck has been designed to take the load of helicopter. Also the Helo-Traversing System and Helo Landing Grid being fitted on board are proven System to efficiently handle the helicopter for operations in various sea conditions. There are new systems of handling helicopters, which are more reliable and less maintenance intensive and easy in handling which are being studied and if found suitable to be incorporated considering the delivery schedule of these ships, may be inducted into some of the ships of Project 15B. What has been the indigenization drive as far as MDL is concerned across the different type & class of warships? The indigenization drive has been a priority area for MDL. Warship building in India started sometimes in late sixties with license production of leander class ships. At that time almost everything including the steel came from UK. Since then we have been continuously striving to increase the indigenous content of our platforms. We have jointly worked with Indian Navy towards indigenization of equipment and ship construction material have been able to increase the quantum of indigenous component gradually in successive projects. Today we have developed all yard material including steel, electrodes, insulation material, cables, trunkings, pipes, pipe fittings, deck covering, paints etc. Also a large number of equipment have also been indigenized. If we divide the whole ship into Float, Move and Fight component, we have already indigenized more than 95% material for Float component, about 60% of Move component and about 30-40% of Fight component. In fact many of the weapons/sensors are also being produced now indigenously by PSUs as well as by Private industry. The participation of private industry is a very heartening step and will go a long way in enhancing the indigenous element in our shipbuilding program. Some of the weapon/sensors developed indigenously include Gunnery system, various missile systems, Torpedo Launchers, Rocket launchers, Electronic warfare, Surveillance Radars, Fire Control System for Gunnery & Missile systems and underwater weapons and sensors. Due to the joint efforts of MDL and Indian Navy, the indigenous component in our current projects Project 15 B and Project 17 A has increased up to 70-75%. MDL with it's our initiative has also developed certain equipment such as Sonar Dome, Ship installed chemical agent detection system, Bridge Window Glass, main batteries for submarines, multiple cable transit glands and remote controlled valves. However, it is a continuous journey. We are encouraging MSEs as well as startups and providing handholding for development of substitutes for imported items.

Defence export has seen the healthy growth. MDL with advance expertise in building warships is expected to lead in this direction. How MDL is planning to reach out to the worldwide market? Could you share your export portfolio?

MDL has exported a variety of ships to various countries in the past. A total of 243 vessels have been exported which include Multi purpose support vessels to Mexico, Bahamas, dredger to France, General Cargo Vessels to UK, Bulk Carriers to Singapore, Tugs to Yemen, water tankers to Iran, Cargo Barges to Yemen, Iran and Saudi Arab, Water Barges to Yemen & Iran, Launches to Yemen & Mozambique, Pontoons & lighters to Yemen. However, when we started focusing purely on warships, our Infrastructure was not available for any other work. So we stopped exports completely. In fact, our last export was more than 10 years back of multi purpose support vessels to Mexico & Bahamas. But now we have undertaken the augmentation of

infrastructure by installing a 300 T Goliath Crane, creating a new wet basin, constructing module shop, extending the slipway length, and creating a submarine section assembly shop. With this modernization we have augmented our capacity to build 11 submarines and 10 ships at any given time. With this augmented capacity we have started diversifying into exports and refits. MDL is having a broad spectrum of products for exports both for military and merchant marine end-use. We can offer platforms like OPVs, FACs, FICs, Corvettes, missile boats which can be deployed for benign and constabulary roles and littoral combats. Piracy, extortion, drug trafficking etc are plaguing a number of developing economies and these vessels will be of immense help to these countries. MDL can offer a comprehensive offer with a premium on quality and build timelines and also attractive funding proposals through the EXIM Bank of India.

On the commercial front, MDL can build and deliver tugs, dredgers, fishing vessels, barges, pontoons and other vessel types. We have established an international marketing team and we envisage an international foot print for exports in the future. We have also appointed agents in many countries to keep us apprised of the requirement of the respective country, and also facilitate our interaction at Govt Level or with individual customers. Our teams have visited the prospective countries and also submitted bids for more than 100 vessels. However, the result of these bids are not yet known view lockdown in these countries. But we expect some of the orders come our way. Our export portfolio includes MSVs, OSVs, Tugs, Dredgers, OPVs, Cadet Training Ships, Missile Vessels, Fast Attack Crafts, Frigates, Corvettes and new build submarines.

Recently, the Chiefs of foreign navies gathered to discuss the regional international maritime collaboration. They sought India's help in building together niche naval platforms. Can MDL being the nation's leading DPSU collaborate?

Yes, MDL can certainly collaborate and by virtue of it's status of the leading shipyard of India, can spearhead and front end such initiatives. MDL has experience of building wide range of vessels varying from small Naval Platforms such as missile vessels, OPVs to most complex warships and submarines. We have already exported 243 vessels to various countries as I mentioned earlier. We can build ships of foreign navies with our existing designs. We can tweak our designs to customize it to meet their specific requirements. Or, we can design ab-initio for foreign navies and build ships for them. We can also help foreign navies in creating shipyard infrastructure or upgrade their existing infrastructure to assist them in building vessels in their own country. We can also help them in acquiring ships by building first ship in MDL, provide TOT to them so that they can build the balance ships in their country under the supervision of MDL. We can also provide training to their shipyard personnel.

There can be different models of collaborative shipbuilding with foreign navies. We can build ships on turnkey basis for other countries including procurement of complete material and equipment package. We can also build ships with material and equipment being fully or partly supplied by the respective Navy. The similar models can be worked out in respect of executing refits and repairs of their vessels. We can also sign Annual Maintenance Contract for the entire refit or for specific equipment.

Source: businessworld.in; 31 October 2020

US PROPOSES TO SELL F/A-18 FIGHTER AIRCRAFT TO INDIAN NAVY

- Junnosuke Kobara

The US has reportedly proposed to provide its F/A-18 fighter jets to the Indian Navy to address the service's requirement for combat jets. Earlier this week, defence ministers from India and the US signed a Basic Exchange and Agreement (BECA) for geo-spatial cooperation. The agreement was signed during the US-India 2+2 Ministerial Dialogue held in New Delhi, India to discuss bilateral defence issues.

ANI stated that the Indian Navy planned previously to induct 57 fighter aircraft that would operate from its aircraft carriers. A government source was quoted by ANI as saying: "The American Government has offered to provide their naval fighter aircraft F-18 for the Indian Navy under a government proposal at the meeting between defence delegations of both countries during the 2+2 meetings." The US has also planned to sell Sea Guardian unmanned aircraft to the Indian Navy. Currently, the Indian Navy is evaluating if F/A-18 and the Rafale naval fighters meet its current and future needs. The service is planning to phase out the existing fighters by the end of the decade. In November last year, the Indian Navy purchased naval guns and ammunition worth \$1.02bn under a potential deal approved by the Trump administration.

Source: naval-technology.com; 29 October 2020

SHIPPING, PORTS AND OCEAN ECONOMY

GHANAIAN WORKERS REPORT APPALLING ABUSE ABOARD CHINESE-OWNED FISHING VESSELS

- EJF Staff

Ghanaian workers have reported shocking human rights abuses aboard Chinese-owned trawl vessels, from beatings to a lack of drinkable water or basic medicines and punishing working hours. This abuse of the crew goes hand-in-hand with threats, the bribery of fisheries observers and large-scale illegal fishing. The testimonies, documented in a new report from EJF, are a deeply troubling indication of the treatment of local crew on board Chinese-operated trawlers, which are ubiquitous along the West African coast. Although it is against Ghanaian law, the vast majority of trawlers operating in Ghana – an estimated 90% – are owned by Chinese corporations that use Ghanaian ‘front companies’ to gain registration. Chinese nationals occupy the more senior positions on board the vessels, with Ghanaian crew in lower roles.

All 10 Ghanaian crew interviewed by EJF had personally experienced or witnessed physical abuse at the hands of Chinese captains and officers. One man said: "Violence occurs all the time. [...] those who are not fast, the captain will take anything he will get and hit you with it. Whether a stone or anything they will get. Especially the captain." On another vessel, a Chinese national allegedly used a basket to hit a Ghanaian crew member in the head. When he retaliated, the Chinese officer is alleged to have threatened him with a knife. This treatment is combined with gruelling working hours said the men, stating that sometimes they are not allowed to sleep at all in 24 hours. Living conditions on board are also appalling, the men testified. They are not allowed to sleep in the cabins, where the Chinese crew sleep, but must stay on deck under makeshift tarpaulins. The water they are given to drink is often filthy, and sometimes makes them unwell. One man said: "The tank we drink from is very dirty and rusty, but we still drink from that same tank... Sometimes after drinking the water, we suffer from stomach pains, vomit and diarrhoea."

Illegal fishing

Abuse of the crew was matched by aggression towards fisheries observers, in a bid to silence them and prevent reporting of widespread illegal fishing. The three observers interviewed by EJF reported incidents such as a captain threatening to hit an observer

with a metal bar when he was found trying to preserve evidence of illegal fishing. In another case a captain threatened an observer with a knife when he tried to prevent juvenile fish from being dumped at sea. All the crew and observers EJF interviewed stated that the vessels they worked on engaged in illegal fishing practices.

Exploitation

In addition to the appalling conditions reported on board, none of the crew members interviewed had entered into written contracts, and some stated that they either were not told their wages at all or were given a fixed sum regardless of how long the trip took. Companies also make deductions from wages that are not agreed to in advance, said the interviewees. There is currently no union in place to protect the interests of crew members working on board industrial trawl vessels. Some crew members believe there is active suppression of such access to collective bargaining, and say they were fired or blacklisted following their move to form a trade union.

Prevention

Along with swift action by the Ghanaian government to crackdown on these abuses and prevent vessels from registering and fishing illegally, it is imperative that businesses, including seafood importers in the EU and other major markets, immediately scrutinise their supply chains, says EJF's report. In accordance with the United Nations Guiding Principles on Business and Human Rights they must implement effective due diligence and adopt a zero-tolerance approach to human rights abuses. The Ghanaian government cannot ignore the abuse of its own people. Ghanaian workers are suffering because Ghana's fisheries are out of control, with no effective crackdown on the abuse of crew or the rampant illegal fishing, and no transparent process to secure prosecutions, convictions and impose meaningful deterrent sanctions. We call on the government to immediately launch an official and independent investigation into allegations in this report and take the necessary actions. In addition, the Fisheries Commission should fully investigate ownership before licensing vessels, and ensure licences are withheld or withdrawn from vessels with poor human rights and illegal fishing records, or where the beneficial owner is not Ghanaian.

Source: ejfoundation.org; 26 October 2020

COULD CHINA TAKE ALL IN HAIFA BAY?

- Dubi Ben-Gedalyahu

Last week, one of the most significant and precious cargoes in its history was unloaded at the Port of Haifa. The cargo itself comprised only iron, "firefighting equipment", and electronic products, but its exceptional added value derived from the location from which the ship arrived - the United Arab Emirates - and especially the timing, three days before an online investors' conference hosted by the Government Companies Authority headed by Yaakov Quint and the management of the Haifa Port, in advance of its privatization tender. So, what do they do? They leverage the peace agreement between Israel and the Emirates to publicize the tender, and provide national and

international coverage of the first cargo ship from Dubai to dock officially in Haifa. As background, they add a few vague quotes from unnamed Dubai businessmen to the effect that Haifa Port is "the gateway for cargo to the Arab world" (in the distant future), and get enthusiastic headline coverage - deemed "historic" - from all of the world's news agencies. These machinations were impressively successful, as evidenced by the phalanx of serious shipping, logistics, and investment entities from Israel and around the world that signed up for the investors' conference, held the other week in advance of the port's privatization.

The competitive threat: There's a new player in Haifa Bay

Presumably, the companies and consortia that have expressed interest in the tender are well acquainted with the maritime transportation business. But, the ability to compete against the new Haifa Bayport container terminal, to be operated by Shanghai International Port Group (SIPG) of China, pits the old Haifa Port against a force that marshals the world's largest shipping resources and has almost unlimited financial stamina. The Chinese concern is also not trying to hide the fact that about \$3 billion (including equipment and leasing costs) has so far been invested in the new Haifa Bayport project, with the aim of integrating it into the Chinese government's Belt and Road Initiative (BRI, also known as the One Belt One Road program or OBOR), which has goals beyond the conventional one of profit.

For the skeptics, here are a few statements made by SIPG's president at a conference in China in January of this year, outlining the big picture: "The maritime route of the OBOR project covers almost 70% of maritime cargo traffic... construction and development of ports along the route will help promote economic integration throughout... The new Haifa Bay terminal uses semi-automated loading technology and is designed to handle an annual capacity of 1.06 million standard 20-foot containers (TEUs) in the first phase. After construction, the planned capacity for the entire port area is 1.86 million containers per year. It will be the newest and most advanced port in the Mediterranean... The completion of the port by SIPG is an important initiative of China, designed to actively connect it to the New Silk Road project." The "Chinese connection" to the Haifa Port privatization tender offer is not limited to the new neighbors in the Haifa Bayport, (which commences operations next year). SIPG is connected to the global "beehive" of Chinese state companies that are managed from above, including some of the largest shipping companies in the world, such as COSCO, which are also customers of the old Haifa Port. China is also considered a world leader in "semi-automated" port technology. Haifa Bayport's infrastructure is already installed, and includes huge remote-controlled cranes ready to handle the largest container ships in the world, autonomous smart power supply systems, robotic transport systems, 5G wireless communication networks, and more. All this will force the future winner of the tender to operate the old Haifa Port to enter into an expensive rivalry - just to close the technological gap between it and the new Haifa Bayport. Not to mention an advantage in current costs that will most likely be reflected in the prices offered to those same customers by the two adjacent ports.

Total Chinese control of the Haifa Bay quays - will the Americans approve?

On the other hand, bidding to operate the old port is a sensible move for "beehive-affiliated" Chinese companies partnering with Israeli entities, for which it could open

a trove of business treasure. It's therefore not surprising to discover that on the list of companies registered for the investor conference, two such representatives appeared openly: state-owned infrastructure giant China Railway Engineering Corp. (CREC), and the ports management division of the privately-owned Hutchinson Group of Hong Kong. A third entity appears on the list indirectly. Conference registration does not necessarily indicate a concrete intention to participate in the tender in the future; it is sometimes only for putting out feelers and intelligence-gathering on the competition. It's also not inconceivable that a significant proportion of those interested, including those from China, were represented at the conference by intermediaries, such as large law firms, consulting firms, and large financial entities that handle the shipping industry. Many such entities appeared on the registrant list. The two Chinese companies that officially registered for the event differ from one another. Hutchison Port Holdings is a huge company that manages a capacity of about 86 million containers a year and owns and/or manages six ports in China, six in Europe, and another eight in South America, Australia, Asia and the Middle East. The Hutchison Group has a number of holdings in Israel. Already during the CEO's 2004 visit to Israel, interest was expressed in participating in the privatization of either the Haifa or Ashdod port. Hutchison is a private company, but this has not stopped the US administration from operating in the background to block its bid for the Sorek seawater desalination plant.

The second group is CREC, a government company with more than \$100 billion revenue in 2018, focused on transport and rail engineering. CREC is one of the New Silk Road project's most important operational arms, but it has no declared ports and shipping activity. However, Chinese state-owned companies are often like a Russian "Matryoshka" doll: you buy the outer shell and get a lot of surprises inside. The event was also attended by the Thessaloniki Port Authority of Greece, which has close ties with the giant shipping corporation China Merchants Port Holdings (CMPort). This company, by the way, is a major shareholder in SIPG, which will manage Haifa Bayport from next year. So, is everything all in the family? Assessments within the shipping industry are that the US administration is exerting heavy pressure on Israel to prevent Chinese companies from being included in the tender, and prevent the creation of Chinese "contiguous control" of the whole of Haifa Bay. The US Embassy in Jerusalem and several other federal bodies were on the list of registrants for the event.

So, what are the chances that a Chinese company will indeed win the tender? If the consideration is purely economic, it is doubtful that there will be many contenders that can outbid Chinese state company offers. But such companies also require Israeli defense establishment approval as a precondition for participation in the tender. In the light of tense China-US relations, it is not certain that such approval will automatically be forthcoming. On the other hand, the Israeli government has a strong pro-Chinese core, led by the Minister of Finance, so this scenario cannot be ruled out. The tender to privatize the sleepy old Haifa Port is gradually changing from selling off an underdog port into a fascinating arena of local, regional and global power struggles. Stay tuned for upcoming episodes.

Here come the Israelis: The transportation sector is interested

The investors' conference list of registrants also included some well-known players from the automotive world. Dubai's DP World has already announced its intention to

participate in the tender together with Israel Shipyards shareholders Shlomi Fogel and the Schmeltzer family. In his distant past, Fogel was a car importer (Lada), while the Schmeltzer family controls Israel's largest leasing group as well as franchises for brands of light and heavy vehicle from China. The infrastructure arm of Israel's Allied Group was present at the event. Allied is, among other things, a Volkswagen Group importer and also a major Port of Haifa customer for vehicle transport. Allied is a multidisciplinary group with strategic investments in all market sectors, including infrastructure; operating the Haifa Port in partnership with an international company could complement its portfolio very well.

The conference was also attended by Taavura Holdings, parent company of the Livnat family's businesses, which include importing trucks and buses and overland haulage. Taavura is also a strategic player in cement; Haifa Port is one of Israel's major gateways for cement imports. Taavura may also view controlling the port as a strategic complement to its transport and infrastructure activities, as well as opening the way to international expansion. Also in attendance was George Horesh's Union Group, Israel's Toyota importer with extensive holdings in Israeli trade. Horesh is considered to have close ties with the Japanese maritime transport industry. The Unger family, owners of a large international shipping company for vehicles and general cargo transport, and importers of the KIA brand to Israel, were also present. The company is well acquainted with all players in the Israeli shipping market and it is possible that it has now identified new opportunities for trade and/or the establishment of cargo terminals that will serve its fleet which operates throughout the region. As stated, each group has different interests in owning the Haifa Port, that may come to light in the future, and they at least have an interest in what will develop. What all do have in common is liquidity that allows them to bid in a tender worth about a billion shekels, without applying for a bank loan.

Not a great time to offer a problem port

The timing of this tender offer is problematic. The global shipping and ports industry is still hemorrhaging, although activity and profitability for certain industry sectors have begun a gradual recovery, but other critical sectors are still struggling to keep afloat. So, for example, the once-profitable cruise line and passenger terminals sector is still stagnant. The oil tanker sector is suffering from overcapacity and under-utilization due to low demand, worldwide. The automotive industry lost a third of its global sales volume this year, as reflected in the decline in sea freight volumes. A good number of major international shipping lines are still "running on empty" - what's known in the shipping industry as "blank sailing". The result: many ports and cargo terminals around the world are looking at a foggy business horizon. In the long run, the Covid-19 crisis will pass (hopefully) and whoever buys or leases a port is looking decades ahead. But the old Haifa Port has unique characteristics that make its case particularly difficult. Set aside for a moment the fact that it is uncomfortably close to the Lebanese border, and serves as a target during security tensions. Only recently, Hezbollah leader Hassan Nasrallah threatened, "I know the Port of Haifa better than I know the Port of Beirut."

We'll also ignore the fact that the Haifa Port is also a strategic military port for the Israeli Navy (and others), and therefore its future civilian operators will have to navigate a maze of security and operational restrictions, including defense establishment approval of international companies wishing to enter into partnerships. We won't even mention the albatross of complex labor relations with port workers, the heavy financial obligations to existing workers that are built into the tender, nor the ambitious price. The real problem is that the old port will soon be competing for the same cargo capacity with three other ports, led by the new Haifa Bayport - only ten minutes away and set to be transferred Chinese state-owned operator SIPG from next year.

From Idan Ofer to George Horesh: A Who's Who of who's interested in the Port of Haifa tender

- Taavura Taavura - Infrastructure and transport company controlled by the Livnat family
- Minrav - Construction company controlled by Avraham Kuznicki
- Israel Chemicals (ICL) and ZIM Integrated Shipping Services - Idan Ofer
- Israel Shipyards - Shlomi Fogel, Sami Katsav and the Schmeltzer family
- Allied Holdings Group - Investment company headed by Prof. Itzhak Swary
- DAO Shipping - Shipping group belonging to KIA importer Rami Unger
- Union Motors - Car importer owned by George Horesh
- Shapir Civil and Marine Engineering - Giant infrastructure company owned by the Shapira brothers
- Sonol - Fuel company led by Dudi Weissman
- Netafim - Manufacturer of irrigation equipment from Kibbutz Hatzerim
- Caesarstone - Manufacturer of kitchen and bathroom surfaces from Kibbutz Sdot Yam
- Tene Investment Funds - Private equity fund focusing on kibbutz industries
- Aluma Infrastructure Fund - Led by Uri Yogev
- Maersk - World's largest shipping company (Denmark)
- CREC - China Railway Engineering Corp.
- Hutchison Group - Major Chinese concern based in Hong Kong

Source: en.globes.co.il; 26 October 2020

GOV'T MULLS FINING S. KOREAN SAILORS OPERATING IN PIRACY-PRONE WATERS OFF WEST AFRICA

- All News

SEOUL, Oct. 21 (Yonhap) -- South Korea's government is considering imposing fines on its citizens operating in piracy-ridden waters off West Africa, sources said Wednesday, in the latest move to ensure their safety in the wake of a series of

kidnapping incidents. The ministries of foreign affairs and fisheries, and other related agencies have been mulling slapping fines worth millions of won to stop Korean sailors from fishing in the treacherous waters, the sources said. The government has recently been stepping up efforts to craft protective measures for Korean sailors in the African waters, dispatching a Coast Guard official to the South Korean Embassy in Ghana and designating the Gulf of Guinea as "waters highly prone to piracy." Despite the government's repeated entreaties and warnings against fishing operations in the high-risk areas, some 140 South Korean sailors are thought to be currently operating near the region. Sources expect that enforcing the scheme to impose fines would take time, as it needs legal revision. They added that the government is also looking into the possibility of revoking maritime navigation licenses for those operating in the African waters. The incidents of kidnappings off the western coast of Africa took place in May, June and August. Two South Korean fishermen abducted in waters near Togo in August have recently been released safely.

Source: en.yna.co.kr; 21 October 2020

HYDROGEN TRADE HOPES BOOSTED BY AUSTRALIA-GERMANY DEAL

- Frédéric Simon

A bilateral agreement aimed at increasing German imports of hydrogen produced from solar power plants in Australia could set a milestone in efforts to establish a global hydrogen market. Australia said it wants to become "a powerhouse in hydrogen production and exports" after signing what it described as "a landmark agreement" with Germany on 11 September. The agreement initiated a joint feasibility study that will look into establishing a green hydrogen supply chain between the two countries.

Australia's partnership with Germany came in addition to similar deals on green hydrogen made with other countries like Japan, South Korea and Singapore, the Australian trade minister said in a statement. Addressing a webinar on the subject last month, moderated by EURACTIV, Lynette Wood, the Australian ambassador to Germany, said: "It is our ambition to become a global leader in hydrogen production". Over time, the European Union is expected to play its part by introducing a certification scheme that could serve as a basis for trading green hydrogen on a global scale.

"We want to work with Germany and the European Union" to develop a global hydrogen market, Wood told the webinar, organised on 14 September by the Australian embassy in Germany. Germany is eyeing massive imports of green hydrogen produced from places like Australia, Africa or the Middle East. Seen from Berlin, these countries have vast untapped potential for solar power which could be fed into electrolyzers producing "green" hydrogen made from renewables. "We are only at the beginning of a very long road," said Dr Hinrich Thölken, deputy director-general for energy and climate policy at the German Federal Foreign Office, who spoke

at the webinar. Reaching climate neutrality by 2050 – the EU’s stated goal – requires decarbonising the entire economy, including sectors such as cement, chemicals and heavy-duty transport, which are hard to electrify and could use hydrogen as a clean alternative, Thölken pointed out. This is why “we are convinced that green hydrogen will play a crucial role in achieving our goals,” he told participants at the webinar.

A common buzzword at the beginning of the century, the hydrogen economy could finally be about to materialise on the back of falling technology costs and growing interest from policymakers. In July, the European Commission unveiled a strategy to develop hydrogen produced entirely from renewables, with plans to install at least six gigawatts (GW) of electrolyzers in the EU by 2024. By 2050, the EU executive estimates that clean hydrogen could meet 24% of the world’s energy demand, with annual sales in the range of €630 billion. But the hydrogen industry is currently tiny and scaling up production will require massive amounts of renewables, according to BloombergNEF, a research firm. Meeting 24% of global energy demand with hydrogen would require around 31,320 Terawatt-hours (TWh) of electricity to power electrolyzers – “more than is currently produced worldwide from all sources,” BNEF said in its ‘Hydrogen Economy Outlook’ published earlier this year. And since all that power needs to come from renewables, European countries are looking at ways of importing the volumes they will not be able to produce themselves.

“There is simply not enough space in Germany for renewables to produce the amount of green hydrogen” that is needed to decarbonise the country’s economy, Thölken said. “So we will have to import large quantities and are currently looking for partners across the globe,” he added, underlining the importance of Germany’s partnership with Australia. Previous attempts to create a hydrogen economy have stumbled on technological difficulties and prohibitive costs. But the rapidly falling price of electrolyzers and renewable electricity has revived hopes in hydrogen as a potential silver bullet to decarbonise hard-to-abate sectors of the economy, BNEF said in its hydrogen economy outlook. “The price has been plummeting to the point that we can now see that this decade we will be able to make renewable hydrogen that is price competitive,” said Dr Alan Finkel, Australia’s chief scientist. International pressure to reduce carbon emissions has also increased since the Paris Agreement was signed in 2015, opening new market opportunities for low-carbon technologies that did not exist before, Finkel said. “Everything’s changed” since the early hydrogen hype of the early 2000s, Finkel said. And Australia “has all the ingredients” to become a global leader in hydrogen exports, he added, citing extensive land availability, strong winds, powerful solar radiation, stable diplomacy, and “enthusiastic investors” among the country’s main strengths. “There is good reason, I think, to feel that what we’re looking at now is a very different opportunity for hydrogen compared to 15 years ago,” he told the webinar.

Distance and transportation costs

Despite all its strengths, Australia has one momentous challenge to overcome when it comes to developing hydrogen trade with Europe: distance and transport costs.

“When you’re transporting hydrogen, the biggest expense by far is the liquefaction,” which requires extremely low temperatures of -253°C with high associated transformation costs, Finkel said. This is why he believes Australia will first become “the main supplier of hydrogen to Asian markets”, which are much closer to the country than Europe. As for the European market, Australia’s ability to compete there will depend on what other countries will do. “Will Algeria, Morocco and other countries in North Africa see the opportunity?” Finkel wondered. “That’s up to them.” But he is optimistic that Australia will be able to find its place on the European market, thanks to its politically stable environment and “a history of long-term stable supply agreements”, which he said are very valued in the energy business. Even the high transport costs do not seem insurmountable.

“There is a lot of research going on” to transport hydrogen over long distances, for example, using ammonia as a carrier, said Dr Veronika Grimm, an economics professor at the University of Erlangen-Nuremberg in Germany.

A chemical traditionally used in the fertiliser industry, ammonia can be used to “carry” hydrogen over long distances although this requires an additional transformation step to convert ammonia back into hydrogen when it reaches its destination. Ammonia’s key advantage, however, is that it can be liquefied at lower temperatures than hydrogen and can be traded easily using an existing fleet of ammonia ships for transport. This has not escaped the attention of Australia and Japan, which are both looking into ammonia as a way of shipping large quantities of green hydrogen to Europe. “At distances of more than 2,500 kilometres it becomes maybe the preferred energy carrier to transport hydrogen – even more than pipelines,” said Tudor Constantinescu, principal adviser to the European Commission on energy matters, who spoke at a EURACTIV event last month.

Certification schemes

Another key issue to resolve before hydrogen can be traded internationally is to provide certainty to buyers about the origin of the product, and crucially, whether it was produced from fossil fuels or from renewable electricity. “Germany needs to know for sure that the hydrogen it is buying is renewable,” Finkel said, adding that a reliable certification scheme was crucial to develop hydrogen trade on a global scale. Europeans have started developing such as scheme years ago, through an EU-wide guarantee of origin system called Certifhy. The EU scheme attributes different colours to hydrogen depending on the manufacturing process: grey if it comes from natural gas, green if it comes from renewable electricity, purple if it comes from nuclear, and blue if it uses fossil fuels with carbon capture and storage. In its national hydrogen strategy adopted last year, Australia proposes a different certification scheme based on three elements: the country of origin; the technology of production; and the amount of CO₂ emissions that went into the production of hydrogen. “It will need some kind of digital distributed ledger scheme,” Finkel said, adding that Australia was currently in talks with Germany, South Korea, Japan, Singapore and other members of the International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE) to explore “the optimum design of a certification scheme that will underpin a robust international trade of hydrogen”. What certification scheme will end up being adopted

on a global level is not clear yet. “I think there is a lot of potential for partnerships,” Grimm said, pointing however that international hydrogen forums have “an element of cooperation and competition at the same time.”

Paula Abreu Marques, a senior official at the European Commission, said that “an EU-wide certification scheme for renewable and low-carbon hydrogen” was a vital first step before Europe can start engaging in hydrogen trade on a global scale. Certification “is essential” to ensure buyers know how the hydrogen was produced and how it was transported to Europe, she told participants at the webinar. Equally essential, the quality of hydrogen needs to be ensured in order to develop a Europe-wide market, Marques said. “It is important here to ensure the harmonisation of EU quality standards for pure hydrogen to avoid eventual problems in the future once we have the cross-border infrastructure in place.” By June 2021, the Commission intends to “introduce a common low-carbon threshold/standard” for hydrogen production in Europe, including gas quality criteria to ensure hydrogen can flow seamlessly within the EU’s borders. When it comes to trade, the Commission intends to promote “the development of international standards” to measure emissions for “each unit of hydrogen produced and carried to final use”, the EU executive said in its hydrogen strategy. “The good news is that everyone agrees that we do need a certification process,” said Valérie Bouillon-Delporte, director of hydrogen strategy at Michelin and president of Hydrogen Europe, an industry association. But she also warned against an international standoff on hydrogen standards, saying: “We need to accelerate towards a global and common certification process in order to avoid that every single country or region has its own”. At the end of the day, the key objective is to have “a liquid market” that will make hydrogen a global commodity, Bouillon-Delporte said.

Source: euractiv.com; 30 October 2020

MARINE ENVIRONMENT

NEW CORAL SPECIES DISCOVERED ON SEABED MARKED FOR DEEP-SEA MINING

- TWC India Edit Team

Three species of black coral have been discovered on the seabed of the northern Pacific Ocean, an area where several countries have contracts to explore for metals including cobalt and nickel as they race to find new supplies of the key battery elements. The corals were discovered on deep seamounts and ridges in the mineral-rich Prime Crust Zone, which stretches from the Mariana Trench to the Hawaiian islands, according to a paper published in scientific journal *Zootaxa* on Thursday. The new black coral species are so named because of their black skeletons, but they can appear pink, white, or various other colours because of the living tissues growing over the skeleton. Previous studies have found a black coral species more than 4,250 years old, Conservation International said.

Authors Dennis Opresko of the Smithsonian Institute and Daniel Wagner of Conservation International said they aimed to identify deep-sea habitats in the zone which holds the highest concentrations on Earth of cobalt-rich ferromanganese crusts. “These long-living corals are much like the redwoods of the ocean. They're not only slow-growing and long-lived, but also provide important habitat for many other species,” Wagner said. “Mining their habitat could potentially wipe them out before we know their true value.”

‘Deep-sea mining could destroy as yet undiscovered species’

China, Japan, Russia, and South Korea all hold exploration contracts in the Prime Crust Zone, according to the International Seabed Authority (ISA), a U.N. body in charge of regulating the ocean floors. Environmentalists have called for a ban on deep-sea mining which would extract prized resources including cobalt, copper, nickel, and manganese from seabed nodules and crusts. Deep-sea mining could destroy as yet undiscovered species, the Ocean Panel said in June. Only around 20% of the ocean floor has been mapped to date, according to Conservation International. The Jamaica-headquartered ISA has drawn up regulations on exploration but has yet to establish the rules for exploitation needed for deep-sea mining to go ahead. An in-person ISA assembly was postponed from July due to the COVID-19 pandemic, and would now “most likely” take place in early December, according to the ISA website.

Source: thehindu.com; 29 October 2020

THE ARCTIC FREEZE IS UNSEASONABLY LATE THIS YEAR. HERE'S WHY IT MATTERS

- Mark Serreze, *The Conversation*

With the setting of the sun and the onset of polar darkness, the Arctic Ocean would normally be crusted with sea ice along the Siberian coast by now. But this year, the water is still open. I have watched the region's transformations since the 1980s as an Arctic climate scientist and, since 2008, as director of the National Snow and Ice Data Center. I can tell you, this is not normal. There is so much more heat in the ocean now than there used to be that the pattern of autumn ice growth has been completely disrupted. To understand what is happening to the sea ice this year and why it is a problem, let us look back at the summer and into the Arctic Ocean itself.

Siberia's summer

The summer melt season in the Arctic started early. A Siberian heat wave in June pushed air temperatures over 100 degrees Fahrenheit (About 38 degrees Celsius) at Verkhoyansk, Russia, for the first time on record, and unusual heat extended over much of the Arctic for weeks. The Arctic as a whole this past summer was at its warmest since at least 1979, when satellite measurements started providing data allowing for full coverage of the Arctic. With that heat, large areas of sea ice melted out early, and that melting launched a feedback process: The loss of reflective sea ice exposed dark open ocean, which readily absorbs the sun's heat, promoting even more ice melt. The Northern Sea Route, along the Russian coast, was essentially free of ice by the middle of July. That may be a dream for shipping interests, but it is bad news for the rest of the planet.

Warmth sneaks in underwater

The warm summer is only part of the explanation for this year's unusual sea ice levels. Streams of warmer water from the Atlantic Ocean flow into the Arctic at the Barents Sea. This warmer, saltier Atlantic water is usually fairly deep under the more buoyant Arctic water at the surface. Lately, however, the Atlantic water has been creeping up. That heat in the Atlantic water is helping to keep ice from forming and melting existing sea ice from below. It is a process called "Atlantification". The ice is now getting hit both from the top by a warming atmosphere and at the bottom by a warming ocean. It is a real double whammy. While we are still trying to catch up with all of the processes leading to Atlantification, it is here and it is likely to get stronger.

Effect on sea ice

In the background of all of this is global climate change. The Arctic sea ice extent and thickness have been dropping for decades as global temperatures rise. This year, when the ice reached its minimum extent in September, it was the second-lowest on record, just behind that of 2012. As the Arctic loses ice and the ocean absorbs more solar radiation, global warming is amplified. That can affect ocean circulation, weather patterns and Arctic ecosystems spanning the food chain, from phytoplankton all the way to top predators. On the Atlantic side of the Arctic, open water this year extended to within

maiden voyage, found easy sailing all the way to the North Pole. A goal of its voyage was to test how the nuclear-powered ship handled thick ice, but instead of the hoped-for three-meter-thick ice, most of the ice was in a loose pack. It was little more than one-meter thick, offering little resistance. For sea ice to build up again this year, the upper layer of the Arctic Ocean needs to lose the excess heat it picked up during summer. The pattern of regional anomalies in ice extent is different each year, reflecting influences like regional patterns of temperature and winds. But today, it is superimposed on the overall thinning of the ice as global temperatures rise. Had the same atmospheric patterns driving this year's big ice loss off Siberia happened 30 years ago, the impact would have been much less, as the ice was more resilient then and could have taken a punch. Now it can not.

Is this a tipping point?

The decay of the Arctic sea ice cover shows no sign of stopping. There probably won't be a clear tipping point for the sea ice, though. Research so far suggests we will stay on the current path, with the amount of ice declining and weather systems more easily disrupting the ice because it is thinner and weaker than it used to be.

The bigger picture

This year's events in the Arctic are just part of the climate change story of 2020. Global average temperatures have been at or near record highs since January. The West has been both hot and dry – the perfect recipe for massive wildfires – and warm water in the Gulf of Mexico has helped fuel more tropical storms in the Atlantic than there are letters in the alphabet. If you have been ignoring climate change and hoping that it will just go away, now would be an appropriate time to pay attention.

Mark Serreze is Research Professor of Geography and Director, National Snow and Ice Data Center, University of Colorado Boulder.

This article first appeared on The Conversation.

Source: [scroll.in](#); 31 October 2020

AS CLIMATE DISASTERS PILE UP, A RADICAL PROPOSAL GAINS TRACTION

- Christopher Flavelle

WASHINGTON — As the effects of climate change become more devastating, prominent research institutions and government agencies are focusing new money and attention on an idea once dismissed as science fiction: Artificially cooling the planet, in the hopes of buying humanity more time to cut greenhouse gas emissions. That strategy, called solar climate intervention or solar geoengineering, entails reflecting more of the sun's energy back into space — abruptly reducing global temperatures in a way that mimics the effects of ash clouds spewed by volcanic eruptions. The idea has been derided as a dangerous and illusory fix, one that would encourage people to keep burning fossil fuels while exposing the planet to unexpected

and potentially menacing side effects. But as global warming continues, producing more destructive hurricanes, wildfires, floods and other disasters, some researchers and policy experts say that concerns about geoengineering should be outweighed by the imperative to better understand it, in case the consequences of climate change become so dire that the world can't wait for better solutions.

"We're facing an existential threat, and we need to look at all the options," said Michael Gerrard, director of the Sabin Center for Climate Change Law at the Columbia Law School and editor of a book on the technology and its legal implications. "I liken geoengineering to chemotherapy for the planet: If all else is failing, you try it." On Wednesday, a nonprofit organization called SilverLining announced \$3 million in research grants to Cornell University, the University of Washington, Rutgers University, the National Center for Atmospheric Research and others. The work will focus on practical questions, such as how high in the atmosphere to inject sunlight-reflecting aerosols, how to shoot the right size particles into clouds to make them brighter, and the effect on the world's food supply.

Kelly Wanser, SilverLining's executive director, said the world is running out of time, and protecting people requires trying to understand the consequences of climate intervention. She said the goal of the work, called the Safe Climate Research Initiative, was "to try to bring the highest-caliber people to look at these questions." The research announced Wednesday adds to a growing body of work already underway. In December, Congress gave the National Oceanic and Atmospheric Administration \$4 million to research the technology. NOAA will also start gathering data that will let it detect whether other countries start using geoengineering secretly. And Australia is funding experiments to determine whether and how the technology can save the Great Barrier Reef. "Decarbonizing is necessary but going to take 20 years or more," Chris Sacca, co-founder of Lowercarbon Capital, an investment group that is one of SilverLining's funders, said in a statement. "If we don't explore climate interventions like sunlight reflection now, we are surrendering countless lives, species, and ecosystems to heat." One way to cool the earth is by injecting aerosols into the upper layer of the atmosphere, where those particles reflect sunlight away from the earth. That process works, according to Douglas MacMartin, a researcher in mechanical and aerospace engineering at Cornell University whose team received funding. "We know with 100 percent certainty that we can cool the planet," Dr. MacMartin said in an interview. What's still unclear, he added, is what happens next.

Temperature, Dr. MacMartin said, is a proxy for a lot of climate effects. "What does it do to the strength of hurricanes? What does it do to agriculture yields? What does it do to the risk of forest fires?" To help answer those questions, Dr. MacMartin will model the specific weather effects of injecting aerosols into the atmosphere above different parts of the globe, and also at different altitudes. "Depending on where you put it, you will have different effects on the monsoon in Asia," he said. "You will have different effects on Arctic sea ice." Another institution getting money as part of the new initiative is the National Center for Atmospheric Research in Boulder, Colo., which is funded by the National Science Foundation and has what its researchers call the world's most sophisticated earth system model. The grant from SilverLining will pay for the center to run and analyze hundreds of simulations of aerosol injection, testing

the effects on weather extremes around the world. One goal of the research is to look for a sweet spot — the amount of artificial cooling that can reduce extreme weather events, without causing broader changes in regional precipitation patterns or similar impacts.

“Is there a way, in our model world at least, to see if we can achieve one without triggering too much of the other?” said Jean-Francois Lamarque, director of the center’s Climate and Global Dynamics laboratory. NOAA is starting its own research into solar geoengineering. And in August, the agency announced that it would begin measuring aerosol levels in the stratosphere, creating a baseline so the agency can tell if those levels change later. One of the advantages of having that information, according to Troy Thornberry, a research scientist at NOAA who studies atmospheric composition and chemical processes, is that it would let NOAA determine if aerosol levels increase — a sign that some other country may be intentionally injecting aerosol without announcing it. Injecting aerosol into the stratosphere isn’t the only way to bounce more of the sun’s rays back into space. The Australian government is funding research into what’s called “marine cloud brightening,” which is meant to make clouds more reflective by spraying saltwater into the air. The goal is to get salt particles to act as nuclei in those clouds, encouraging the formation of many small water droplets, which will increase the brightness of the clouds.

Australian researchers say they hope the technique can save the Great Barrier Reef. Rising water temperatures during so-called marine heat waves are accelerating the die-off of the reef, and making marine clouds more reflective may be able to cool water temperatures enough to slow or stop that decline. In March, Daniel Harrison, a biological oceanographer at Southern Cross University in Australia, tested the technology by using 100 nozzles to spray water into the air. “The results were quite encouraging,” Dr. Harrison said in a phone interview. One of the challenges, he said, will be using the technology on a large enough scale to make a difference. He estimated it would probably take 500 to 1,000 stations such as barges or platforms spraying water, or a smaller number of moving vessels, to cover the entire reef. The University of Washington is also working on marine cloud brightening and was another recipient of a SilverLining grant. Sarah Doherty, program manager for the university’s Marine Cloud Brightening project, said the challenge would be building spray nozzles that consistently produce the right size particles. between 30 and 100 nanometers, and finding ways to prevent them from sticking together.

The project aims to understand how the clouds respond, and also predict the regional and global climate response. Dr. Doherty said her team hoped to field-test the spray system in the next 12 to 18 months. “The whole idea of the research we’re doing,” she said, “is to make sure you don’t go out and inadvertently change things in a way that’s going to cause damage.”

Correction: Oct. 28, 2020

Because of an editing error, an earlier version of a picture caption with this article misstated the origin of cloud streaks over the Pacific. They were from ships only, not ships and airplanes.

Correction: Oct. 28, 2020

Because of an editing error, an earlier version also misstated the year of an eruption at the Eyjafjallajökull volcano in Iceland. It was 2010, not 2020.

Source: [newyorktimes.com](https://www.nytimes.com); 28 October 2020

ARCTIC METHANE DEPOSITS 'STARTING TO RELEASE', SCIENTISTS SAY

- Jonathan Watts

Scientists say they have found evidence that frozen methane deposits in the Arctic Ocean have started to be released over a large area of the continental slope off the East Siberian coast, the Guardian can reveal. High levels of the potent greenhouse gas have been detected down to a depth of 350 metres in the Laptev Sea near Russia, prompting concern among researchers that the discovery could have “serious climate consequences”. The slope sediments in the Arctic contain a huge quantity of frozen methane and other gases – known as hydrates. Methane has a warming effect 80 times stronger than carbon dioxide over 20 years. The United States Geological Survey has previously listed Arctic hydrate destabilisation as one of four most serious scenarios for abrupt climate change.

The international team onboard the Russian research ship R/V Akademik Keldysh said most of the bubbles were currently dissolving in the water but methane levels at the surface were four to eight times what would normally be expected and this was venting into the atmosphere. “At this moment, there is unlikely to be any major impact on global warming, but the point is that this process has now been triggered. This East Siberian slope methane hydrate system has been perturbed and the process will be ongoing,” said the Swedish scientist Örjan Gustafsson, of Stockholm University, in a satellite call from the vessel. The scientists – who are part of a multi-year International Shelf Study Expedition – stressed their findings were preliminary. The scale of methane releases will not be confirmed until they return, analyse the data and have their studies published in a peer-reviewed journal.

But the discovery of potentially destabilised slope frozen methane raises concerns about the potential impact on the speed of global heating. The Arctic is considered ground zero in the debate about the vulnerability of frozen methane deposits – which have been called the “sleeping giants of the carbon cycle” - in the ocean, and if releases were to exceed a tipping point it could increase the speed of global heating. With the Arctic temperature now rising more than twice as fast as the global average, the question of when – or even whether – they will be released into the atmosphere has been a matter of considerable uncertainty in climate computer models. The 60-member team on the Akademik Keldysh believe they are the first to observationally confirm the methane release is already under way across a wide area of the slope about 600km offshore. At six monitoring points over a slope area 150km in length and 10km wide, they saw clouds of bubbles released from sediment. At one location on the Laptev

Sea slope at a depth of about 300 metres they found methane concentrations of up to 1,600 nanomoles per litre, which is 400 times higher than would be expected if the sea and the atmosphere were in equilibrium. Igor Semiletov, of the Russian Academy of Sciences, who is the chief scientist onboard, said the discharges were “significantly larger” than anything found before. “The discovery of actively releasing shelf slope hydrates is very important and unknown until now,” he said. “This is a new page. Potentially they can have serious climate consequences, but we need more study before we can confirm that.”

The most likely cause of the instability is an intrusion of warm Atlantic currents into the east Arctic. This “Atlantification” is driven by human-induced climate disruption. The latest discovery potentially marks the third source of methane emissions from the region. Semiletov, who has been studying this area for two decades, has previously reported the gas is being released from the shelf of the Arctic – the biggest of any sea. For the second year in a row, his team have found crater-like pockmarks in the shallower parts of the Laptev Sea and East Siberian Sea that are discharging bubble jets of methane, which is reaching the sea surface at levels tens to hundreds of times higher than normal. This is similar to the craters and sinkholes reported from inland Siberian tundra earlier this autumn. Temperatures in Siberia were 5C higher than average from January to June this year, an anomaly that was made at least 600 times more likely by human-caused emissions of carbon dioxide and methane. Last winter’s sea ice melted unusually early. This winter’s freeze has yet to begin, already a later start than at any time on record.

This article was amended on 4 November 2020 to further emphasise the preliminary nature of the findings, and to attribute concerns about the possible consequences of the observations. The reference to a tipping point was revised to better convey the nature of this concern.

Source: [theguardian.com](https://www.theguardian.com); 27 October 2020

INTERNAL TIDE MIXING KEEPS DEEP ANDAMAN SEA WARMER THAN BAY OF BENGAL: STUDY

- India Science Wire

The role of oceanic processes in keeping the deep Andaman Sea warm has been a mystery for long. A new study conducted by Indian National Centre for Ocean Information Services (INCOIS) to investigate internal waves, however, has given an answer: Deep waters (below 1,200 metres) in the Andaman Sea are about 2 degrees Celsius warmer than the Bay of Bengal due to internal tide mixing. The study is important to interpret the response of the ocean to climate change by understanding the distribution of temperature, both near the ocean surface and the deep ocean. Internal tide energy dissipation and associated vertical mixing play a major role in

maintaining the warmer temperature in the deep Andaman Sea, according to the study. The rate of vertical mixing in the AS is about twice than what is observed in the Bay of Bengal.

This elevated internal tide induced vertical mixing results in the efficient transfer of heat into the deeper layers, which keeps the deep Andaman Sea warm. Temperature distribution in the deep ocean plays an important role in regulating the deep ocean circulation, water mass formation, distribution of chemical properties as well as the distribution of marine organisms including invertebrate animals. The researchers noted that in addition to the small exchange of deep waters, higher temperature, which decreases the solubility of gases, also has contributed to the observed difference in the biogeochemical properties between Andaman Sea and Bay of Bengal. The higher concentration of dissolved Rare Earth Elements in the deep Andaman Sea compared to Bay of Bengal is attributed to the enhanced vertical mixing. INCOIS study suggested that in future, the amplitude of internal tides could be larger and Andaman Sea could have a more rapid response to the change in vertical mixing in the global warming scenario compared to other regions. Therefore, modeling and long-term measurements of physical, chemical and biological properties would be crucial in deciphering the long-term change in this region.

The researchers added that recent studies suggested that the effect of climate change was more pronounced in the deep sea and the marginal sea than previously believed. Under the global climate change scenario, tidal-induced deep-sea mixing plays an important role in controlling the distribution of heat and carbon in the ocean, helping drive global ocean circulation and force nutrients up from the deep, where they can be used by tiny plants at the sea surface that is at the base of the ocean's food web. Led by Jithin AK, the research team comprised Francis PA of INCOIS, Ministry of Earth Sciences. The research paper was published in Nature. (India Science Wire)

Source: downtoearth.org.in; 27 October 2020

GEOPOLITICS

VACCINES, NOT SPY PLANES: U.S. MISFIRES IN SOUTHEAST ASIA

- Tom Allard

JAKARTA (Reuters) - For months, by Zoom calls and then by jet, Indonesian ministers and officials scoured the world for access to a vaccine for the coronavirus that Southeast Asia's biggest country is struggling to control. This month, their campaign paid off. Three Chinese companies committed 250 million doses of vaccines to the archipelago of 270 million people. A letter of intent was signed with a UK-based company for another 100 million.

Absent from these pledges: the United States.

Not only was it not promising any vaccine, but months earlier the United States shocked Indonesian officials by asking to land and refuel its spy planes in the territory, four senior Indonesian officials told Reuters. This would reverse a decades-long policy of strategic neutrality in the country. With the U.S. Secretary of State Mike Pompeo due to visit Jakarta on Oct. 29, Washington's campaign to buttress its influence in the region - part of its escalating global rivalry with China - has been misfiring, say government officials and analysts. On the other hand, China - Indonesia and the region's biggest investor and trading partner - has won ground with vaccines and trade. America's strategic interests converge with those of many others in the region; Washington opposes Beijing's island-building and militarisation of the South China Sea. Vietnam, the Philippines, Malaysia and Brunei dispute China's territorial claim to over 90% of the waterway. Indonesia does not have a formal claim to the waters, but it, too, opposes China's claim. China is less popular among Indonesians than the United States, according to polling in 2018 by the Pew Research Center, a think-tank in Washington. This is an edge that the United States under President Donald Trump has blunted, according to interviews with more than a dozen government officials, former diplomats and analysts. Meanwhile China is managing to parlay its economic heft and early recovery from coronavirus restrictions to strategic advantage, they said. "The U.S. uses sanctions and muscle too much," said one Indonesian government source. "China is smart. It always uses the soft power approach, the economic approach, the development approach." Pompeo said ahead of his visit that there are issues where the United States has already improved the relationship between the countries, "but there's more that we can do." U.S. assistant secretary of State David Stillwell said separately the U.S. was working to build a "stronger economic partnership" with Indonesia and the United States had donated 1,000 ventilators to the country, part of a \$12.5 million coronavirus aid package.

SPY PLANES

A former Dutch colony with hundreds of ethnic groups scattered over more than 17,000 islands, Indonesia is a founder member of the non-aligned movement, an alliance of developing countries which agreed after World War Two to avoid any defence tie-ups that serve the interests of the big powers. Since emerging from authoritarian rule 22 years ago, it has never allowed foreign militaries to stage operations on its soil, although it does conduct military exercises with other nations. With this in mind, Indonesian officials said it was a surprise when the United States made multiple high-level approaches in late July and early August to Indonesia's defence and foreign ministers to grant landing and refueling rights to its P-8 Poseidon surveillance aircraft. These play a central role in monitoring China's military activity in Southeast Asia. The proposal - first reported by Reuters - was swiftly rejected after it was reviewed by Indonesia's President Joko Widodo, commonly known as "Jokowi," the officials said. Pompeo declined to comment on the rebuff. The U.S. Defence department declined to comment, as did spokespeople for Indonesia's government. Singapore, the Philippines and Malaysia have allowed P-8s to fly in and out of their territory; Washington's request was more political than operational, said Euan Graham, an Asia-Pacific security analyst attached to the Shangri-la Dialogue, an annual meeting of regional security chiefs. The P-8 bid was part of a region-wide U.S. diplomatic blitz that began in mid-July with three days of speeches by Pompeo and other senior U.S. officials denouncing China's conduct in the South China Sea. As well as declaring China's territorial claims unlawful, the United States accused Beijing of "gangster tactics," saying Beijing denies Southeast Asian states the opportunity to develop the sea's resources. Washington has also announced sanctions on Chinese firms and individuals that help China build military installations on islands, atolls and shoals in the waters. China bases its claim in the South China Sea on what it calls "historic rights."

Repeated incursions into Indonesia's waters by Chinese coast guard and fishing vessels are an emotive issue in Indonesia, where there is a strong nationalist streak. The presence of about 36,000 Chinese workers in Indonesia - one-third of all foreign workers according to government data - has also riled many Indonesians. In the past, the government has blown up Chinese and other foreign fishing vessels. Senior officials say Indonesia has told China bluntly of its concerns of its aggression in the South China Sea this year. In July, Indonesia held military exercises in the portion of the waterway its claims as its exclusive economic zone. But Indonesian officials said Washington's response to China has been unnecessarily combative. Adding to their anxiety, they said, was a growing fear that military conflict was brewing after the U.S. and China held major military exercises in the South China Sea within sight of each other near the contested Paracel Islands on July 4. Foreign minister Retno responded to the rising superpower tensions in the region by contacting her counterparts in the Association of Southeast Asian Nations (ASEAN) forum via their WhatsApp group. It was, said Retno, a "very fluid and intensive communication" that quickly led to a joint statement on Aug. 8 decrying the "detrimental ramifications" of "changing geopolitical dynamics in the region."

VACCINE DIPLOMACY

President Jokowi, a former furniture manufacturer and exporter, has a plan to transform Indonesia's economy and set a course for the country to become one of the world's top five economies by 2045. That vision took a body-blow from the coronavirus pandemic. With fewer than 400,000 infections and 14,000 deaths, Indonesia's official coronavirus burden is much lighter than many other big countries. However, epidemiologists and public health experts say very low rates of testing and contact-tracing mean the official figures significantly underestimate the spread and the government can't suppress the virus. An estimated 10 million Indonesians have fallen back into poverty and Indonesia's economic outlook has been downgraded repeatedly by the government and international agencies. Jokowi has said the government's response to the pandemic and prospects for economic recovery are good compared to other countries. Early access to a vaccine is Indonesia's only shot at controlling the pandemic, said Greg Poling, a Southeast Asia analyst from the Washington D.C.-based Center for Strategic and International Studies. "It's the silver bullet," he told Reuters in an interview. "They have to get the vaccine as fast as possible." Jokowi's close confidant and Indonesia's coordinating minister for maritime affairs and investment, Luhut Pandjaitan, gave the president cause for hope when he returned in October from China's Yunnan province with promised supplies of vaccines, which are in phase three trials, as well as a pledge to help Indonesia manufacture and export one of the vaccines to other countries. "It is very easy dealing with the Chinese and they actually executed almost all of their promises and commitments," said a senior adviser who travelled to Yunnan with Pandjaitan. The U.S., grappling with one of the world's most severe COVID-19 outbreaks, has hoarded its vaccines, withdrawn from the World Health Organization and, unlike China, refused to join a WHO-sponsored plan to pool vaccines and distribute them to countries based on need.

"They are completely ceding the field to China," said Aaron Connelly, an analyst with Singapore's International Institute for Strategic Studies. On his trip to Yunnan, Pandjaitan also secured almost \$20 billion in funding from Chinese companies for a pet project of the president: a plan to build a lithium battery factory and nickel processing industry, the adviser said. Next month, senior government officials say Indonesia is expected to sign the world's biggest trade pact – the Regional Comprehensive Economic Partnership – that involves ASEAN states and China, but not the U.S. Meanwhile, the U.S. has been reviewing Indonesia's preferential trade status, to the alarm of Jakarta.

"NOT ONLY CHINA"

Indonesian officials and analysts say the Trump administration has made several unforced diplomatic errors in Southeast Asia. These started in 2018 when Trump did not attend the U.S.-ASEAN summit. In 2019, he sent his national security adviser, a relatively junior government member, prompting seven of the region's 10 leaders to boycott the event. Washington has not appointed an ambassador to ASEAN since 2017. Connelly said Pompeo's confrontational rhetoric – he has described the Chinese Communist Party as the "greatest threat" to the U.S. – makes Southeast Asian states less willing to cooperate with the United States. "He makes it about the U.S. versus China, rather than what China is doing to Southeast Asia," he said.

Dino Patti Djalal, an Indonesian ambassador to the United States from 2010 to 2013, said Pompeo's "aggressively anti-China rhetoric" was, in part, targeting a domestic political audience as the Trump administration tries to deflect criticism of its handling of the coronavirus onto China. Trump's push to cast China as the villain because the virus originated there had not resonated with Southeast Asian governments, he said, while China's vaccine diplomacy and its early economic recovery will serve Beijing well strategically. "China is smartly and strategically using the COVID crisis to advance their relationships (in the region)," he said. "They are striking that theme they have always been pushing: When there are difficulties, it is China, not the U.S., that you can rely on." Indonesia's foreign minister Retno Marsudi says Indonesia wants to engage with as many countries as possible when it comes to combating the coronavirus and developing its economy, including the U.S. This, she told Reuters, was the essence of Indonesia's "independent and active" foreign policy. "It's not only China," she said.

Source: [reuters.com](https://www.reuters.com); 27 October 2020

HOW AFRICAN LEADERSHIP MADE THE BAN TREATY A REALITY

- Olamide Samuel

On October 24, the Treaty on the Prohibition of Nuclear Weapons (the Ban Treaty) welcomed its 50th ratification, crossing the threshold to make the accord international law. The treaty is aimed at banning all nuclear weapons forever. As an African concerned with the politics of nuclear weapons, I believe this an opportune time to remind the world of African contributions that have made the Ban Treaty a reality. For African states, it is important that they be reminded of the legacies of African leadership in nuclear disarmament so that they can more readily identify with this recent victory, and actively support its implementation going forward. For nuclear weapons states, it is important that the African story is told, as it offers a stark warning about the fundamental dangers of nuclear weapons possession. African leadership in nuclear disarmament is not really spoken of, as the nuclear debate is seen as a mostly western issue. In historical accounts, we only talk about Africa as a victim of nuclear tests, such as those carried out by France in the western Sahara in the 1960s. The same is true in contemporary accounts, where we only speak of Africa as a mere appendage to the international community's support for nuclear disarmament. Both of these narratives do not reflect the true scope of African engagement with the nuclear conversation. By continuing to view Africans as victims and supplicants in this field, instead of as dynamic and thoughtful agents, we suppress a story punctuated by discourses on rights, liability, morality, and legal obligations that have shaped contemporary practices of weapons control. Africa provided two distinct schools of thought concerning nuclear weapons, that made the explicit connection between nuclear weapons, imperialism and racism. The first of the schools of thought can be found in the powerful initiatives of Black internationalism which were crucial in garnering support for nuclear disarmament in the 1950s and 1960s. Led by Africans and African Americans, the 1958 conference of independent African states held in

Ghana was one of the first instances where state delegates and civil society representatives deliberated on an intersectional approach to nuclear weapons disarmament. They combined movements supporting anticolonialism, non-alignment, and nuclear disarmament in ways that subsequently frustrated colonial powers' ability to conduct nuclear tests on African soil. There were even sanctions levied by the Nigerian and Ghanaian governments against the French because of their nuclear weapons testing in the western Sahara. As Ghana's first prime minister, Kwame Nkrumah, stated in 1960: "We in Africa wish to live and develop ... we are not freeing ourselves from centuries of imperialism and colonialism only to be maimed and destroyed by nuclear weapons." This first school of thought focusing on the humanitarian consequences of nuclear weapons use has come to be known as the humanitarian initiative. This initiative shifted the focus from states being "responsible" enough to have nuclear weapons, to the fact that nuclear weapons are inhumane and illegitimate regardless of who has them.

As the late Nelson Mandela said in his address to the UN General Assembly: "We must ask the question, which might sound naive to those who have elaborated sophisticated arguments to justify their refusal to eliminate these terrible and terrifying weapons of mass destruction – why do they need them anyway?!" In line with the humanitarian initiative, African leaders declared Africa a Nuclear Weapons Free Zone with the 1996 Treaty of Pelindaba. Furthermore, Africa is a moral authority on the question of nuclear disarmament. An African state (South Africa) is the only state in history to discard its indigenously developed nuclear weapons. South Africa's diplomats continue to advocate for nuclear disarmament since 1994, and many African countries proactively support the Ban Treaty. With the Ban Treaty's entry into force on January 22, 2021, the group of nuclear-armed states, including Britain, China, France, Russia and the United States, have vowed not to sign the treaty. Instead, these states continue to cling on to the Non-Proliferation Treaty (NPT) as the cornerstone of the global nuclear order. The NPT, which entered into force in 1970, prevented states that did not have nuclear weapons before 1968 from acquiring them. It prohibited states that already had nuclear weapons from providing other states with them.

According to Article VI of the NPT, nuclear-weapon states have a legal obligation to disarm, but these states have continued to evade their disarmament obligations. This situation is commonly referred to by some as nuclear apartheid. It is therefore important to remind nuclear weapons states of the other, lesser-known school of African thought concerning nuclear weapons. Propagated by renowned Kenyan scholar Ali Mazrui, this second school of thought promoted what I would call a "proliferate to disarm" approach. In clarifying the connections between nuclear imperialism and racism, Mazrui suggested one of the numerous factors behind the NPT's successful and urgent negotiation in the 1960s was the fear of the impending surge in the number of states that could now acquire nuclear weapons upon gaining independence.

Mazrui subsequently advocated for African states to withdraw from the NPT and "go nuclear", with the goal of securing a modest nuclear capability. This was a radical and highly controversial approach, but it had nothing to do with making the countries militarily safer. Instead, Mazrui wanted to challenge the flawed logic of the continued possession of nuclear weapons limited to an exclusive club of powerful nations. As we

celebrate the 50 ratifications of the Ban Treaty, I would like to remind nuclear weapon states of Mazrui's words: "Only when the West discover that they cannot make the rest of the world refrain from nuclear power, while they themselves refrain from a credible disarmament commitment ... will [the world] at last address itself, on the fundamentals of human survival ... Imagine [Central Africa's] Emperor Bokassa, playing napoleon with a nuclear bomb ... perhaps this will scare Northern warmongers to sanity at last."

The views expressed in this article are the author's own and do not necessarily reflect Al Jazeera's editorial stance.

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HARSH VARDHAN SHRINGLA, FRENCH DIPLOMAT ALICE GUITTON DISCUSS INDIA- PACIFIC, REGIONAL SECURITY COOPERATION

- ANI

Paris [France], October 30 (ANI): Foreign Secretary Harsh Vardhan Shringla on Friday had a meeting with Alice Guitton, France's Director-General of International Relations and Strategy (DGRIS), wherein they discussed Indo-Pacific region and maritime security, defence partnership and regional security cooperation "Foreign Secretary @harshvshringla had a productive meeting with Alice Guitton, Director General, DGRIS with discussions on Indo-Pacific region & maritime security, defence partnership & regional security cooperation," Indian embassy here tweeted. His visit comes at a time when the US is reeling under terrorist attacks and tensions are high in the European country. A knife-wielding man killed two women and a man at the Notre-Dame Basilica in Nice and injured several others on Thursday.

The police detained the attacker and launched an investigation. The attack in Nice was followed by a knife-stabbing attempt in France's southeastern city of Avignon and another one at the French Consulate in Saudi Arabia. Foreign Secretary Shringla, who is on France visit, yesterday met Emmanuel Bonne, Diplomatic Advisor to French President Emmanuel Macron and extended condolences on terrorist attacks in France. He also conveyed Prime Minister Narendra Modi's message that India stands with France in the fight against terrorism. "Foreign Secretary Harsh Vardhan Shringla met Emmanuel Bonne, Diplomatic Advisor to French President Emmanuel Macron, extended condolences on terrorist attacks in France and conveyed PM Modi's message that India stands with France in the fight against terrorism," said Indian Embassy in France. (ANI)

Source: [businessworld.in](https://www.businessworld.in); 30 October 2020

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