

## EDITOR'S NOTE

The war in Ukraine now continues well past six months. The Russian ground offensive has slowed down, though it continues to inch forward in Eastern Ukraine. The Russian forces now control all of the Luhansk region and they are continuing efforts to make advances in the Donetsk region. Ukraine is trying to push back the Russian forces in the south. The Ukrainian forces claim to have broken through Russia's first line of defence near the southern city of Kherson. Active fighting continues around the Zaporizhzhia nuclear power plant. It had to be shut down for short periods for technical reasons. More than half (55.5 per cent) of Ukraine's electricity comes from nuclear power. Ukraine has 16 nuclear reactors in four Nuclear Power Plants (NPPs). Zaporizhzhia accounts for nearly half of the total electricity generated by NPPs, and 20 per cent of all electricity production in Ukraine. Extended shutting down of the plant would have serious electricity supply issues for Ukraine in the coming harsh winter. Shutting down running NPPs has other safety complications. The plant will be very important for Russia to supply electricity to the occupied eastern regions and Crimea. A UN inspection team is on its way to the nuclear power plant for safety inspection.

Asia's premier security summit, the IISS Shangri-La Dialogue, took place in Singapore on June 10-12, 2022. The conference discussed many security issues, from US-China relations, the Ukraine conflict, to Cambodia's modernisation of the Ream naval base, and climate change. Chinese Defence Minister General Wei Fenghe said recently that India and China are working together for peace along the Line of Actual Control (LAC) and that maintaining a good relationship meets the interests of both countries. Just a week earlier, the US Army's Pacific Commanding General Charles Flynn, during his visit to India, had said that some of the defence infrastructure that is

being created by China near its border with India in Ladakh was “alarming”, terming the Chinese activity in the region “eye-opening” and “destabilising and corrosive”. Earlier in July 2022, the 16th round of the India-China border talks, seeking to resolve the rest of the LAC issues, remained a stalemate.

Ever since US Speaker Nancy Pelosi’s 19-hour Taiwan visit in early August 2022, the People’s Liberation Army (PLA) has been responding with daily crossing of the median line in the Taiwan Strait, using fighter and bomber aircraft. The number of aircraft have been anywhere from 5 to 25. This is a way of putting pressure on the democratic island nation, and also to send signals to its principal ally, the US. China has also been carrying out simulated training exercises that are beyond just military intimidation, and some term as a dress rehearsal of an eventual Taiwan invasion. Notwithstanding the US-Taiwan Relations Act, it is not clear how the US will respond in case of an actual invasion or even an economic blockade. The US did dispatch the guided-missile cruisers USS *Antietam* and USS *Chancellorsville* to sail through the Taiwan Strait as a show of “commitment to a free and open Indo-Pacific.” The Chinese aggressive actions can also be linked to the forthcoming 20th National Congress of the Chinese Communist Party (CCP) beginning October 16, 2022. General Secretary Xi Jinping is seeking a third term that may make him nearly as powerful a leader as Chairman Mao Zedong. Aggressive military action will show Xi as a strong leader. Yet it is clear that China does not want to precipitate the situation. The US State Department has just approved a possible \$1.1 billion sale of military equipment to Taiwan. This would include 60 anti-ship missiles and 100 air-to-air missiles.

A Chinese survey ship, the *Yuan Wang 5*, docked at Hambantota port in Sri Lanka on August 16, purportedly for resupply. China called it a scientific research vessel. But international security experts said that the PLA Navy ship had sensors to track satellites and missiles. The strategically located port had been built using a Chinese \$1 billion loan. Sri Lanka defaulted on loan payment, and in 2017, had to hand over the same to China on a 99-year lease. It was a classic case of the Chinese debt trap. China could now use the port and other Chinese built infrastructure for military purposes. The

incident set off alarm bells in the immediate neighbour, India, and the entire free world. The ship's berthing was delayed by a few days because of India's serious objections. As the Chinese ship neared Hambantota, India donated a maritime reconnaissance aircraft to Sri Lanka. The Chinese Embassy in Colombo finally held a welcome ceremony for the ship with active Sri Lankan participation. The situation is similar to that of Gwadar port in Pakistan. The Sri Lankans who have greater linkages with the Indians, were worried about tensions between two bigger powers on their soil. Both China and India are significant lenders and aid giving nations.

Earlier in July, the island country had been plunged into a politico-economic crisis forcing the then President Gotabaya Rajapaksa to flee the country. Many Sri Lankans accused the Rajapaksa brothers of running the economy into the ground. On September 2, Rajapaksa returned to Sri Lanka.

Another recent development has been Bangladesh seeking China's help to repatriate the Rohingya refugees. Despite the China-brokered agreement with Myanmar in November 2017 to repatriate about 700,000 Rohingya Muslim refugees, the refugees are reluctant to return, fearing danger to their lives. Bangladesh has strong relations with China, which is a major trade partner mostly for raw materials for its export oriented garments industry. More than 500 Chinese companies operate in Bangladesh. China is involved in all major infrastructure projects such as seaports, highways, and helped built its largest bridge over the Padma river at a cost of \$3.6 billion. Bangladesh has been balancing its China relations with closeness with India and the US.

In August, China began redevelopment work at Cambodia's Ream naval base on the South China Sea. It was a Chinese grant-in-aid project. Use of this base could give the Chinese Navy additional access to the highly contested South China Sea. This will have implications for all the Association of Southeast Asian Nations (ASEAN) and Quadrilateral Security Dialogue (QUAD) countries.

The first "I2U2" (I for India and Israel and U for the US and the UAE) group summit (virtual) was held on July 14, 2022. The joint statement said the I2U2 leaders' meeting focussed on the food security crisis and clean

energy, and that they discussed innovative ways to ensure longer-term, more diversified food production and food delivery systems. The United Arab Emirates will invest \$2 billion to develop a series of integrated food parks across India under the 'I2U2' framework. The US and Israeli private sectors will provide expertise. A 300 megawatts capacity wind and solar, hybrid renewable energy project will come up in Gujarat. It will also help increase strategic relations among the four.

In June 2022, during a three day tour by the Indian defence minister to Vietnam, the two countries signed a Joint Vision Statement on the India-Vietnam Defence Partnership towards 2030. It is meant to significantly enhance the scope and scale of existing defence cooperation. India agreed on the early finalisation of the \$500 million Defence Line of Credit to be extended to Vietnam.

The terrorist attack on the shuttle van of the Confucius Institute at the University of Karachi in Pakistan in April had killed three Chinese teachers. A tri-Service military delegation of Pakistan visited China from June 9 to 12, where it held wide-ranging discussions. The Pakistani side was headed by General Bajwa, while the Chinese side was led by General Zhang. Both sides discussed the international and regional security situation and expressed satisfaction on the defence cooperation between the two countries. Both sides also agreed to enhance their training, technology and counter-terrorism cooperation at the tri-Service level. China's plan to deploy its own security personnel to guard its citizens and assets in Pakistan has been of concern to India.

China is undertaking a "substantial expansion" of its nuclear weapons arsenal. China currently has an estimated 350 nuclear warheads. Satellite images show the construction of more than 300 missile silos. The US assessment is that Beijing's new pace of nuclear expansion will enable it to have up to 700 deliverable nuclear warheads by 2027, and 1,000 by 2030. India is watching the developments closely.

The Solomon Islands are coming under China's growing influence. The Pacific island nation has banned visits by foreign navy vessels, while China is

having special access. The British patrol boat *HMS Spey* and the US Coast Guard Cutter *Oliver Henry* were compelled to divert to other ports. However, as a special case, the US Navy ship *Mercy* was allowed a two-week humanitarian mission, together with personnel from Australia and Japan, starting August 29. The Solomon Islands and China had signed a controversial security agreement earlier this year. The broad nature of the security agreement leaves the door open for the deployment of Chinese military forces to the Solomon Islands. Earlier, the Solomon Islands' Prime Minister Sogavare had threatened to expel the Western media for "disrespectful and demeaning" reporting. China establishing a military foothold has implications for all. The US has pledged to boost aid and increase illegal fishing surveillance in the Pacific in an attempt to counter China's growing presence.

After the Russian invasion of Ukraine in February 2022, there have been fresh attempts to revisit the sanctions against Iran. A renewed version of the 2015 nuclear deal with the US and other foreign powers could evolve. Without a deal, Iran could continue to advance its nuclear technology, and is known to be already close to weapon grade materials. Israel has threatened military action against Iran if it develops nuclear weapons capability. The sticking points include removal of its Islamic Revolutionary Guard Corps from its designated terrorist list, which the US is still unwilling to do. Iran wants a legally binding assurance that no future US Administration would undo the deal. The situation is already getting to 'now or never'. Both the US and Iran have an interest in continuing negotiations.

Exercise Pitch Black 2022 was held at Darwin in Australia from August 19 to September 8, 2022 in which 17 countries participated. These included Australia, Canada, France, Germany, India, Indonesia, Japan, South Korea, Malaysia, the Netherlands, New Zealand, the Philippines, Singapore, Thailand, the United Arab Emirates, the United Kingdom and the United States. The Indian Air Force (IAF) contingent included four Su-30 MKI, two C-17s, and 100 Air Warriors. The aircraft undertook multi-domain air combat missions in a complex environment and exchanged best practices with the participating air forces.

This issue of *Air Power Journal* looks at some very contemporary subjects. We analyse the use of block chain technology by the IAF to make its logistics and maintenance functions much more efficient and rewarding. The Airborne Early Warning and Control (AEW&C) aircraft remains a major enabler and orchestrator of air operations. We discuss its employment in both offensive and defensive operations. China has been making huge investments in infrastructure along the Line of Actual Control with India. We analyse the state of Chinese air bases under the PLA's Western Theatre Command. A researcher looks at the Multiple Independent Reentry Vehicle (MIRV) missile technology and its rationale during the Cold War. We have an article on defence and civilian applications of Rare Earth Elements (REE). We also look at the strengthening Indo-Israel defence cooperation.

Jai Hind! Happy Reading!

Air Marshal **Anil Chopra**  
Director General, CAPS