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The Tribune

Thu, 06 Jan 2022

UT fast-tracks work to set up cyber security centre

By Dushyant Singh Pundir

Chandigarh: The UT Administration has fast-tracked the process of establishing a cyber security centre in the city to deal with the ever-growing cases of cybercrime.

All aspects of the proposed centre were discussed in detail during a meeting with senior officials of the Defence Research and Development Organisation (DRDO) and the Chandigarh Police here yesterday, said UT Adviser Dharam Pal. It was decided to prepare a proposal for setting up the centre and send it to the MHA for approval at the earliest, he added.

As cyber criminals are on the prowl, the city has witnessed a steep increase in such cases in the past few years. In 2017, the police had received 2,242 complaints and the number swelled to 3,167 in 2018 and further rose to 4,793 in 2019. Nearly 6,300 complaints of cybercrime were received in 2020, while 3,306 complaints had been filed till July 18 last year.

“Cyber security will be one of the main challenges in the coming years and we want to lead the way in the region in meeting the new-age challenges,” said the Adviser. Apart from research and analysis work, strategies would also be a device in anticipation of future challenges, he said, adding that the centre was most likely to be established within this year under the supervision of the police.

Earlier, officials of the DRDO gave a presentation on the prospects of drone attacks and how to deal with these even though the city has no specific threat from drones. The UT Adviser said anti-drone technology would also be part of the proposed centre.

Over security threats and the possibility of misuse of drones by anti-social elements, the UT Administration had recently banned flying of drones and low-flying objects in the city.

On naming of the centre, UT Director General of Police Praveer Ranjan said it was most likely to be named as Centre for Cyber Security Operation.

Recently, the Chandigarh Police had set up cyber desks at all police stations to lessen the burden on the Cyber Crime Investigation Cell, which is unable to focus on special cases. Several categories of cybercrime have been defined, which will be dealt by the police stations.

Cyber criminals on the prowl

As cyber criminals are on the prowl, the city has witnessed an increase in cases. In 2017, 2,242 complaints were received and the number swelled to 3,167 in 2018 and rose to 4,793 in 2019. Nearly 6,300 complaints were received in 2020 and 3,306 till July 18 last year.

<https://www.tribuneindia.com/news/chandigarh/ut-fast-tracks-work-to-set-up-cyber-security-centre-358627>



Photo for representational purpose only.

चंडीगढ़ में बनेगा पहला साइबर सुरक्षा केंद्र, डीआरडीओ से समझौता

चंडीगढ़: ऑनलाइन ठगी के नए-नए तरीकों को रोकना सिर्फ चंडीगढ़ ही नहीं, विभिन्न राज्यों की पुलिस के लिए बड़ी चुनौती है। भविष्य की चुनौतियों को देखते हुए और साइबर अपराध को रोकने की रणनीति तैयार करने के लिए यूटी प्रशासन चंडीगढ़ में पहला साइबर सुरक्षा केंद्र स्थापित करने जा रहा है। इसके लिए प्रशासन ने रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) के साथ समझौता किया है। इस केंद्र का नाम सेंटर फॉर साइबर सिक््योरिटी ऑपरेशन रखे जाने की संभावना है।

प्रशासक के सलाहकार धर्मपाल ने कहा कि आने वाले वर्षों में साइबर सुरक्षा मुख्य चुनौतियों में से एक होगी और हम नए युग की चुनौतियों का सामना करने के लिए इस क्षेत्र में नेतृत्व करना चाहते हैं। उन्होंने कहा कि रिसर्च और विश्लेषण कार्य के अलावा, भविष्य की चुनौतियों की लिए रणनीति तैयार करने की जरूरत है। धर्मपाल ने कहा कि इस वर्ष पुलिस की देखरेख में इस केंद्र के स्थापित होने की संभावना है। बीते दिनों डीआरडीओ और चंडीगढ़ पुलिस के वरिष्ठ अधिकारियों के बीच एक बैठक भी हुई है और केंद्र की स्थापना के लिए सहमति बनी है। आखिरी मंजूरी के लिए अब प्रस्ताव को केंद्रीय गृह मंत्रालय को भेजा जाएगा।

चंडीगढ़ को ड्रोनरोधी तकनीक भी देगा डीआरडीओ

बीते दिनों डीआरडीओ के अधिकारियों ने ड्रोन हमले की आशंका और इससे कैसे निपटा जाए, इस पर एक प्रस्तुति दी थी। भले ही शहर को ड्रोन से कोई विशेष खतरा नहीं है लेकिन भविष्य के खतरे को देखते हुए प्रशासन ने डीआरडीओ से समझौता किया है। धर्मपाल ने कहा कि ड्रोनरोधी तकनीक भी प्रस्तावित केंद्र का हिस्सा होगी। सुरक्षा खतरों और असामाजिक तत्वों द्वारा ड्रोन के दुरुपयोग की आशंका को देखते हुए यूटी प्रशासन ने हाल ही में शहर में ड्रोन और लो फ्लाईंग ऑब्जेक्ट्स उड़ाने पर प्रतिबंध लगा दिया था।

साइबर अपराध में हर साल हो रही बढ़ोतरी

शहर में पिछले कुछ वर्षों में साइबर अपराध के मामलों में भारी वृद्धि हुई है। 2017 में पुलिस को 2242 शिकायतें मिली थीं। यह आंकड़ा 2018 में बढ़कर 3167 हो गया और 2019 में बढ़कर 4793 पर पहुंच गया। वर्ष 2020 में साइबर अपराध की लगभग 6300 शिकायतें मिली थीं, जबकि वर्ष 2021 में 18 जुलाई तक 3306 शिकायतें दर्ज की गई थीं। हाल ही में चंडीगढ़ पुलिस ने साइबर क्राइम इन्वेस्टिगेशन सेल पर बोज़ कम करने के लिए सभी पुलिस स्टेशनों पर साइबर डेस्क भी स्थापित कर दिए, क्योंकि सेल विशेष मामलों पर ध्यान केंद्रित करने में असमर्थ था।

<https://www.amarujala.com/chandigarh/first-cyber-security-center-to-be-built-in-chandigarh-agreement-with-drdo-chandigarh-news-pk14384061175>

Greater Kashmir

Thu, 06 Jan 2022

50 doctors re-deployed at DRDO Jammu

By Syed Amjad Shah

Jammu: J&K Health and Medical Education Department has temporarily re-deployed 50 doctors to the 500-bedded COVID19 hospital established by DRDO at Bhagwati Nagar in Jammu amid a spike in the cases during the past few weeks.

“7 physicians, 10 anaesthetists, 5 paediatricians, 25 Medical Officers and 3 other doctors (Medical Officers) who were awaiting orders of posting in the Directorate of Health Services, Jammu have been redeployed,” an official said quoting the order issued by the Health and Medical Education Department.

As per order, the Additional Chief Secretary, Health and Medical Education Department Vivek Bharawaj has directed for the immediate re-deployment of doctors at the DRDO hospital.

“The doctors, who have been recalled recently from COVID hospital, Jammu vide Government order Number 704-JK (HME) of 2021 dated November 11, 2021 and are awaiting orders of posting in the Directorate of Health Services, Jammu, shall also report to Incharge Medical Superintendent, 500-bedded COVID hospital for further duties,” read the order.

“These doctors shall be deemed to have been relieved from their present place of postings and they shall report to the Incharge Medical Superintendent of 500-bedded COVID hospital, Jammu today for further duties,” the order further read.

<https://www.greaterkashmir.com/todays-paper/jammu-todays-paper/50-doctors-re-deployed-at-drdo-jammu>



“These doctors shall be deemed to have been relieved from their present place of postings and they shall report to the Incharge Medical Superintendent of 500-bedded COVID hospital, Jammu today for further duties,” the order said. File/DIPR J&K

Thu, 06 Jan 2022

More firepower for soldiers! Indian Army to get lethal Assault Rifles – Know more

Under this deal, valued at over Rs 5000 Crores, the newly established “Indo-Russia Rifles Private Ltd”, a joint venture between the OFB- Rosoboronexport and Kalashnikov, will manufacture over 6 lakh AK- 203 Assault rifles over the next 10 years, with the transfer of technology to India.

By Huma Siddiqui

Early December 2021, on the occasion of the visit of Russian President Putin to India and the inaugural India – Russia 2+2 dialogue, India and Russia signed a deal for manufacturing AK-203 Assault rifles in India. Under this deal, valued at over Rs 5000 Crores, the newly established “Indo-Russia Rifles Private Ltd”, a joint venture between the OFB- Rosoboronexport and Kalashnikov, will manufacture over 6 lakh AK- 203 Assault rifles over the next 10 years, with the transfer of technology to India. These rifles will be produced at a newly set up factory at Korwa, in Amethi District of UP.

AK-203 is a fifth-generation assault rifle of the famous Kalashnikov family, with the well-known AK-47 (designed in 1947) being of the first generation, followed by AKM, AK-74, AK-103, AK-107 preceding the current AK-203, to be made in India. A progressively improved variant.

AK-203 Assault rifle is of 7.62mm calibre, with 39 calibre length barrel, i: e to say that the length of its barrel is 39 times the calibre – 7.62 X 39 mm. This is how the barrels, of guns and rifles, are described and generally, all other factors being the same, the longer the barrel, the higher is the muzzle velocity. AK 203 is an automatic and semi-automatic rifle; it has an effective range of 500m and can fire up to 600 RPM. At 3.8 Kgs, it is shorter in length and lighter than the 5.56mm INSA (Indian Small Arms System) assault rifle, the current standard issue for the Indian Army, which it will be replacing. These rifles, an initial 70,000 of which will be imported from Russia, are likely to start getting inducted into the Indian Armed forces within a period of 2.5 to three years, i: e sometime around the latter half of 2024.

Expert View:

Lt Gen Anil Ahuja, who has commanded a Corps in the Eastern Theatre, tells Financial Express Online: “These rifles will be the most advanced in the series of assault rifles that the Indian armed forces have held since Independence. To briefly recapitulate: we initially had the Lee Enfield .303 bolt action rifles during the 1962 Sino- Indian conflict; which got replaced by 7.62 mm SLR (Self Loading Rifle), variants of which remained in service from the mid-60s to nearly end 90s (1998). These were the rifles that were used during the 1965 and 1971 conflicts and to some extent in the Kargil conflict. In the 80s, in keeping with the global trend then, a decision was taken to change the



AK-203 Assault rifle is of 7.62mm calibre, with 39 calibre length barrel, i: e to say that the length of its barrel is 39 times the calibre – 7.62 X 39 mm.

calibre of the standard Service Rifle from 7.62mm to 5.56mm. The concept being that it is better to incapacitate a soldier on the battlefield, making him a liability for others than to kill. With this, a family of weapons were developed by the ARDE/DRDO and manufactured by the OFB, which were designated as the INSAS (Indian Small Arms System). The 5.56 INSAS rifles and light machine guns (LMGs) started getting inducted into the armed forces around 1998. These continue to remain in service till now.”

“The INSAS rifles, which are sought to be replaced, are 5.56 mm calibre with a 45 calibre length barrel. At 4.15 Kgs, weight and 960 mm length, these are a little heavier and longer than the AK 203, despite being of smaller calibre. While these rifles are still suitable for conventional operations, but for the counter-terrorist operations and close combat, where you need an assured ‘kill’ the 7.62 calibre is better suited – a lesson learnt with nearly two decades of use,” Lt Gen Ahuja, former Secretary of the Defence Acquisition Council, explains.

According to him, “It is for this reason that around 2010 – 2011, the Indian Army contemplated acquiring, Multi Calibre Assault Rifle (MCAR) with an interchangeable barrel, i.e., to have one 5.56 and one 7.62 barrel for each weapon, which could be changed as per the operational requirement. It was however soon realised that no army has MCAR as a standard service issue and the idea was dropped by about 2015.”

“Due to the inordinate delay in finding a replacement for the INSAS 5.56, whose performance has been inadequate, and due to the inability to select a suitable replacement from amongst many assault rifles tried out – which included rifles from IWI, CESKA, Colt, Beretta, approvals were accorded in 2019 and 2020 to procure two tranches of nearly 72000 Sig Sauer 716 rifles each, from the US, under the Fast Track Procurement. While the first tranche has been delivered, the cost for the second order is still being negotiated. It would take nearly a year to start receiving the second lot, after the cost is agreed upon and the contract signed. The Sig Sauer 716 rifle is again of 7.62 calibre, same as the AK 203 but as against the 39-calibre length barrel of AK, Sig Sauer has a longer 51 calibre length barrel. It also has a better range and rate of fire,” the Artillery officer says.

What is unique in Advanced Assault Rifles?

“Most advanced assault rifles today have provisions for advanced sighting systems. These include telescopic sights, holographic sights, laser aimer devices etc. Both Sig Sauer and the Ak 203 have provisions for mounting these sights on a slide, called the Picatinny rail. Many of these sights are already being manufactured indigenously and can be mounted on the chosen assault rifle,” Lt Gen Ahuja explains.

Why AK 203?

Sharing his view on this, the former Artillery officer says, “The decision to acquire AK 203 seems to have been driven by considerations of cost and for transfer of technology and for the advantage of these being manufactured in India.”

“Today, I have only spoken about the assault rifles for the Indian Armed forces, the rifles that are the standard issue for its soldiers. In addition to assault rifles, combat troops hold a range of other small arms: pistols, carbines, light and medium machine guns etc. The troops of the ‘Special Forces’ hold top of the shelf weapons available globally. Since these are required in much smaller numbers, the intricacies of procurement and the need to indigenise and manufacture in India are not so acute,” he observes.

Finally, “for a standard service assault rifle, the requirement is to have reliability, lethality, accuracy, optimum range and optimum rates of fire, lightweight, ruggedness and ability to withstand rough handling. The requirements of the battlefield will be dynamic and with the indigenous capability, once acquired we will be able to adapt and evolve.”

<https://www.financialexpress.com/defence/more-firepower-for-soldiers-indian-army-to-get-lethal-assault-rifles-know-more/2398988/>

Two more Poseidon-8Is for Indian Navy: All about India's eyes in the sky and where they are being stationed

At a length of 39.47 metres, a height of 12.83 metres and boasting a wingspan of 37.64 metres, the P-8I, based on the Boeing Next-Generation 737 commercial airplane, is a variant of the P-8A Poseidon deployed by the US Navy.

Key Highlights

- *The Indian government inked its first deal with Boeing to supply eight P-8I maritime reconnaissance aircraft in January 2009. At the time, the contract included a clause providing for the option of an additional four aircraft*
- *The P-8Is are equipped with the US-made Harpoon Block-II missiles, MK-54 lightweight torpedoes and rockets*
- *The aircraft is capable of reaching a maximum speed of 789 km/h and a maximum altitude of 12,496 metres*

The world's second-largest fleet of Poseidon-8I maritime reconnaissance and anti-submarine warfare aircraft just got bigger with India announcing the induction of two more aircraft, in what amounts to a significant boost to its surveillance capabilities in the Indian Ocean.

“The Indian Navy's Boeing P-8I aircraft commenced operations from INS Hansa, Goa with two aircraft arriving on December 30. The aircraft were inducted after fitment of indigenous equipment and flight acceptance trials,” said Navy spokesperson Commander Vivek Madhwal. The arrival of the two aircraft was welcomed by a MiG 29K formation, he added.

The Indian government inked its first deal with Boeing to supply eight P-8I maritime reconnaissance aircraft in January 2009. At the time, the contract included a clause providing for the option of an additional four aircraft. In doing so, the Indian Navy became the first export customer for the Boeing-made aircraft.

The maiden flight of the first P-8I aircraft took place in September 2011 and following flight test programmes in July 2012, the Navy received its first aircraft in December 2012. By 2015, all eight aircraft were acquired by the Indian Navy. In November 2019, India's Defence Acquisition Council approved the procurement of ten more P-8I aircraft, three of which were delivered in November 2020, July 2021 and October 2021, respectively.



The Poseidon-8I maritime reconnaissance and anti-submarine warfare aircraft. | Photo Credit: PTI

At a length of 39.47 metres, a height of 12.83 metres and boasting a wingspan of 37.64 metres, the P-8I, based on the Boeing Next-Generation 737 commercial airplane, is a variant of the P-8A Poseidon deployed by the US Navy. It is equipped with some of the most sophisticated US anti-submarine warfare (ASW) capabilities including a Telephonics APS-143 OceanEye aft radar system and a state-of-the-art magnetic anomaly detector. The former is not even equipped on the P-8A Poseidons in use by the US Navy.

The P-8Is are also equipped with the US-made Harpoon Block-II missiles, MK-54 lightweight torpedoes and rockets. The aircraft are also fitted with communications systems linking them to Indian submarines, facilitating the sharing of information on enemy vessels. Additionally, the aircraft are also equipped with directional infrared countermeasures (DIRCM) and electronic support measures (ESM) supplied by Northrop Grumman.

The P-8Is are, reportedly, powered by twin CFM56-7 engines produced by CFM International, a joint venture between Snecma Moteurs and GE Electric. Each of these engines provides a lift-off thrust of 27,300 pounds with the aircraft capable of reaching a maximum speed of 789 km/h and a maximum altitude of 12,496 metres. The P-8I has a maximum range of 2,222 km with four hours on station.

The growing importance of maritime surveillance in the Indo-Pacific

While the first batch of eight P-8I aircraft are stationed at INS Rajali, Arakkonam, “the second batch of four additional aircraft will be based at Indian Naval Air Squadron 316, to be commissioned at INS Hansa,” said Commander Madhwal.

Their position holds strategic importance particularly in view of the increased activity of Chinese naval vessels in the Indian Ocean. With the new geopolitical framework of the Indo-Pacific taking shape, the Indian Ocean has assumed increased significance given the immense importance of subregions that facilitate international trade.

The Indian Ocean connects the Middle East to Southeast and East Asia, as well as the Americas to Europe. Given that three of the world's seven chokepoints – the Malacca strait between Malaysia, Singapore and Indonesia, the Strait of Hormuz connecting the Persian Gulf to the wider Indian Ocean, and Bab-el-Mandeb strait between Eritrea and the Horn of Africa – are in the Indian Ocean, advanced military surveillance to quell disruptions along trade routes critical in the global energy supply chain is of paramount importance.

Moreover, in recent years, China has also emerged as an influential maritime power with Beijing having set up its first overseas military facility in Djibouti in 2017. China's Maritime Silk Road (part of its Belt and Road Initiative) and Beijing's larger ambitions in the Indian Ocean have been a source of shared consternation for several nations including India, France and the United States. What's more, with Russia having established a new naval base in Sudan in 2020, Moscow now also has access via the Bab-el-Mandeb strait to the Indian Ocean.

<https://www.timesnownews.com/india/article/two-more-poseidon-8is-for-indian-navy-all-about-indias-eyes-in-the-sky-and-where-they-are-being-stationed/846601>

THE ECONOMIC TIMES

Thu, 06 Jan 2022

Carrier-borne jet search begins with Rafale demo

By Manu Pubby

Synopsis

The Rafale M, which operates from the French Charles de Gaulle carrier, will demonstrate its capability to take off from the shore based test facility at Goa that simulates the ski jump deck of Indian Aircraft Carriers.

The selection process for new carrier borne fighter jets for the Indian Navy is underway with a demonstration by France's Rafale M (Marine) scheduled this week in Goa but several challenges remain ahead, with stiff competition by the American side that is fielding the F 18 Super Hornet that holds out the promise of enhanced naval cooperation in the region.

The Rafale M, which operates from the French Charles de Gaulle carrier, will demonstrate its capability to take off from the shore based test facility at Goa that simulates the ski jump deck of Indian Aircraft Carriers.



The test presents challenges as the Rafale, as well its American competitor, have been designed for catapult assisted take off from carriers, against the ski jump technique that is used onboard Indian carrier INS Vikramaditya and the upcoming Vikrant which is undergoing sea trials.

The procurement process is being undertaken in a unique manner, with requests for demonstrations and technical information being placed on the American and French governments. The plan is to go in for a government-to-government deal that would shorten the selection and negotiations process to acquire the jets that are urgently needed for Vikrant that is set to be made operational this year.

While the overall requirement is for 57 jets, the navy has placed a request for information that initially envisages procurement of 26 aircraft - 18 single seat versions and eight twin seat trainers. This is where the French offering faces an issue, given that its twin seat trainers are not designed to fly from the carrier and would be relegated to a shore based training role only.

On the other hand, all the F 18 Super Hornets - including twin seaters - can be used for operations from the carrier if needed. The American side also has a formidable electronic warfare version of the fighter, the EA 18G (nicknamed the Growler) which is missing from the French inventory.

The presence of Rafale fighter jets with the Indian Air Force could be seen as an advantage for the French side, given that maintenance facilities and technical assistance teams would be readily available.

After the demonstration by the Rafale this week, the American side is expected to field its fighter jets as well in March.

<https://economictimes.indiatimes.com/news/defence/carrier-borne-jet-search-begins-with-rafale-demo/articleshow/88719327.cms>



Thu, 06 Jan 2022

Theaterisation of armed forces cannot be left to military alone

Guest Column: The US has managed its theaterisation concept by decentralising the command and control, and increasing the number of 4-star Generals. The chain of operational command in the US military flows directly from the President and defence secretary to theatre commanders

By Lt Gen NPS Hira (retd)

The death of General Bipin Rawat in a helicopter crash on December 8 has brought the discussion of military modernisation to our drawing rooms. There is an apprehension that the demise of the chief of defence staff (CDS) of the Indian armed forces may cause a setback to military modernisation, which is not without reason. The department of military affairs is a new set-up and the CDS had his plate full. An important issue under modernisation has been theaterisation of the military. The Kargil committee report had recommended the need to have a permanent CDS for better jointmanship. Theaterisation is a step beyond that. It implies the distribution of the army, navy and air force component on theatre basis, under a single commander. World over, theaterisation of the military has been a sticky issue because of the inter-service perceptions and turf issues. The US Government had to pass an Act called Goldwater-Nicholas Act to make its military agree to theaterisation.

Our politicians are not so well-versed with military intricacies. The government assumed that the CDS should be able to take care of all inter-service issues, including theaterisation. However, according to the initial charter, the CDS had no operational role, which was left to the service chiefs. General Rawat in due course came to a conclusion that the theatre commanders may have to report to the CDS, which indeed makes the CDS an operational commander. This arrangement could put the entire military under one military man, the CDS. In the US, the theatre commanders

report to the defence secretary (defence minister), not to the chairman joint chiefs of staff, who is the equivalent of our CDS.

US model has some good lessons

In the theaterisation context, the US model has some good lessons, especially for a big military like ours. The US army consists of 4.8 lakh personnel on active duty, air force 3.3 lakh, navy 3.36 lakh and US marines 1.8 lakh. The air force and navy are equipment heavy forces; therefore, manpower figures only indicate their size, not actual capability. However, these figures are useful, when we compare them with our military. We have the third largest military in the world, 12 lakh army personnel, 1.4 lakh air force personnel and 70,000 navy personnel. The US has no land disputes like ours but its military operates around the globe. Though their active commitment at all times is not as much as the Indian Army's, the US has divided its military into six theatre commands and five functional commands. Only the US Marines are a truly integrated force that operates around the globe, its nucleus is from the infantry.



The Kargil committee report had recommended the need to have a permanent CDS for better jointmanship. Theaterisation is a step beyond that. It implies the distribution of the army, navy and air force component on theatre basis, under a single commander.

The US has managed its theaterisation concept by decentralising the command and control, and increasing the number of 4-star Generals. The US army has 15 four-star Generals, air force 11, navy nine and marine corps three. The senior most 4-Star General is chairman joint chiefs of staff. He has the chiefs of the army, air force, navy and marines under him. He is the adviser to the defence secretary (defence minister) and the President. However, the chairman JCS has no operational responsibilities. The respective service chiefs too have no operational responsibilities. They primarily look after training, equipment and manpower issues. The chain of operational command in the US military flows directly from the President and defence secretary to theatre commanders, who are also 4-star Generals or equivalent.

Division of military area of responsibility

The Indian military does not operate around the globe like the US military but our land borders are long and disputed. Therefore, India has a big military, particularly army. Indian military has just three 4-star Generals and a CDS. We possibly cannot fit our theaterisation model under just four Generals. One way to solve this problem is, the way the US has done. Division of military area of responsibility into theatres, not only makes it more manageable, it becomes easy to decide whether a particular theatre should be commanded by the army, navy or air force officer, because that gets decided to a large extent at the time of creation of the theatres, which is based on the nature of operations in that particular theatre. For example, in the US, the Indo-Pacific Command has always been commanded by the navy, space command and transportation command by the air force. The Central, African, Southern and Special Operations Commands have been mostly commanded by the army or marines. To satisfy all its services, the US had initially conceived that chairman JCS would be in rotation. In actual fact, of the 20 chairman JCS so far since 1949, 10 have been from the army and two from the marines.

One man can't be master of all 3 services

Our biggest disputes being land-centric, it was logical for General Rawat to have concluded that the Indian military needs to have two theatre commands for China and Pakistan borders, one maritime theatre command and one air defence command. China and Pakistan theatres will need to be commanded by army officers, maritime theatre by a naval officer and air defence theatre by an air force officer. A little problem with our theaterisation model conceived by General Rawat is, our corps commanders and equivalent are 3-star, our army commanders are also 3-star and our theatre commanders too have been envisioned to be 3-star. They are unlikely to make a happy functional hierarchy. If we are to cut army commanders out, none of the services will be happy.

The promotion pyramid in the military is already too steep. This problem can be solved if our theatre commanders are made 4-star like the US military. It is not clear if the Government of India will be comfortable making all theatre commanders report to one military man, the CDS. It may also not be the most professional option because it is not possible for one man to become a master of all three services. The theatre commanders could report directly to the defence minister like the US. The variation from the US model could be that the CDS may also be present during such briefings. In that case, whether the CDS is from the army or air force or navy, it really wouldn't matter. This kind of model could solve most of our problems.

This major inter-service issue had been entrusted to the CDS in the past. The CDS could not have taken such far-reaching decisions on his own. If we don't make theatre commanders 4-star and the operations continue to be under the service chiefs, the army chief in particular will have a lot on his hands, including the theatre air component, which may nullify the theaterisation advantage. According to the present indications, if the CDS appointment is to be rotated between the three services, then the service chiefs or the theatre commanders will need to accompany the CDS, when he goes to brief the defence minister. There is no harm in that. A single point adviser is a mirage. US chairman JCS appears to be so, but actually he is not a single point adviser because the theatre commanders are reporting directly to the defence secretary. Our present CDS model is meant for small militaries. The Kargil Committee had worked on a limited mandate, which did not include theaterisation. The government needs to take the call before this issue delays the modernisation any further.

(The writer retired as deputy chief of army staff. Views expressed are personal)

<https://www.hindustantimes.com/cities/chandigarh-news/theaterisation-of-armed-forces-cannot-be-left-to-military-alone-101641394162865.html>

THE ECONOMIC TIMES

Thu, 06 Jan 2022

India's close partners Japan & Australia to sign defence pact amid Chinese aggression

By Dipanjan Roy Chaudhury

Synopsis

The development is significant as it comes a few months after the AUKUS security pact brought Australia, the UK and the US together in a defence arrangement involving supply of nuclear-powered submarines to Australia to counterbalance China's military prowess. Both Japan and Australia are treaty allies of the US.

Amid increasing threats from China in the Indo-Pacific region and Beijing's rising territorial ambitions, two of India's closest partners — Australia and Japan — are expected to sign a treaty on Thursday to boost defence and security cooperation.

The treaty will be signed at a virtual summit, after Japanese Prime Minister Fumio Kishida postponed his trip to Australia due to rising Covid-19 cases.

The development is significant as it comes a few months after the AUKUS security pact brought Australia, the UK and the US together in a defence arrangement involving supply of nuclear-powered submarines to Australia to counterbalance China's military prowess. Both Japan and Australia are treaty allies of the US.

Meanwhile, foreign minister S Jaishankar also spoke to his Australian counterpart on Wednesday and discussed means to expand ties in 2022.

Prime Minister Scott Morrison of Australia and Kishida will meet in a virtual summit to sign the agreement, which Morrison said "will underpin greater and more complex practical engagement between the Australian Defence Force and the Japanese Self-Defence Forces".

“Australia and Japan are the closest of friends,” Morrison said. “Our special strategic partnership is stronger than it has ever been, reflecting our shared values, our commitment to democracy and human rights and our common interests in a free, open and resilient Indo-Pacific region.”

Morrison said the two leaders would sign a Reciprocal Access Agreement, which would for the first time set out a framework for the two countries' defence forces to cooperate with each other. "This treaty will be a statement of our two nations' commitment to work together in meeting the shared strategic security challenges we face and to contribute to a secure and stable Indo-Pacific," Morrison said in a statement, without directly naming China.

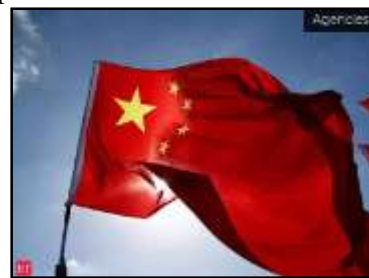
"Our cooperation also includes an expanding agenda for the Quad with India and the United States, and our shared technology-led approach to reducing carbon emissions," Morrison said.

The Quad does not have a military component and focuses primarily on vaccines, high-tech, development projects, maritime security, disaster management and cyber security.

Australia and Japan, during Thursday's summit, also plan to discuss opportunities to strengthen government and business partnerships on clean energy, critical technologies and materials.

Last month, Japan approved a record defence budget amid growing threats from China. The amount at 5.4 trillion yen (\$47.2 billion) for the year starting in April marks the 10th straight increase in annual defence spending and exceeds the ceiling of 1% of the gross domestic product. Australia also plans to increase its budget for defence and associated issues. India has emerged as a key partner for Australia in the Indo-Pacific region.

<https://economictimes.indiatimes.com/news/international/world-news/indias-close-partners-japan-australia-to-sign-defence-pact-amid-chinese-aggression/articleshow/88716385.cms>



The treaty will be signed at a virtual summit, after Japanese Prime Minister Fumio Kishida postponed his trip to Australia due to rising Covid-19 cases.



Thu, 06 Jan 2022

China to arm Pakistan Navy's Z-9 Helicopters with deadly anti-ship missiles to 'Target Indian Naval Warships'?

By Ashish Dangwal

China is reportedly selling its anti-ship missiles CM-501GA to Pakistan. The Z-9 helicopter used by the Pakistan Navy will carry these missiles and will be deployed on the 054 A/P frigates.

The Pakistan Navy's 054 A/P frigates are being manufactured by China. The PNS Tughril, for example, was delivered last year. Three more are on the way. According to reports, the target of these missiles is apparently Indian warships like the Kolkata and Vizag class destroyers and the stealth frigates.

Pakistan is also in talks with China about purchasing the LY-70 air-defense missile system for its warships. It has already requested a technical and budget proposal from ALIT, the manufacturer. The Pakistan Navy bought the previous variant, the LY-60N, for its Tariq-class frigates two decades ago.

Harbin Aircraft Industry Group manufactures the Harbin Z-9 attack helicopter. The Z-9EC is an anti-submarine warfare



CM-501G – Via Twitter

variant developed for the Pakistan Naval Air Arm. To identify, track, and eliminate enemy submarines, the helicopter is armed with ASW torpedoes and a combination of sensors and radars.

The Pakistan Navy has placed an order for four Type 054A/P frigates to be delivered by China. The service commissioned the first Chinese-built Type 054A/P Guided Missile Frigate PNS Tughril in November 2021, The Eurasian Times reported.

The new Tughril is equipped with electronic warfare systems, the latest surface, subsurface, and anti-air weapons, as well as combat management systems, and is seen as a Chinese-supplied successor to the F-22P frigate. The battleship is primarily built for anti-air warfare, although it can also execute anti-surface and anti-submarine tasks.

The CM-501GA Missile

The CM-501GA is a lighter variant of the CM-501G land-attack missile. The China Aerospace Science and Industry Corporation manufactures these missiles, which have a range of around 40 kilometers. The lighter variant can be launched from the Chinese-made Harbin Z-9 helicopter, which is also used by Pakistan's navy.

The missile's design is based on the CM-501G, a ground attack missile that was initially displayed in November 2012 at the 9th Zhuhai Airshow. The CM501G missile has a range of 70 kilometers. The missile is thought to be the Chinese equivalent of the American NLOS-LS Netfires missile or the Israeli JUMPER missile.

The CM-501G system comprises two vehicles, both of which are based on the Shaanxi Automobile Group SX2190 6 x 6 cross-country heavy-duty truck. Two launchers/containers, each with nine missiles in a three-by-three layout, are installed in the back of the launching vehicle, totaling 18. This is higher than Netfires' 15 but lower than JUMPER's 24.

The open architecture and modular design concept, according to the developer, made the CM-501G system versatile enough to meet different demands of the users by choosing different guidance systems: when funding is limited, the two-way data link and Imaging Infra-Red (IIR) can be supplanted with a cheaper Semi-Active Laser (SAL), and satellite guidance can be any of GPS, GLONASS, or BeiDou.

The fire control module, ammunition adapter, and independent power cables make up the fire control system. Operators can exercise remote control once the network is integrated into a battle network. Since it can process data from the ammo adapter and position a target, the firing system may work autonomously.

A compact C4ISR system that can be linked to a combat network serves as the command system. It is capable of guiding the firing system, processing and storing data, relaying instructions, assessing damage, and monitoring the system's state. The projectiles have optimum combat effectiveness since the reconnaissance and firepower units are effectively connected to the command system.

Its launch and operational control vehicles can navigate autonomously and perform fast maneuvers and sophisticated firing missions in an unknown environment. The launch vehicle takes around five minutes to be ready to fire. It takes one minute to return to mobile mode after shooting.

The CM-501GA cruises using a combination of TV/infrared imagery and an inertial navigation system that may be supported by the global satellite navigation system. The CM-501GA missile is 2 meters long with a 180 mm diameter.

It has a 20-kilogram high-explosive warhead with a range of 5-40 kilometers and weighs 100 kilos. According to the manufacturer, the hit precision may be regulated to within 1 meter and the hit rate is 90%.

<https://eurasianimes.com/china-to-arm-pakistan-navy-z-9-helicopters-anti-ship-missiles/>

View: The dilemma of Pakistan's National Security Policy

By Major Amit Bansal (Retd)

Synopsis

There are factors which have a direct impact on the current National Security Policy of Pakistan but were either not considered - or poorly considered.

Pakistan's external security policy has been a matter of concern all the time. Recently our western neighbour came out with a so-called National Security Policy which is a matter of debate among the circles of defence enthusiasts. The current government led by Prime Minister Imran Khan Niazi and his Boston-educated NSA Moeed Yousuf tried to project it as a historical achievement. They claimed the National Security Policy was people-centric, and a milestone in achieving economic goals, but at the same time conveniently and probably intentionally overlooked some very important factors which are an integral part of Pakistan. This has made this policy nothing more than an eyewash.

For the first 30 years after their independence, their security policy was India-centric, resulting in three major wars in 1948, 1965 and 1971 respectively. In the late eighties, not only did anti-India sentiments increase manifold, but was also badly influenced by the jihadi mindset of General Zia-ul-Haq who made religious extremist elements an integral part of the country's National Security Policy. Till date, year after year, these religious radicals are tightening their grip over the military elites, and a reversal now seems impossible. Recent events like the takeover of Afghanistan by Pakistan-sponsored Taliban, and recognition of terror and ultra-radical groups like Tehreek-E-Labbaik (TLP) and Tehreek-E-Taliban Pakistan (TTP) have further deepened the roots of radicals in the national security setup of Pakistan. Owing to their influence in Pakistan's government and its military, it is highly possible in the future that these ultra-radicalised generals of the Pakistan Army may sponsor events that could lead to another war with India. Hence Indian concerns about this policy are genuine.

The National Security of Pakistan is governed by three major elements: Pakistan's military, radical forces including non-state actors, and external support of the US for over six decades and China in the current context. Politicians and governments do not feature in it at all. They adopt the most convenient way to survive keeping a balance with radicals and the military. While it aggressively talks of a sort of insecurity from its eastern neighbour (India), it becomes silent and double headed in the case of internal security and terror threats. On December 26, 2021, Pakistan claimed to have rolled out its first ever National Security Policy. But it is a million-dollar question as to how this bankrupt country will be able to sustain an economy-driven National Security Policy. While Yousuf has prepared good paperwork, its practical execution and adaptability to the current scenario remain a major concern. There are factors which have a direct impact on the current National Security Policy of Pakistan but were either not considered - or poorly considered. Let's discuss a few of them.

1. Water: The second most important factor for Pakistan's National Security Policy will be water. Pakistan is going through a severe water crisis, and since most of the rivers supplying water to the country originate from India, things become furthermore difficult. Pakistan's exploding population, overexploitation of water by Punjab province (of Pakistan), orthodox methods of agriculture, dependence on water intensive crops and a poor planning on part of the government has made things burst. Moreover, Pakistan's reluctance and its unnecessary claims over the Indus Water Treaty is making the atmosphere further sour. There is a high possibility that water might become the reason for another war between India and Pakistan.

2. Economic Situation: External debt up to 120% of GDP, Circular Debt topping by 250% in the last five years, fiscal deficit at an all-time high and inflation in double digits have ruined the economy of Pakistan. Today no international agency is ready to even provide loans to them, leaving apart grants. A sizeable amount of Pakistan's economy is controlled by a dirty syndicate of corrupt politicians, influential business houses and generals of Pakistan Army who are busy siphoning off their country's money abroad. A National Security Policy needs money to be invested on security needs where Pakistan is failing totally. While the new Security policy boasts of economic security and making the country rich, it is silent about from where they are going to get the desired money for these monetary reforms.

3. Global alliances: As brought out earlier, Pakistan, at present, is at a crucial junction on the global platform where no country is standing by its side. The 70 year long friendship with Uncle Sam has turned sour while the European Union, especially France, is at loggerheads due to the active support of Pakistan government to Islamist radicals like Tehreek-E-Labbaik (TLP).. The Organisation of Islamic Cooperation (OIC), where Pakistan used to call shots a decade ago, does not entertain its proposals anymore. and China is standing by its side only because of commercial reasons. Once those interests are achieved or die down, China's interest will be lost in Pakistan too. Under such a critical situation, Pakistan needs to make friends first. Academically, Yousuf did a good job but practically it is bound to fail. Its National Security Policy should have been revolving around the global diaspora, which it failed to do.

4. Internal terror threats and role of radicals: If we make list of the top 1000 global terrorists, the highest number will be from Pakistan. Top terror groups like Al-Qaeda, Islamic State and Taliban were born in Pakistan. Ever since General Zia's regime, Pakistan evolved into a state where radicals ruled the power corridors and terrorism was considered a state policy. It resulted in the creation of a parallel governance, where terrorists were thriving under the banner of radical organisations who had the active support of Pakistan government. This trend not only continued, but also increased several times in later years, and has today emerged as the single biggest threat to our western neighbour. Terrorism emanating from Pakistan has global implications, and hence their national security policy depends majorly upon this factor.

5. Role of military: Pakistan lost all wars it fought with India, but its military was so powerful that they either blamed the defeat on others, or deleted those chapters of history from their books. They portray 1948 & 1965 as a victory, and shamelessly forget the East Pakistan chapter where over 93000 Pakistani soldiers surrendered in 1971. They hanged Zulfiqar Ali Bhutto, killed his daughter Benazir Bhutto and prosecuted many others who did not fall in line. Their generals always maintained an upper hand over the government. The country has been ruled by military generals nearly half the time since it got separated from India, and technically it is the military which holds the key to power in Pakistan. The military not only call shots only in the power corridors of Pakistan, but also controls its economy. Nearly all major public sector undertakings, government projects and other organisations are headed by retired Pakistan Army officers. Fauji foundation and its associate companies, which are basically ventures run by retired generals, have over 40% stake in the country's GDP. Over the last seven decades, Pakistan's generals have ensured that their comfort and well being is placed above all. No one has the courage to incorporate this factor in Pakistan's National Security Policy and hence the current policy will just be an eyewash.

6. The "C" factor: The way China has overtaken the entire Pakistan and its economy, the "C" factor can not be ignored. It is evident over the last so many years that China's friendship has proved costly for any country. It always had its own economic interests on top, and made any country where it enters, its slave. There are examples like Laos, Tajikistan, Sri Lanka, Malaysia, Cambodia, Argentina, Ecuador, Venezuela and several African countries. Pakistan will be no exception since the payback time for its China Pakistan Economic Corridor (CPEC) loans is starting now. In view of the Chinese expansionary tactics, Pakistan is left with no option but to surrender itself to China. This factor which is recognised by global experts is conveniently forgotten in their security policy by Yousuf.

Analysing all these factors and their smart exclusion from Pakistan's National Security Policy proves only one thing. Year after year, Pakistan's military and its stooges have been successful in fooling their population which is struggling to make their ends meet. In the name of Islam and Kashmir, they have created an atmosphere in which no one has the courage to oppose them while the country inches towards becoming a slave to China.

(Disclaimer: The opinions expressed in this column are that of the writer. The facts and opinions expressed here do not reflect the views of www.economictimes.com.)

<https://economictimes.indiatimes.com/news/defence/view-boston-boys-dream-and-the-dilemma-of-pakistans-national-security-policy/articleshow/88719764.cms>

Science & Technology News



Thu, 06 Jan 2022

Physicists watch as ultracold atoms form a crystal of quantum tornadoes

By Jennifer Chu

The world we experience is governed by classical physics. How we move, where we are, and how fast we're going are all determined by the classical assumption that we can only exist in one place at any one moment in time.

But in the quantum world, the behavior of individual atoms is governed by the eerie principle that a particle's location is a probability. An atom, for instance, has a certain chance of being in one location and another chance of being at another location, at the same exact time.

When particles interact, purely as a consequence of these quantum effects, a host of odd phenomena should ensue. But observing such purely quantum mechanical behavior of interacting particles amid the overwhelming noise of the classical world is a tricky undertaking.

Now, MIT physicists have directly observed the interplay of interactions and quantum mechanics in a particular state of matter: a spinning fluid of ultracold atoms. Researchers have predicted that, in a rotating fluid, interactions will dominate and drive the particles to exhibit exotic, never-before-seen behaviors.

In a study published today in *Nature*, the MIT team has rapidly rotated a quantum fluid of ultracold atoms. They watched as the initially round cloud of atoms first deformed into a thin, needle-like structure. Then, at the point when classical effects should be suppressed, leaving solely interactions and quantum laws to dominate the atoms' behavior, the needle spontaneously broke into a crystalline pattern, resembling a string of miniature, quantum tornadoes.

"This crystallization is driven purely by interactions, and tells us we're going from the classical world to the quantum world," says Richard Fletcher, assistant professor of physics at MIT.

The results are the first direct, in-situ documentation of the evolution of a rapidly-rotating quantum gas. Martin Zwierlein, the Thomas A. Frank Professor of Physics at MIT, says the evolution of the spinning atoms is broadly similar to how Earth's rotation spins up large-scale weather patterns.

"The Coriolis effect that explains Earth's rotational effect is similar to the Lorentz force that explains how charged particles behave in a magnetic field," Zwierlein notes. "Even in classical



Just like the formation of weather patterns on Earth, here a spinning fluid of quantum particles breaks up into a crystal formed from swirling, tornado-like structures. Credit: Courtesy of the researchers

physics, this gives rise to intriguing pattern formation, like clouds wrapping around the Earth in beautiful spiral motions. And now we can study this in the quantum world."

The study's coauthors include Biswaroop Mukherjee, Airlia Shaffer, Parth B. Patel, Zhenjie Yan, Cedric Wilson, and Valentin Crépel, who are all affiliated with the MIT-Harvard Center for Ultracold Atoms and MIT's Research Laboratory of Electronics.

Spinning stand-ins

In the 1980s, physicists began observing a new family of matter known as quantum Hall fluids, which consists of clouds of electrons floating in magnetic fields. Instead of repelling each other and forming a crystal, as classical physics would predict, the particles adjusted their behavior to what their neighbors were doing, in a correlated, quantum way.

"People discovered all kinds of amazing properties, and the reason was, in a magnetic field, electrons are (classically) frozen in place—all their kinetic energy is switched off, and what's left is purely interactions," Fletcher says. "So, this whole world emerged. But it was extremely hard to observe and understand."

In particular, electrons in a magnetic field move in very small motions that are hard to see. Zwierlein and his colleagues reasoned that, as the motion of atoms under rotation occurs at much larger length scales, they might be able to use ultracold atoms as stand-ins for electrons, and be able to watch identical physics.

"We thought, let's get these cold atoms to behave as if they were electrons in a magnetic field, but that we could control precisely," Zwierlein says. "Then we can visualize what individual atoms are doing, and see if they obey the same quantum mechanical physics."

Weather in a carousel

In their new study, the physicists used lasers to trap a cloud of about 1 million sodium atoms, and cooled the atoms to temperatures of about 100 nanokelvins. They then used a system of electromagnets to generate a trap to confine the atoms, and collectively spun the atoms around, like marbles in a bowl, at about 100 rotations per second. The team imaged the cloud with a camera, capturing a perspective similar to a child's when facing towards the center on a playground carousel. After about 100 milliseconds, the researchers observed that the atoms spun into a long, needle-like structure, which reached a critical, quantum thinness.

"In a classical fluid, like cigarette smoke, it would just keep getting thinner," Zwierlein says. "But in the quantum world, a fluid reaches a limit to how thin it can get."

"When we saw it had reached this limit, we had good reason to think we were knocking on the door of interesting, quantum physics," adds Fletcher, who with Zwierlein, published the results up to this point in a previous *Science* paper. "Then the question was, what would this needle-thin fluid do under the influence of purely rotation and interactions?"

In their new paper, the team took their experiment a crucial step further, to see how the needle-like fluid would evolve. As the fluid continued to spin, they observed a quantum instability starting to kick in: The needle began to waver, then corkscrew, and finally broke into a string of rotating blobs, or miniature tornadoes—a quantum crystal, arising purely from the interplay of the rotation of the gas, and forces between the atoms.

"This evolution connects to the idea of how a butterfly in China can create a storm here, due to instabilities that set off turbulence," Zwierlein explains. "Here, we have quantum weather: The fluid, just from its quantum instabilities, fragments into this crystalline structure of smaller clouds and vortices. And it's a breakthrough to be able to see these quantum effects directly."

More information: Martin Zwierlein, Crystallization of bosonic quantum Hall states in a rotating quantum gas, *Nature* (2022). DOI: [10.1038/s41586-021-04170-2](https://doi.org/10.1038/s41586-021-04170-2). www.nature.com/articles/s41586-021-04170-2

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Journal information: *Nature*, *Science*
<https://phys.org/news/2022-01-physicists-ultracold-atoms-crystal-quantum.html>

