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दैनिक सामयिक अभिज्ञता सेवा
A Daily Current Awareness Service

Vol. 44 No. 168 29 August 2019



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India ready to give fitting reply to aggressors: Venkaiah

There can be no discussion on J&K as it is an integral part of our country, says the Vice-President

Visakhapatnam: Scientists play a key role in the progress of a nation and it is good to see that organisations such as the Naval Science and Technological Laboratory (NSTL) and the DRDO are developing weapon systems with advanced technology, Vice- President M. Venkaiah Naidu has said.

Modern weapons

Speaking at the golden jubilee celebrations of the NSTL here on Wednesday, Mr. Venkaiah Naidu said, “India is one of the oldest civilisations with peace being the core tenet. But it is important to build modern weapons to safeguard the country from external aggression and protect its sovereignty.”

“India has always been attacked and colonised. It has never been an aggressor. But now, we are ready to give a fitting reply to any aggressor,” he said.

“Unfortunately, we have a neighbouring country that is abetting terrorism. It does not realise that its misadventure can prove to be disastrous for it,” he said. On the Kashmir issue, Mr. Venkaiah Naidu said, “Jammu & Kashmir has always been an integral part of India, and since 1954, there have been regular Assembly elections there.”

On PoK

“We do not interfere in the matters of other countries, and we do not want anyone to interfere in ours. There is no discussion with any neighbouring country on J&K, and the only discussion remaining is freeing the Pakistan Occupied Kashmir and bringing it under our framework,” he said.

Appreciating NSTL’s 50-year journey, he said the strength of a nation depended on the development of the academic sector, economy, and science and technology.

“Research and development plays a key role in a nation’s progress, and scientists should be abreast of the changing scenario,” he added.

Expressing happiness that the heavyweight torpedo, ‘Varunastra’, which was designed by the NSTL, had 90% indigenous components, he said, “Make-in-India is a mission, and the onus is now on the scientists to make it a success.” “Today, we are among the top few nations to have our own technology to build nuclear submarines, ICBMs (ballistic missiles), main battle tank, and our satellite technology is now being sought-after by others,” he said.

National missions

Mr. Naidu also said that schemes such as Skill India, Make-in-India, Digital India, Swachh Bharat and ‘Beti Bachao and Beti Pado’ should not be looked as political statements, but as national missions.

Earlier, he laid the stone for the sports and swimming pool complex and married officers’ accommodation at the NSTL, gave away awards to eight employees, felicitated N. Vedachalam, Department of Space, released a ‘photo essay’ highlighting NSTL’s 50 years, and handed over the ‘New Generation Sahayak system’, which was designed by the NSTL-DRDO, to the Indian Navy.

Flag Officer Commanding-in-Chief of Eastern Naval Command Vice Admiral Atul Kumar Jain, DRDO Chairman G. Satheesh Reddy, NSTL Director O.R. Nandagopan, DG, Naval Systems and Materials, Sameer V Kamath, and Chief Post Master General, AP Circle, Col. M. Elisha spoke.

<https://www.thehindu.com/news/national/andhra-pradesh/india-ready-to-give-fitting-reply-to-aggressors-venkaiah/article29282419.ece>

50 glorious years and growing stronger

Making a beginning with a handful of scientists in 1969, NSTL's march of excellence inspires awe

By Sumit Bhattacharjee

Visakhapatnam: What began as a mere experiment five decades ago is today a sprawling laboratory complex that designs and develops advanced weapon systems for the country and specialises in underwater weapons for the Indian Navy.

The Naval Science and Technological Laboratory (NSTL) was set up under the watchful eyes of renowned physicist Prof. Suri Bhagavantham, who had served as Scientific Advisor to the Government of India and was the second chief of the DRDO.

Humble beginnings

The lab started functioning from the POL stores at Naval Dockyard in the city on August 20, 1969, and later shifted to a war barrack in Andhra University on September 5, 1969. It moved to its present campus built over 194 acres after 1974.

The laboratory, which began with a handful of young scientists in 1969, today has over 200 scientists under different grades and over 400 support staff.

NSTL's mandate was to design and develop underwater weapons, associated systems and technologies.

"Today, we specialise in design, development, testing and evaluation of torpedoes of different capacities, mines, underwater decoy systems, targets, simulators, sensors and launchers," said NSTL Director O.R. Nandagopan.

Jewel in the crown

"Our heavyweight torpedo, 'Varunastra', is built with state-of-the-art technology and has gone into production with the Bharat Dynamics Limited (BDL)," he said.

"NSTL is currently working on a number of areas such as advanced lightweight torpedoes, advanced submarine decoy systems, and high-endurance advanced autonomous underwater vehicles," he added.

The ship-launched variant of 'Varunastra' was formally inducted into the Indian Navy by the former Defence Minister, Manohar Parrikar, on June 26, 2016.

Appreciating the design of 'Varunastra', Flag Officer Commanding-in-Chief of Eastern Naval Command Vice-Admiral Atul Kumar Jain said torpedoes had been inducted into the Navy after undergoing extensive, rigorous trials. DRDO Chairman G. Satheesh Reddy said India was the ninth country in the world to build a heavyweight torpedo with more indigenous input.

High-end labs

Over the last five decades, NSTL has built an infrastructure that can be rated on a par with the state-of-the-art laboratories in the world. The facilities include high-speed towing tank, assembly and integration of torpedoes, shock tank, acoustic facility, lake test facility for testing weapons, and cavitation tunnel.

<https://www.thehindu.com/news/cities/Visakhapatnam/50-glorious-years-and-growing-stronger/article29282893.ece>

Thu, 29 Aug 2019

Vice President hands over Sahayak to Indian Navy

Addressing a gathering, Naidu said technology and innovation play vital role in achieving make in India programme and to make the country self-reliant in all sectors

Visakhapatnam: Vice-President of India M Venkaiah Naidu formally handed over new generation 'Sahayak', a vital supply system, to the Indian Navy during Naval Science and Technological Laboratory (NSTL) Golden Jubilee celebrations here on Wednesday. Sahayak was jointly developed by NSTL and Defense Research and Development Organisation (DRDO).

Addressing a gathering, Naidu said technology and innovation play a vital role in achieving make in India programme and to make the country self-reliant in all sectors. He went down the memory lane recalling his old days which he spent in Andhra University and about one-and-a-half years in Visakhapatnam Central Jail during Emergency and launching of his political career as an electioneering member of first mayor elections of Visakhapatnam. He said that he has retired from politics, but not tired of public service.

He described India as a peace-loving country. He said that India is developing weapons not for war, but for security purpose only. He thanked all scientists for making India secure and peaceful, prerequisites for progress. He explained in detail the government programmes, Make in India, Clean India, Digital India, Skill India, are enriching India in all aspects.

He congratulated the entire NSTL fraternity for crossing the milestone of 50-years in the service to the nation. He congratulated Team NSTL for the efforts it put in inducting Varunastra torpedo in the Indian Navy. He advised it to check back for the shortcomings and take up new challenges with more commitment.

To achieve Make in India R and D, academia and industry should work together to produce quality products and also services. DRDO should focus on futuristic technologies to become a world leader, he said. He said private sector should also invest in specific areas to produce systems and sub systems. He laid the foundation stone for sports and swimming pool complex and married officers' accommodation.

He released a book 'Photo essay-NSTL's Golden Journey'. Naidu also released a special postal cover brought out on NSTL golden jubilee celebrations. He felicitated NSTL employees for their professional excellence on the occasion. DRDO chairperson Satish Reddy said Bhagavantam, former NSTL Director was instrumental in the progress of NSTL. He said NSTL should take up new challenges with clear roadmap for delivery of systems.

Eastern Naval Command Flag Officer Commanding-in-Chief Vice Admiral Atul Kumar Jain said NSTL and DRDO played vital role in achieving self reliance in armed forces. Vice Admiral Jain said Varunastra, a heavy weight torpedo, had gone through vigorous tests and passed all user trials. Varunastra will become mainstay of the navy, he said.

NSTL director OR Nandagopan welcomed the gathering. DS & DG (NS&M) Samir V Kamat proposed a vote of thanks. Tourism Minister Muttamsetti Srinivasa Rao, AP chief post master general Colonel M Eleesha, NSTL former directors V Bhujanga Rao, SV Rangarajan, CD Malleswar, other naval officials and NSTL employees were present. Earlier, Naidu was accorded a warm welcome on his arrival for a two-day visit to the city at the airport. Srinivasa Rao, District Collector V Vinay Chand, Commissioner of Police RK Meena.

<http://www.newindianexpress.com/states/andhra-pradesh/2019/aug/29/vice-president-hands-over-sahayak-to-indian-navy-2025844.html>

Thu, 29 Aug 2019

NSTL facilities would help achieving self-reliance in marine platform design: VP

Urging all Indians to speak in one voice on matters of security and national integrity, Shri Naidu said that India was a peace-loving country but would give a befitting reply if anybody tried to attack India

Visakhapatnam: The Vice President of India, Shri M Venkaiah Naidu has said that the only matter to be discussed with Pakistan is the handing over the Pakistan-occupied Kashmir (PoK) to India and asserted that Jammu and Kashmir is an integral part of India.

Speaking at the Golden Jubilee Celebrations of Naval Science and Technological Laboratory at Visakhapatnam, Andhra Pradesh today, the Vice President said that the government had only made administrative changes with regard to the state of Jammu and Kashmir. "We will not tolerate anybody's interference in our internal affairs," he added.

Urging all Indians to speak in one voice on matters of security and national integrity, Shri Naidu said that India was a peace-loving country but would give a befitting reply if anybody tried to attack India. Shri Naidu accused a neighboring country of aiding, abetting and funding terrorism from across the border.

Shri Naidu lauded NSTL for carrying out Research & Development in core areas related to torpedoes, underwater mines, decoys, and stealth and for their research on emerging and futuristic technologies. He said that world-class facilities set up by NSTL laboratory for hydrodynamic evaluation of marine platforms would help the nation in achieving self-reliance in marine platform design.

Calling for efforts to make India a strong and self-reliant nation, especially in terms of defense technologies the Vice President said that a special focus was needed to develop advanced systems for our armed forces through indigenous technologies. He opined that a nation's strength lies in the strength of its academic, economic, scientific and technological prowess.

The Vice President complimented the outstanding achievements of scientists, especially missile and space technologies and said that it reflects India's inherent S&T strengths.

'The success of Geo-Synchronous Launch Vehicles, Agni Series of Missiles, nuclear submarine INS Arihant, fighter aircraft and the Chandrayaan and Mangalyaan missions have propelled us into an elite club of nations possessing 'niche' technologies,' he added.

The Vice President urged DRDO, R&D institutes, academia, and industry to work hand-in-hand and provide quality products and services. He also wanted them to make good use of programs such as 'Make in India', to design, develop and produce state-of-the-art systems within India. He also asked the private sector to step up investments in R&D in specified areas and produce the sub-systems and systems

The Vice President also went around the exhibition displaying the work carried out by NSTL in the design and development of various weapons and associated systems. He appreciated the contributions of NSTL and DRDO in meeting the requirements of the Indian Navy. He complimented NSTL for the success story of VARUNASTRA, a heavyweight torpedo.

On the occasion, the Vice President launched a postal cover on NSTL and laid the foundation stone for construction of Sports, Swimming Pool and residential accommodation for married officers. He

also inaugurated a technical exhibition displaying the products of DRDO and NSTL developed in collaboration with the Public and Private Sector companies.

The Minister for Tourism, Culture and Youth Advancement, Andhra Pradesh, Shri Muttamsetti Srinivasa Rao, Dr G. Satheesh Reddy, Secretary Department of Defence R& D and Chairman DRDO, Vice Admiral A K. Jain, AVSM, VSM, Dr. Samir Venkatapati Kamat, Director General, Naval Systems and Minerals DRDO and others were present at the event attended by Sr Scientists, Scientists and researchers of NSTL and DRDO. (With Inputs from PIB)

<https://www.devdiscourse.com/article/technology/649186-nstl-facilities-would-help-achieving-self-reliance-in-marine-platform-design-vp>



Thu, 29 Aug 2019

Rajnath to visit Ladakh on Thursday

New Delhi, Aug 28 Defence Minister Rajnath Singh will visit Ladakh on Thursday where he will inaugurate a Vigyan Mela, showcasing crops and grains suitable for growing in high altitude areas.

Singh's visit to Ladakh will be his first to the union territory (UT) after it was carved out from the state of Jammu and Kashmir earlier this month. His visit will also be the first by any senior Central government minister since the formation of the UT.

The science fair is being organised at the Defence Institute of High Altitude Research.

A senior Defence Ministry official said the event is being organised to share research-generated farming technology with locals of Ladakh to make their life easier.

The fair will showcase agricultural products developed by the Defence Research Development Organization (DRDO). These include grains, cereals, fruits and seeds that have been developed through research to withstand adverse weather conditions in high altitude.

"After the fair, there will be transfer of technology from the DRDO to civilians which is of use to them. The entire exercise is aimed at making the life of local citizens of Ladakh easier," said the official.

Sources said the Minister is also scheduled to hold discussions with top military brass in Ladakh about the threat perception to the region from Pakistan following the withdrawal of special category status to Jammu and Kashmir.

(Disclaimer :- This story has not been edited by Outlook staff and is auto-generated from news agency feeds.)

<https://www.outlookindia.com/newscroll/himachal-assembly-scraps-20-archaic-law/1606527?scroll>

India may go for only Naval UAVs from US

The Indian Navy has an interest in acquiring US-made surveillance drones as it needs more assets for maritime domain awareness in the region, said the people

By Manu Pubby

New Delhi: India is likely to buy only naval surveillance drones from the United States, scaling back its plans after holding talks on acquiring armed Predator drones under the foreign military sales route.

The two sides have been discussing a \$2 billion deal for unmanned combat aerial vehicles (UCAVs) but a lack of interest from the Indian Air Force and commitment to an indigenous programme by the Indian Army are likely to come in the way, people aware of the matter told ET on condition of anonymity.

The Indian Navy has an interest in acquiring US-made surveillance drones as it needs more assets for maritime domain awareness in the region, said the people.

However, this requirement is for a long endurance, unarmed drone that can work in coordination with other surveillance platforms like the Boeing P8I aircraft, they said. The navy is likely to go ahead with a limited purchase option of 10 Sea Guardian drones that are interoperable with other US assets in the region.

The activation of the Communications Compatibility and Security Agreement (COMCASA) will help the navy exploit the platforms for joint surveillance and intelligence sharing. Officials also said the air force has not been keen on an offer of 10 armed Predator or Avenger drones from the US as it finds their cost prohibitive and does not see them useful in the context of its operational role in the region.

An armed drone would have been of little help in an operation like the Balakot air strikes, said an expert, since the relatively low speed aircraft would have given the enemy enough warning to launch counter measures.

The air force is also committed to a project with Israel to upgrade and weaponise the Heron drones that are already in service.

Similarly, there has not been keen interest by the army on a proposal to acquire 10 of the armed drones as it is committed to an indigenous project by the Defence Research and Development Organisation (DRDO). The army has pledged to procure over 80 of the Rustom 2 drones that are under development and are being weaponised by the DRDO.

<https://economictimes.indiatimes.com/news/defence/india-may-go-for-only-naval-uavs-from-us/articleshow/70882886.cms>

Russia to push for final orders in \$1-billion Kamov light copters at Modi-Putin talks next month

By Sanjay Dutta

Moscow: Russia will press India for early placement of final orders for 200 Kamov KA-226 light utility helicopters under a \$1 billion joint manufacturing deal, delayed by almost a year, when President Vladimir Putin meets Prime Minister Narendra Modi for bilateral talks at the Eastern Economic Forum in Vladivostok next week.

Modi is the chief guest at Putin's annual gig of world leaders and captains of industry to promote investments in the natural resource-rich far eastern region of Russia.

"We are hopeful that this meeting between President Putin and Prime Minister Modi will bring a new development in our KA-226 project. A major push will be made definitely. All technical and commercial talks are already finished. All RFPs (request for proposals) done; twice already. But then until now the contract is not signed. Quite obviously this question will be discussed in Vladivostok," Victor N Cladov, director for international cooperation and regional policy at Rostec told TOI at the MAKS 2019 air show here.

Rostec is the state-owned holding conglomerate which mentors Russian defence and hi-tech companies, including Russian Helicopters, the manufacturers of KA-226 choppers, which US-led Western military alliance calls 'Hoodlum'. The Ka-226 helicopters are to replace the four-decades-old and accident-prone Cheetah and Chetak helicopters in service with the Indian Army and the Indian Air Force.

The two countries signed the deal in 2015 On the sidelines of BRICS summit in Goa. Under the agreement, Russian Helicopters is to supply 60 choppers in a fly-away condition and assemble the rest in India jointly with state-run aeronautical firm HAL under Modi's 'Make in India' programme to promote domestic manufacturing.

Cladov said Russian Helicopters has not been "sitting idle or sleeping" because final orders have been delayed by "almost a year". "In February Russian Helicopter signed five separate contracts with vendors which are private Indian companies who will be supplying units and parts for the KA-226. We are moving towards Make in India programme. Many components and parts will be produced domestically in India. HAL will be the main partner. Down the line, we will invite more and more Indian partners." The Indian vendors will supply assemblies such as fuselage, blades, and landing gear.

Cladov did not see problems in the payment mechanism due to US sanctions as the reason for the delay in placement of final orders and said they were awaiting Indian defence ministry clearance. "It is a non-issue (for all Russian defence deals). There were initial difficulties due to banking restrictions (because of sanctions). But then we talked on a government-to-government level on using different currency. In India's case we use the rupee."

On whether the entire deal will be paid in rupee, Cladov said "This is very technical and I am not a banker... The system is adapted to new reality."

Sources said Promsvyazbank PJSC, a central bank-controlled Russian lender tasked with financing the defence industry to shield the two biggest state-owned banks Sberbank and VTB from the threat of US sanctions, is likely to handle the payments for Indian defence deals, including for S-400 missile defence system.

On the threat of US sanctions affecting defence deals, Cladov said India is an “important and powerful” country which “stands up and talks to the US on equal terms” . “I believe India has clearly conveyed to Washington that it needs the S-400 system for its national defence. ”

India’s junior minister for external affairs V Muraleedharan had on July 15 told Parliament that the country’s need for the S-400 had been clearly conveyed to the US during secretary of state Mike Pompeo’s visit to Delhi in June.

On Rostec offering to directly sell the fifth generation fighter SU-57, which was to be jointly developed with India till New Delhi walked out, Cladov said: “We have never ever cancelled any agreement with the Indian government. The fifth generation fighter jet project has been delayed by the Indian side, not the Russian side. The Indian Air Force has their own views and strategy on the development. If there is renewed interest, then why not. ”

<https://timesofindia.indiatimes.com/india/russia-to-push-for-final-orders-in-1-billion-kamov-light-copters-at-modi-putin-talks-next-month/articleshow/70884535.cms>

THE TIMES OF INDIA

Thu, 29 Aug 2019

India, France to hold talks on defence buys today

By Indrani Bagchi

Paris: Within a week of the Modi-Macron summit, India and France will hold a strategic dialogue to talk acquisition and development of defence equipment. NSA Ajit Doval will host his counterpart, Emmanuel Bonne in New Delhi on Thursday to take forward the decisions taken at the August 22 summit.

According to officials, on the table for the high-level discussion would be the next order for fighter aircraft, among other defence equipment.

France is keen to pick up another order of Rafale fighter jets after the first 36 are ready to be delivered. These would be on international bidding. The US also wants to hawk its F-21 aircraft, while Sweden is hoping to sell its Gripen.

Defence minister Rajnath Singh will be here in September for the hand over of the first Rafale. Indian pilots will be trained in France so it may be a while before the jet makes its way to India.

Of much greater significance and far more ambitious is a new India-France project to co-develop and co-build a next generation jet engine for use by India. The lead French defence company in the reckoning here is Safran. There is little clarity on how this will be developed in India, including agencies and companies to be involved. What is clear is that the project has been nicknamed INFRA. Modi may have been hinting at this when he said after his meeting with Macron here that India and France were building INFRA in several sectors.

If it happens, this would be momentous — there aren’t that many companies in the world that can build jet engines. If India does achieve the feat, it would go a long way in giving the country autonomy in defence purchases.

It is rumoured that the outgoing French ambassador to India, Alexander Ziegler may be joining Safran, making negotiations much less problematic. This kind of movement is fairly common among envoys who have served in India where they get snapped up by the private sector to help navigate the opaque Indian system.

Doval has been the point-person in the Modi government to lead the discussion on defence acquisitions. The government's decision to set up the chief of defence staff, officials say, will go a long way to easing friction between the services both on inter-operability as well as streamlining acquisitions. Doval met with Bonne in Osaka on the sidelines of the G-20. The decision by both

governments to hold a strategic dialogue so soon after a summit is a sign of the urgency which is invested in these decisions.

In addition, France is keen to add more Scorpene submarines to India's inventory. Government officials here suggested these could be part of India's P-75 line of submarines which have been an on-again-off-again project for years. This time however the French are keen to make them in India --- the Indian government is keen to involve both public and private sector shipyards for these.

France is also keen to sell about 18 Caracal helicopters for the Indian Coast Guard, as well as almost 100 heavy "Panther" helicopters for the Indian Navy, both to be made by French company Airbus.

<https://timesofindia.indiatimes.com/india/a-week-after-modi-macron-meet-india-france-to-hold-strategic-talks-on-defence/articleshow/70884543.cms>

**INDIA
TODAY**

Thu, 29 Aug 2019

Air Force to receive bunker buster Spice 2000 bombs used in Balakot strike in September

In a major boost for India's aerial firepower, the Indian Air Force is set to receive the 'building blaster' version of the Balakot air strike-fame Spice-2000 bombs by mid-September

By Manjeet Singh Negi

New Delhi: The Indian Air Force will receive the bunker buster version of the Spice 2000 bombs by the end of the second week of September.

Top IAF sources said that the Spice-2000 bombs are scheduled to be delivered to the Indian Air Force (IAF) from Israel around mid-September along with the Mark 84 warhead and bombs which can destroy buildings completely.

India and France had signed a deal with Israel worth around Rs 300 crore for acquiring these weapon systems.

The supply of these weapons from Israel will happen around the time when Israeli Prime Minister Benjamin Netanyahu is likely to visit India for a bilateral meeting with Prime Minister Narendra Modi. The bombs were used by the air force to bomb the Pakistani base of Jaish-e-Mohammed in Balakot in February this year. The bombs used in the strike were the penetrator version of the Israeli ammunition.

However, the Spice-2000 bombs used in the Balakot strikes were the penetrator version which made holes using their weight in the concrete rooftops of the buildings in the Jaish camp which don't destroy buildings but explode inside killing people with the mix of 70-80 kg explosives with shrapnel.

The Spice 2000 bomb has a standoff range of 60 kilometres and approaches the target as its unique scene-matching algorithm compares the electro-optical image received in real-time via the weapon seeker with mission reference data stored in the weapon computer memory and adjusts the flight path accordingly. SPICE 2000 consists of an add-on kit for warheads such as the MK-84, BLU-109, APW and RAP-2000.

<https://www.indiatoday.in/india/story/mumbai-5-strategic-routes-to-be-no-parking-zones-1592893-2019-08-29>



परमाणु युद्ध झेल पाएंगे भारत-पाकिस्तान?

जानें किसे, कितना होगा नुकसान

आर्टिकल 370 हटाए जाने से बाँखलाए पाकिस्तान ने भारत के खिलाफ परमाणु युद्ध की खुलेआम धमकी दे दी है। पीएम इमरान खान से लेकर उनके मंत्री तक हर रोज ऐटमी युद्ध का उन्माद फैला रहे हैं। भारत के पास भी सैकड़ों की संख्या में परमाणु हथियार हैं। ऐसे में सवाल उठता है कि क्या दोनों देश न्यूक्लियर युद्ध झेल पाएंगे?

नई दिल्ली : जम्मू-कश्मीर से आर्टिकल 370 हटाने के बाद से पड़ोसी पाकिस्तान तिलमिलाया हुआ है। पीएम इमरान खान से लेकर वहां के मंत्री तक परमाणु युद्ध की धमकी दे रहे हैं। भारत ने भी इन धमकियों से आजिज आकर कहा है कि वह भी ऐटमी हथियारों को पहले प्रयोग नहीं करने की नीति बदल सकता है। लेकिन क्या सच में दोनों देश परमाणु युद्ध करेंगे?

हिरोशिमा और नागासाकी से ज्यादा होगा नुकसान

हकीकत तो यह है कि यह किसी के हित में नहीं है। अगर दोनों देश एक दूसरे पर 100 किलोटन के परमाणु बम गिरा देते हैं तो इसका इतना असर होगा कि 100 किलोमीटर दूर तक खिड़कियों के शीशे चटक जाएंगे। दुनिया ने अभीतक हिरोशिमा और नागासाकी में दो परमाणु हमले देखे हैं और उनकी भयावहता आज भी लोगों को डराती है। खास बात यह है कि उस समय गिराए गए बम कम क्षमता के थे। हिरोशिमा में गिराया गया बम 15 किलोटन की क्षमता वाला था जबकि नागासाकी में गिराया गया बम 20 किलोटन की ताकत वाला था।

भारत-पाक दोनों के पास बड़ी क्षमता

आज दुनिया के पास इससे कई गुना ज्यादा क्षमता वाले परमाणु बम हैं। ऐसे में परमाणु युद्ध की कल्पना ही कंपा देती है। भारत और पाकिस्तान दोनों के पास न्यूक्लियर हथियार को ले जाने वाले मिसाइल हैं। खास बात यह है कि दोनों देश एक-दूसरे के आखिरी कोने तक हमले की क्षमता वाले मिसाइल विकसित कर चुके हैं। भारत के पास तो 5000 किलोमीटर तक मार करने वाली मिसाइल है, जो पाकिस्तान के बाहर भी हमला करने की क्षमता रखती है। पाकिस्तान के पास भी न्यूक्लियर हथियार ले जाने वाले मिसाइल हैं, जो 2,750 किलोमीटर तक लक्ष्य साध सकता है।

साल दर साल जखीरा तो घटा पर संकट कायम

बुलेटिन ऑन द एटॉमिक साइंटिस्ट द्वारा बनाए गए डेटा से पता चलता है कि 1986 के बाद से 2017 तक लगभग हर साल वैश्विक परमाणु हथियारों का जखीरा घटा ही है। पर फेडरेशन ऑफ अमेरिकन साइंटिस्ट

	Total Inventory
Russia	6,500
United States	6,185
France	300
China	290
United Kingdom	215
Israel	80
Pakistan	140-150
India	130-140
North Korea	20-30

किसके पास कितना ऐटमी हथियार

(FAS) का कहना है कि 1990 के दशक की तुलना में हाल के दिनों में परमाणु हथियारों को नष्ट करने की गति में कमी आई है। बावजूद इसके शीत युद्ध के बाद परमाणु हथियारों की संख्या में काफी कमी आई है।

दुनिया में कितने परमाणु हथियार

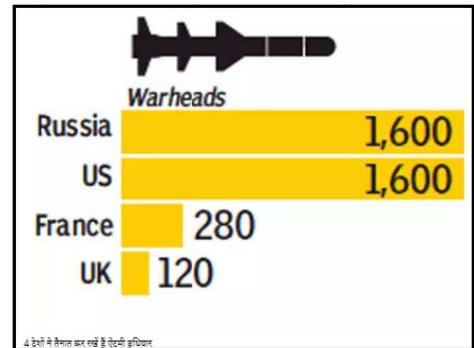
हालांकि शीत युद्ध के बाद परमाणु हथियारों के जखीरे में कमी आई है लेकिन आज भी दुनिया के कई देशों के पास हजारों की संख्या में ये हथियार हैं। रूस के पास अभी 6,500 परमाणु हथियार हैं। इसी तरह अमेरिका के पास 6,185 हथियार हैं। फ्रांस के पास 300, चीन के पास 290, ब्रिटेन के पास 215, इजरायल के पास 80, पाकिस्तान के पास 140-150, भारत के पास 130-140 और उत्तर कोरिया के पास 20-30 परमाणु हथियार का अनुमान है।

चार देशों ने मिसाइल पर तैनात कर रखे हैं ऐटमी हथियार

FAS के अनुसार, 3,600 ऐटमी हथियार मिसाइलों पर लगाए गए हैं और ये सैन्य बलों के नियंत्रण में हैं। इनमें से करीब 1,800 हथियार हाई अलर्ट मोड में हैं और शॉर्ट नोटिस पर हमले के लिए तैयार रहते हैं। रूस ने 1,600 हथियार मिसाइल पर तैनात कर रखे हैं। अमेरिका ने भी इतनी ही संख्या में हथियार को तैनात कर रखा है। फ्रांस ने 280 और ब्रिटेन ने 120 परमाणु हथियार तैनात कर रखे हैं।

जानें क्या होता Air Blast

जैसा कि नाम से ही स्पष्ट है कि एयर ब्लास्ट हवा में कराया जाता है। इस विस्फोट से जमीन पर तो कोई बड़ा गड़ढा नहीं बनता लेकिन यह बेहद ताकतवर होता है। हवा में विस्फोट के बाद यह हवा में अति उच्च क्षमता का दबाव बनाता है और थर्मल रेडिएशन को बढ़ाता है। हिरोशिमा में गिराया गया 15 किलोटन का परमाणु बम हवा में फटा था। विस्फोट की जगह पर सघन बादल बने थे। विस्फोट के बाद तेज झटके उत्पन्न होते हैं, हवा के दबाव में अचानक बदलाव आता है, बहुत तेज हवाएं चलती हैं। जितनी ऊंचाई पर विस्फोट होगा, उतना जबरदस्त हवा का दबाव बनेगा। हवा के दबाव में बदलाव के बाद बड़ी इमारतें जमींदोज हो जाएंगी। तेज हवाओं के कारण पेड़-पौधे नेस्तनाबूद हो जाएंगे और लाखों लोगों की जान जाएगी।



Thu, 29 Aug 2019

Defence technology on mind, Rajnath to visit Japan, Korea

By Ajay Banerjee

New Delhi: Aimed at getting Japanese and South Korean companies to invest in military equipment manufacturing sector, Defence Minister Rajnath Singh will be on five-day visit to these two eastern countries. It will be his first visit to these countries as the Defence Minister and both have deep strategic and economic ties with India and are open to investment.

South Korean company Hanwha Techwin has already partnered with L&T in India to produce Vajra K9 self-propelled artillery gun, inducted in the Indian Army. Rajnath will be in Japan for the first leg of his visit starting September 2 and from there he will travel to South Korea.

Within India, the thinking is that since Japan has eased its arms export policy on transfer of defence equipment and technology, investment in the sector is possible. In the past few years, India and Japan have engaged in how Japanese defence technology could come in. Cooperation in defence technology (co-development and co-production) is one of the targets of the 'India-Japan Vision 2025'. A Japanese white paper in 2015 identified cooperation with India as a goal.

An India-Japan Defence Forum was instituted in 2017 and the two sides agreed upon cooperative research in the area of Unmanned Ground Vehicle (UGV), also called Robotics. New Delhi and Tokyo have been involved in long negotiations concerning the utility Seaplane Mark 2 (US-2) amphibian aircraft, manufactured by ShinMaywa Industries.

The two countries have a Joint Working Group on Defence Equipment and Technology Cooperation to identify areas for cooperation in joint development and co-production. Japan is now a partner with the much-hyped naval exercise 'Malabar'—India and the US being the other two. In South Korea, Hyundai and Korea Aerospace Industries, among others, have shown interest in India. The KAI offered the trainee aircraft and utility helicopter to the IAF. The Koreans are also in the race for shipbuilding and port infrastructure in India.

<https://www.tribuneindia.com/news/nation/defence-technology-on-mind-rajnath-to-visit-japan-korea/824451.html>



Thu, 29 Aug 2019

Chandrayaan-2 narrows gap from Moon

Bengaluru: Chandrayaan-2 narrowed its distance from the Moon after a manoeuvre on Wednesday morning.

The Indian Space Research Organisation (ISRO) said it completed the third orbit action lasting nearly 20 minutes to bring the spacecraft closer to the Moon. It was done from the Mission Operations Complex at ISTRAC in Bengaluru.

An update on Day 38 of the launch said, "The third lunar-bound orbit manoeuvre of Chandrayaan-2 spacecraft was performed successfully today (August 28) beginning at 0904 hours IST using the onboard propulsion system. All spacecraft parameters are normal."

A total of five manoeuvres are planned to gradually make the lunar craft's oval orbit circular. It now goes around the Moon in a 179 km x 1,412 km orbit - shifting about 3,000 km closer to its target at the far end of the oval. It is due to reach the desired circular orbit after two more orbit reducing operations on August 30 and September 1.

Launched on July 22, Chandrayaan-2 has been in lunar orbits since August 20. It is due to land on the Moon's surface in the early hours of September 7, 48 days after it was launched from Sriharikota.

<https://www.thehindu.com/news/national/chandrayaan-2-lunar-orbit-reduced-further/article29276794.ece>



Women astronauts unlikely to be on inaugural Gaganyaan flight

By Prashant Rangnekar

New Delhi: The inaugural flight of India's Gaganyaan mission is unlikely to have any woman astronaut because ISRO is looking at test pilots from the armed forces and none of them have any women in that post, a senior official from the space agency said on Wednesday.

Though women appear to be ruled out for the moment, civilians, including women, will be part of future manned missions, the official added.

The Indian Space Research Organisation has begun the process of short-listing probable candidates for its first manned mission and it should be completed by next month, he said.

"The short-listing is being done in batches and the candidates will be sent to Russia for training after November after final evaluation," the official told PTI.

The first Gaganyaan flight scheduled for 2022 will carry three astronauts, who will be picked from among the test pilots in the armed forces.

"Most maiden missions undertaken by different countries in the past had test pilots. So we are sticking to that for our maiden mission. We are also looking at test pilots from the armed forces which don't have woman as test pilots," the official said.

"The civilians will be part of the project in future missions," he added.

India has signed agreements with Russia and France for cooperation on the Gaganyaan mission.

Last month, the Cabinet approved setting up a ISRO Technical Liaison Unit in Moscow for smoother cooperation, mainly for the Gaganyaan project.

India's first man in space Rakesh Sharma, who flew aboard the Soyuz T-11, launched on 2 April 1984, was an Indian Air Force pilot.

The ambitious Gaganyaan mission was announced by Prime Minister Narendra Modi during his Independence Day speech in 2018.

"We have resolved that by 2022, when India celebrates 75 years of Independence or maybe even before that, certainly some of our young boys and girls will unfurl the tricolour in space.

"I feel proud to announce that very soon as part of our 'Manned Space' mission, we shall be sending an Indian into space. This will be done through the pursuit of our scientists, and we will proudly find ourselves as the fourth such nation to have launched a successful Manned Space Mission," Modi had said from the Red Fort.

The total fund requirement for the Gaganyaan Programme is nearly ₹ 10,000 crore and includes cost of technology development, flight hardware realisation and essential infrastructure elements.

Two unmanned flights and one manned flight will be undertaken as part of Gaganyaan programme.

<https://www.livemint.com/science/news/women-astronauts-unlikely-to-be-on-inaugural-gaganyaan-flight-1567001776838.html>