

‘A long way to go for HAL’s new aircraft engine’

BY MADHUMATHI D. S.

The latest milestone in aircraft engine development that Hindustan Aeronautics Ltd unveiled, counted with its other helicopter engines project, may be two new tiny steps which, however, may be no match for the giant gap that exists for indigenous aero engines, experts in the field say. The projects that the premier military aircraft maker has embarked on will be respectively for small jets and trainer planes; and light helicopter projects. Engine development technology being extremely complex as it is, India is still a far cry from propelling the bigger fighter planes with its own engine. It could be a new quest 25 years after the DRDO’s Kaveri engine for Indian light fighters failed to rev up. HAL on December 14 trial-ran the HTFE-25 - the engine that can potentially power its basic trainer plane and perhaps business jets - in the presence of the Defence Minister. Around October this year, it initiated the design of the second one, HTSE-1200, meant for 3-tonne to 6.5-tonne helicopters. They stand for Hindustan Turbo Fan Engine and Hindustan Turbo Shaft Engine. The two projects are expected to reach fruition by around 2020-21 projects - the HTT-40 trainer; the Utility Helicopter and the future Light Combat Helicopter, the Light Helicopters), a senior official said. The ALH is now powered by the Shakti engine of HAL and its French partner Turbomeca. Calling the engine’s debut run a speedy achievement, Ashok Baweja, who was HAL’s Chairman during 2004-09 is and now CEO of QuEST Global Defence, said, “Developing an engine is almost as challenging as making an aircraft fly. This is the beginning. The real challenge will be in extensively running [HTFE-25], quickly getting it qualified and certified, may be within two years. And once certified, it has immense [market] potential.” Government officials have often said various agencies would need 4,000-6,000 helicopter engines by the end of this decade. . Considering the huge requirement, Mr. Baweja said the larger HTSE-1200 being pursued for light helicopters would also be a potent product; “We have never done this 1200-kW-class engine before.” Comparing the HTFE-25 progress to conquering a hillock before a mountain, K. Tamilmani, DRDO’s Director-General for Aeronautical R&D, said it was a desirable baby step as “we are nowhere in engines globally”. An engine for the fifth generation concept, the Advanced Medium Combat Aircraft, for example, he said, could be at least a decade away and perhaps made in a partnership. Indigenous engine technologies, Dr. Tamilmani remarked, are essential; India, in spite of its aircraft manufacturing maturity, cannot claim self-reliance in aeronautics without its own engine. Future focus should be on aiming for multiple engines and pooling of diverse capabilities. Mr. Baweja also said the old and now stalled DRDO effort, the Kaveri GTX-35VS engine, which did not make it as intended into the LCA fighter, should also be somehow completed.



History of warfare bears testimony to decisive role of technology: Pranab

BY V. GEETANATH

President Pranab Mukherjee on Saturday called upon engineers, newly inducted into the Indian Army, to harness the latest defence technologies, given the fast pace of transition with new concepts being introduced and research opening new vistas. “The change being driven by path-breaking research is both exhilarating and mesmerising,” Mr Mukherjee pointed out, presiding over the 88th convocation ceremony of the 96th degree engineering and 24th technical entry scheme courses at the Military College of Electronics and Mechanical Engineering (MCEME) in Secunderabad. The President said “the history of warfare bears testimony to the decisive role of technology on the outcome of military conflicts and in order to maintain an edge in military capability over potential opponents, constant efforts are required to upgrade technology.” The young technocrats joining the Army had a responsibility to adopt the latest developments in the field of technology by accelerating the pace of military innovation. Complimenting the graduating engineers, Mr. Mukherjee praised the MCEME for imbibing the best practices of present day engineering while undertaking applied research for development of military systems. “Knowledge, which is the ultimate power, is emerging as the currency of the world in the present century,” he said. He recalled that the Indian Army had been a torch bearer of many non-military innovations and said he was happy that the young graduates had undertaken projects involving state-of-the-art technologies, ranging from biometrics to

solar power. Earlier, he presented trophies and medals to top students of both courses. President Pranab Mukherjee with Telangana Governor E. S. L. Narasimhan at the 88th convocation of the Military College of Electronics and Mechanical Engineering in Hyderabad on Saturday. · Photo: Mohammed Yousuf.

The Hindu

Dated – 20 Dec, 2015

‘Malabar’ exercise should not upset peace: China

BY KALLOL BHATTACHERJEE

China’s Ambassador to India dismisses concerns that China might obstruct free navigation in the South China Sea. India’s trilateral naval exercise with Japan and the United States, named “Malabar”, should not destabilise China’s maritime neighbourhood, said China’s Ambassador to India Le Yucheng to *The Hindu* on Saturday. “India should ensure that initiatives like the trilateral maritime arrangement or defence ties with other countries are conducive for peaceful and stable Asia-Pacific region,” Mr Le said on the sidelines of a media event in New Delhi on Saturday. Earlier, Mr. Le pointed out in his speech delivered at the event that the maritime boundary of China in the South China Sea was legitimate and flexing military muscles by other countries was not going to help maintain peace and stability in the Asia-Pacific region. Dismissing concerns that China might obstruct free navigation in the South China Sea, taking advantage of its territorial and maritime claims, Mr. Le said China’s claims were historically accurate and, therefore, could not be disputed. In a spirited defence of Beijing’s rights over the South China Sea, the Ambassador said, “For a long time after World War II, no one challenged China’s sovereignty over these islands. But certain powers have begun questioning China’s territorial and maritime rights in the region after the discovery of energy fields in the South China Sea.” “This is our common sea. China has always supported freedom of navigation and we are for creating a code of conduct to ensure smooth navigation in that region,” he said, asking external powers not to meddle in the issue. Presenting the Indian argument, in response to Mr. Le, Ram Madhav, general secretary of the BJP, said China had to take “utmost care” in ensuring freedom of navigation and peace and stability in the South China Sea region. “We have a few unresolved issues in the Asia-Pacific region. Freedom of navigation is necessary for Japan and South Korea that import most of their energy over the oceans of the Indo-Pacific region,” Mr. Madhav said, while indicating that he supported some fresh policy changes in dealing with China’s claims in the Southeast Asian region. “India will use culture, historic ties with the Indian diaspora to convert Asia-Pacific region into an Indo-Pacific region,” he said.

The Hindu

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Entry of B-52 bombers in South China Sea a provocation: Beijing

Two U. S. B-52 bombers flew close to islands in the flashpoint South China Sea this month in a “serious military provocation”, Beijing said on Saturday, as tensions simmer in the disputed waterway. China insists it has sovereignty over virtually all of the resource-rich sea, conflicting with the various claims of several neighbouring nations, and U. S. Activity in the area has provoked Beijing’s ire several times in recent months. “In the morning of 10 December, two U.S. B-52 bombers entered air space over the Chinese Nansha islands and nearby areas without authorisation,” Beijing’s defence ministry said, using the Chinese name for the Spratly Islands.

Unintentional entry

“This behaviour is a serious military provocation which complicates the general situation in the South China Sea, [contributing] to the militarisation of the region,” the ministry said in a statement. During the mission by the two B-52 bombers, one of the aircraft unintentionally flew within two nautical miles of an artificially constructed island, the *Wall Street Journal* quoted Pentagon officials as saying Friday. This may have been because of bad weather conditions, according to officials quoted in the newspaper. Washington said on Saturday it routinely conducts training missions in the region, including the South China Sea, adding that it was investigating the reports of the bomber near the Spratly chain. The United States has previously argued for its right to freedom of navigation in the South China Sea and is critical of China building artificial islands there. It has flown other B-52 bombers and sailed a guided-missile destroyer near some of the constructions in recent months. In

October, Washington infuriated Beijing when the USS Lassen guided missile destroyer sailed within 12 nautical miles of at least one land formation claimed by China in the disputed Spratly.

The Hindu

Dated – 20 Dec, 2015

Life exploded on Earth after oxygen rise over 100 million years

*It took 100 million years for oxygen in the oceans and atmosphere to increase to the level that allowed the explosion of animal life on the Earth about 600 million years ago, according to new research. It is, therefore, likely that early animal evolution was kick-started by increased amounts of oxygen, rather than a change in animal behaviour leading to oxygenation. Evolution of climate “We wanted to find out how the evolution of life links to the evolution of our climate,” said lead researcher Philip Pogge von Strandmann from the University College London (UCL). Researchers tracked what was happening with oxygen levels globally 770-520 million years ago using new tracers in rocks across the US, Canada and China. By measuring selenium isotopes in the rocks, the team revealed that it took 100 million years for the amount of oxygen in the atmosphere to climb from less than one percent to over 10 percent of today’s current level. This was arguably the most significant oxygenation event in Earth history because it ushered in an age of animal life that continues to this day. Scientists surprised “We were surprised to see how long it took Earth to produce oxygen and our findings dispel theories that it was a quick process caused by a change in animal behaviour,” added Mr. Strandmann. Till date, it was not known how quickly the Earth’s oceans and atmosphere became oxygenated and if animal life expanded before or after oxygen levels rose. The study was published in the journal *Nature Communications*. – IANS*

The Hindu

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Has LHC discovered a mysterious new particle?

BY SHUBASHREE DESIKAN

Members of the CMS (Compact Muon Solenoid) and the ATLAS detectors working with the Large Hadron Collider in Switzerland have independently identified signals that could lead to the discovery of a new fundamental particle of nature. Both experiments have observed an excess of pairs of photons which could arise from the decay of heavy particles created during the collision. While it is not exactly clear what this particle could be, if the existence of the new particle turns out to be verified when more data come in next year, physics would have a new elementary particle about six times as massive as the Higgs boson which explains why other particles have mass. The data was collected after the LHC was fired up again in June to continue smashing particles together at record-breaking energy levels of 13 Teraelectronvolts (TeV). Both the teams presented their data on December 15 in a meeting held at CERN, Geneva. With the discovery of the Higgs boson, all the particles in the Standard Model of particle physics have been seen. So if a new particle is discovered, it would mean evidence for physics beyond the established mode of thinking about elementary particles from the mid-1970s onwards, namely the Standard Model of particle physics. CERN’s media spokesperson, Arnaud Marsollier, cautiously reiterates that it is far too early to say anything about a discovery. “ATLAS and CMS presented many results on Tuesday, and among these, there is a small intriguing signal that might be something new. But we will definitely need more data as such signal can also easily be due to statistical fluctuations...” But the caution cannot detract from the excitement that the little statistical bump has created, as the signals leading up to the discovery of the Higgs boson were also similarly tantalising. Summing up the excitement of the community, Arnaud Marsollier says, “Such a signal if confirmed would be unexpected and physicists will study this in more detail with more data to come in 2016. As the LHC restarted in 2015 at a new unexplored energy, there is a very strong interest with new data collected, but the scientific process needs time and we have learnt to be patient!” In the experiments, two proton beams of extremely high energy are made to collide with each other. The protons shatter and in the combined effect of energy and mass fragmentation, various elementary particles are created, many of which decay into states like photons or Z bosons, to name a few. By looking at the fragments that emerge from beyond the zone of these cataclysmic collisions, the scientists backtrack and estimate what particles were created in the collision. Protons and other elementary particles are essentially quantum in nature and governed by laws of statistics and probability, so the scientists have to use statistical analysis to interpret the data. In this case, both CMS and ATLAS experiments have independently observed an excess of pairs of photons which could have resulted from the breaking up of a particle that decayed into two photons. Since the energies of these photon pairs add up to 750 gigaelectronvolts (GeV) or roughly 750 billion electron volts, this could be a measure of the mass of the particle that decayed. The mass of a proton

is close to one GeV. These results would constitute a discovery if they had a statistical significance of at least 5 sigma, and in this case, CMS reports a significance of 2.6 sigma and ATLAS a significance of 3.6 sigma. The sigma value indicates the confidence level of the measurement; for instance, 5 sigma will mean that the probability of the bump being due to a chance background event would be one in 3.5 million. Also, this was the result obtained when the scientists were scanning the entire energy spectrum and not just 750 GeV. This fact causes the statistical significance to drop a little more. But there more data to come in next year, and if this signal should improve to required levels, it would actually yield evidence for a new particle. In 2016, the LHC will continue experiments that probe not only the two-photon decay channel, but also others which will strengthen these searches. Immaterial of whether the existence of this new particle turns out to be proved or not, 2016 is for sure going to be an exciting year for particle physics. As of now, apart from interesting possibility at 750 GeV, the scientists have seen no signs of physics beyond the Standard Model, such as supersymmetry.

The Hindu

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Big boost for India-U. K. tieups

BY KATHAKALI NANDI

A number of initiatives have been planned in 2016 to encourage organisations and institutions in India and U. K. to collaborate and create a new framework as partners in education, research and innovation, in the global context. As part of the initiatives, a total of 291 GREAT scholarships (59 undergraduate and 232 postgraduate) will be awarded throughout 2016-17. The sought-after Chevening Scholarships totalled a budget of £2.6 million for 2015-16. A digital literacy programme will be set up for adolescent girls outside formal education system and from marginalised communities. It will be delivered via self-access learning and managed by trained 'peer leaders'. In the pilot year, the project will reach up to 50 centres for girls from marginalised and disadvantaged communities and will reach 1,00,000 young girls across nine states in India. A new workforce development programme will be delivered along with community colleges/polytechnics and U. K. providers, for 25,000 students in 20 institutions in 2016, using a blending learning model, to maximise the use of technology in teaching to increase scale and quality. Under this, there will be a master training programme for existing and new faculty. Another introductory course for students in remote locations will prepare them for employment and further learning opportunities. Besides benefiting students, the campaign will come to the aid of faculty and a professional network of 10,000 new-generation faculty will be created. They will be trained to improve practice and promote research in digital learning and teaching. Other jointly funded bilateral programmes on offer are the Newton-Bhabha Fund (science and innovation collaboration for five years with an allocation of £50 million), GIAN (Global Initiative Academic Network under which UK plans to send 100 academics to teach in India over the next two years) and.

The Hindu

Dated – 21 Dec, 2015

Misfiring quest for a reliable rifle for soldiers

BY DINAKAR PERI

In grand conference halls, discussions may be all about manufacturing complex military systems such as fighter planes and submarines in India, but for the soldier on the ground, the question continues to be very basic: when will he get a reliable sophisticated personal weapon? A combination of procurement delays and inability of the ordnance factories to deliver the desired quality in time continues to thwart the attempts of the world's second largest Army to equip its infantry with new guns, forcing it to continue using the INSAS (Indian Small Arms System) rifle as the primary weapon. In one of the few gun deals, the Army signed a \$5.75-million contract with Brugger and Thomet (B&T) of Switzerland a few years ago for 1,568 advanced sub-machine guns for the "Ghatak" platoons — the commando units — of the infantry battalions. They come with built-in silencers and are a very good weapon for personal defence and even close-quarter combat. "A small batch of MP-9 SMGs [sub-machine gun] has been inducted into our Ghatak platoons after trials and evaluations," a senior Army officer told *The Hindu*. While the Army is pleased with the performance of the guns, trouble has cropped up with the ammunition. The guns use the standard 9mm bullets and since the ammunition is expensive, an initial lot was procured from Switzerland and the plan was to use the locally built ammunition. However, the ammunition of the Ordnance

Factory Board (OFB) is of low quality and has been giving trouble, officials said. "The quality of the ammunition made by the OFB in terms of metallurgy is very poor and this is affecting the performance of the gun," an official said. In fact, there are plans to induct the MP-9s in much larger numbers. The elite National Security Guard (NSG) was also given a presentation on the guns recently. However, the larger procurement programmes for assault and close carbine rifles of the Army have made no headway and the home-built INSAS rifles continue to be the standard issue weapon for the soldiers.

Tender scrapped -In June, the Army scrapped the tender for assault rifles with interchangeable barrels issued in December 2011 as none of the companies could meet the stipulated specifications. The problem was essentially over ambitious service quality requirements which none of the products could meet. Similarly, the tender for close quarter carbines issued in 2010 is also likely to be scrapped. All trials have been completed, but no decision has been announced for unknown reasons. Miffed with the delays, the Army has decided to go ahead with the Excalibur rifle, a derivative of INSAS being developed by the DRDO, as the new assault rifle fires 5.56 mm bullets. It is expected to be put to trials in the coming months after which it will be inducted into the Army. Army Chief General Dalbir Singh has taken personal interest in it and is monitoring the progress. One DRDO official expressed confidence that all timelines would be adhered to and the gun would be handed to the Army in 2017. INSAS was taken up as an ambitious indigenous programme to build a domestic assault rifle in the 1980s to replace the self-loading rifles (SLR) then in service. However, the project dragged on and got clearance only in 1999, and the Army fully inducted it by 2004. It has a long record of troubles. For instance, Naik Narkar, who did not wish to be identified with his full name, recalled an incident during a counter-insurgency operation in Kashmir when the magazine burst and he had to load one cartridge at a time and fire. A series of modifications have since been done to rectify the defects, but the Army still lacks a modern assault rifle. Some officials stress that INSAS is a decent rifle and has to be improved upon. Lt. Gen. H. S. Panag, former Northern Army Commander, said: "It is a pretty decent weapon. Product design can be improved upon." He said importing an assault rifle would be ridiculous, and stressed that one had to be developed in India. "In my view, INSAS will be in service for another 15 years. It should be a family of weapons with variants — an assault rifle, light machine gun and a carbine." Lt. Gen. Panag said the general firing standards are not great and had to be improved upon. "A lot depends upon who is handling the machine. The general firing standards of the Indian Army are average."

The Indian Express

Dated – 19 Dec, 2015-12-21

Govt blames Russia for delay in aircraft carrier project

by Pranav Kulkarni

Procedural and administrative delays from the Russian side escalated the cost of Indian Aircraft Carrier (IAC) from Rs 3,261 crore to Rs 19,341 crore. In a rare admission, the government, in its reply to a parliamentary panel, has said that the main reasons in time overruns in the IAC — which is currently under construction at Cochin Shipyards Limited (CSL) — were due to non-availability of Russian steel, delay in receipt of critical pre-launch equipment such as gear box and 3MW diesel generators. The admission is significant, given that the timely completion of IAC is crucial to the operational capability of the Indian Navy, which will be left with just one operational aircraft carrier INS Vikramaditya by mid-2016 after its second carrier INS Viraat retires. "There had been delays also in getting specialised Russian Aircraft Carrier equipment, due to administrative and procedural delays of Russian side in obtaining internal clearances from their government." The delivery schedule of IAC has been revised from December 10 to December 18. "The original cost of Rs 3,261 crore was revised to Rs 19,341 crore," the government said in its reply to the standing committee. "Over time, and with the experience of Vikramaditya, the form & fit of the vessel has been finalised and many emerging technological advances/ new generation equipment has been incorporated in the IAC. Increased equipment costs, including weapons and sensors, and AFC due to finalisation from generic to specific equipment has further added to the cost overrun," it said when the standing committee, headed by Gen B C Khanduri, expressed concerns over the delays in various naval projects including IAC. "The committee feel that there have been long delays and cost overruns in almost all the acquisition activities. Similarly, in case of aircraft carrier Vikramaditya, there had

been huge cost escalation due to repeated time extensions. These time and cost overruns in almost all the projects is a major cause of concern, the committee noted. The Navy envisages three operational carriers – one each on the two sea boards and one in the dock. The delays in IAC will seriously affect the Navy's punch in the Indian Ocean Region, an area it aims to dominate.

The Indian Express

Dated – 19 Dec, 2015-12-21

CAG pulls up Defence Ministry for 'aging' choppers

Months after a group of wives of Army Aviation pilots approached Defence Minister Manohar Parrikar, complaining about the sorry condition of choppers flown by their husbands, the Comptroller and Auditor General (CAG) has pulled the Defence Ministry for the old assets. The CAG, in its report tabled in Parliament on Friday, said 52 per cent of Army Aviation helicopters are more than 30 years old and only 40 per cent available for operations. "The helicopters held are old and aging, with 52 per cent of the fleet more than 30 years old. The effective availability of helicopters for operations gets further reduced to 40 per cent of the authorisation due to low level of serviceability of the existing fleet," the report said. According to CAG, of the 181 Cheetah and Chetak helicopters flown by the Army Aviation pilots, 51 are 40 years old or older and 78 between 30 and 40 years old. CAG said against the desired 80 per cent serviceability, the Chetak and Cheetah choppers have been operating at a mere 65 per cent serviceability. "Despite these shortcomings, Army Aviation could not replace its fleet of Cheetah/Chetak helicopters being used for reconnaissance and observation. We observed that against 18 schemes approved in 11th and 12th Service Capital Acquisition Plan, contracts in respect of only four schemes could be concluded in nine years period, so far," it said.

The Indian Express

Dated – 19 Dec, 2015-12-21

RK Mathur set to be new CIC

Former defence secretary Radha Krishna Mathur has been cleared for the post of Chief Information Commissioner (CIC). He will be serving for nearly three years, making him the second-longest serving CIC. Mathur's selection as the eighth CIC – cleared by the high-level selection panel headed by Prime Minister [Narendra Modi](#) Tuesday and approved by President Pranab Mukherjee Thursday – is a departure from the convention of appointing the most senior Information Commissioner (IC) as the CIC. The new CIC's appointment will also kill any chance whatsoever of most senior IC Basant Seth, who will be completing his tenure by February 15, 2017, much before Mathur's on November 24, 2018. From the time of the first CIC, Wajahat Habibulla, and his successors A N Tewari, Satyanand Mishra, Deepak Sandhu, Sushma Singh, Rajiv Mathur till outgoing CIC Vijai Sharma, whose tenure ended on December 1, the convention has been to appoint the senior-most IC as the CIC. Mathur is not only junior to many, but also a fresh face on the panel. Defending the selection, Habibulla said, "Seniority had become a convention. It was not a rule. The government has every right to select anybody as CIC considering his eligibility." "And since the new CIC is not from the present crop of information commissioners, no new IC has been appointed because the Delhi High Court has directed the government to fill vacancies of the three commissioners from among the old applicants who applied last year and a plea against which is pending in the Supreme Court. The plea will be heard on January 4. While contacted by [The Indian Express](#) about his priorities following his appointment, Mathur said, "I have not received the order yet, so I would not speak for now." "Sources in the DoPT said one of the reasons for selecting the new CIC from "outside" was that the government needed somebody who is there for a sufficient time, so as to avoid frequent selection processes. The CIC is appointed for five years or up to the age of 65, whichever is earlier, and has a rank equivalent to Chief Justice of India and Chief Election Commissioner. unhappy. One of the commissioners, who did not want to be named, said, "The reason of motivation for the commissioners has gone now. Why should we work hard if we have no chance of being elevated to the top post?" "The selection panel includes Finance Minister [Arun Jaitley](#) and Leader of [Congress](#) in [Lok Sabha](#) Mallikarjun Kharge.

The Indian Express

Dated – 19 Dec, 2015-12-21

India building secret city to produce nuclear weapons

India is building a "secret nuclear city" in Karnataka to produce thermonuclear weapons. When completed in 2017, it would be the subcontinent's "largest military-run" complex of nuclear centrifuges, US-based Foreign Policy magazine has said in a report. Commenting on the report, Ministry of External Affairs sources said on Friday, "It appears to be a clearly motivated piece which seeks to paint a picture of India's nuclear programme,

which does not tally with facts at all. In an investigative report by Adrian Levy, author of widely-acclaimed book on Pakistan's nuclear programme 'Deception: Pakistan, the United States, and the Secret Trade in Nuclear Weapons', it said the nuclear city is located in Challakere, nearly 260 km from Mysore. The nuclear city could upgrade the country as a nuclear power and unsettle its neighbours Pakistan and China, the report said. India's close neighbours, China and Pakistan, would see this move as a provocation: Experts say they might respond by ratcheting up their own nuclear firepower, it says. This report was originally published by the Center for Public Integrity, a non-profit, non-partisan investigative news organisation in Washington DC. It said New Delhi has never published a detailed account of its nuclear arsenal, which it first developed in 1974 and there has been little public notice outside India about the construction at Challakere and its strategic implications. The government has said little about it and made no public promises about how the highly enriched uranium to be produced there will be used. As a military facility, it is not open to international inspection, it said. But another, more controversial ambition, according to retired Indian government officials and independent experts in London and Washington, is to give India an extra stockpile of enriched uranium fuel that could be used in new hydrogen bombs, also known as thermonuclear weapons, substantially increasing the explosive force of those in its existing nuclear arsenal.

The Sunday Express

Dated – 20 Dec, 2015

CAG: BMP vehicle shortfall affecting Army preparedness

By Man Aman Singh Chhina

The operational capability of the Indian Army's mechanised forces could be severely hampered given the state of its BMP infantry fighting vehicles. The latest Comptroller and Auditor General (CAG) report suggests that only 53 per cent of the sanctioned vehicles were available with the Army. The CAG report states that the Ministry of Defence accepts the acute shortage of these vehicles would adversely impact the 12th Army plan and the proposal to raise five more mechanised infantry battalions. The shortfall in production and overhaul of BMP vehicles affected the operational preparedness as only 53 per cent of authorised vehicles were available with Army, the report says. The BMP is a Russian origin vehicle which is the mainstay of the Army's mechanised infantry battalions. These vehicles can carry seven to eight soldiers and are manufactured by the the ordnance factory in Medak. The mechanised infantry battalions is an integral part of the armoured brigades and are expected to be play a crucial role in any strike formation of the Army, which has to carry the battle into enemy territory.

The Tribune

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Gene editing technique 'breakthrough of the year'

A revolutionary technique for editing the DNA of the human genome with extreme precision, which has already been used to alter the genes of "spare" human IVF embryos in a controversial experiment conducted in China, has been named as the scientific breakthrough of the year. The gene-editing technology called Crispr-Cas9 was voted by the editors of the American journal Science as the most important research breakthrough of 2015. Its selection was unprecedented given that it is the first time that a top scientific breakthrough had also been a runner-up twice before. "But this is the year it broke away from the pack, revealing its true power in a series of spectacular achievements," said John Travis, managing news editor of Science. The British journal Nature also cited Crispr-Cas9 in its "ten people who mattered" in 2015. The journal said that Jun Jiu Huang of Sun Yat-sen University in Guangzhou deserves recognition for his bold, but highly controversial attempts at editing the DNA of human IVF embryos with Crispr-Cas9. Dr Huang deliberately chose "spare" IVF embryos that were unable to develop in the womb for an experiment to disable the gene responsible for the blood disorder beta-thalassaemia. He told Nature earlier this year that he did it to warn people off using Crispr-Cas9 on viable IVF embryos until it was proven to be safe. "We wanted to show our data to the world so people know what really happened with this model. We wanted to avoid ethical debate," he said. However, when the details of the research emerged it created deep concern around the world. It triggered an international summit in Washington in December to discuss the ethics of engineering the human "germline" – sperm, eggs and embryos – using Crispr-Cas9. Travis said that the technique for precision editing of the DNA of any living organism has matured into a "molecular marvel" over the past three years when it was developed into a highly effective tool by researchers, including Jennifer Doudna of the University of California, Berkeley and Emmanuelle Charpentier, now at the Max Planck Institute for Infection Biology in Berlin. "At one point during the human gene-editing summit, Charpentier described its capabilities as 'mind blowing'. It's the simple truth. For better or worse, we

all now live in Crispr's world," Travis said. In addition to attempt at editing unviable IVF embryos, scientists also used Crispr-Cas9 to develop so-called "gene drive" technology, where the frequency of genetically modified traits can be amplified within a breeding population of insects so that up to 99 per cent of the subsequent offspring quickly inherit the GM trait. In 2015, scientists demonstrated a Crispr-Cas9 gene drive in lab-grown fruit flies, showing that 97 per cent of them can end up inheriting a GM gene for body colouration. Other researchers followed this up with laboratory studies demonstrating how gene drives can disseminate malaria resistance genes, or infertility genes in breeding populations of mosquitoes – with the aim of controlling the spread of mosquito-borne infections. "Debates are now erupting over the benefits and ecological risks of releasing such insects into the wild – and whether gene drives could also thwart invasive species such as Asian carp and cane toads, combat other animal-borne pathogens such as the one causing Lyme disease," Travis said. "In short, it's only slightly hyperbolic to say that if scientists can dream of a genetic manipulation, Crispr can now make it happen," he said.

The Independent

The Tribune

Dated – 20 Dec, 2015

Mechanised forces bogged down by deficient fleet

By Vijay Mohan

While the Army pitches for increased strike capabilities and continues to validate its transformational concepts for a high intensity war and surgical strikes, its mechanised forces – the key offensive element – is bogged down by serious deficiencies. This has not only adversely affected operational preparedness but would also have an adverse impact in the 12th Army plan as five more Mechanised Infantry Battalions were planned to be raised. The Army's fleet of BMP combat vehicles – the mainstay of its mechanised forces – is short by a staggering 47 per cent. The main reason for shortfall is the delay in supply of 389 BMPs by the Ordnance Factory Board, (OFB), which has also entailed an extra liability of at least Rs 270. 97 crore due to cost escalation. Against the authorisation of 2,827 BMP vehicles by the Mechanised Infantry and 323 BMPs by the Corps of Engineers, the current holding of these vehicles is 2,521 numbers and 170, respectively, the Comptroller and Auditor General (CAG) has revealed in its latest report. The Army began inducting various versions of the Soviet origin BMP, including combat vehicles, command posts, engineer support and recce vehicles from 1986 onwards. These are tracked armoured vehicles equipped with their own cannons and anti-tank missiles along with the capability to carrying soldiers into battle. Their role is to complement tanks and support infantry during assaults. At presently they are manufactured solely by the Ordnance Factory, Medak (OFM). CAG observed against indents for 389 BMPs placed on OFM in 2009, with delivery to be completed by 2011-12 for the Infantry and by 2013-14 for the Engineers, Only 179 BMPs were delivered till January 2015. Further, against the production capacity of 600 BMPs at the rate of 100 per year, OFB could produce only 265 BMPs during the last six years resulting in shortfall of 55 per cent of its assessed capacity.

The Tribune

Dated – 20 Dec, 2015

Cold desert getting warmer, remedial measures stressed

By Arteev Sharma

A gradual rise in temperature and receding glaciers during summer have turned out to be a challenge for people of the cold desert in Ladakh. Experts and local residents believe that some "drastic and immediate remedial measures" are required to deal with the changing climate in the region. What is more worrying is that "glacier lake bursts" (melting of glaciers and formation of lakes), which is triggering floods in Ladakh, has become a regular phenomenon. Man-induced anthropogenic interference and global warming are attributed as the main reasons for it. "In recent years, we have experienced this kind of climate change (high rain in summer and less snowfall in winter), which can be a part of global warming. Its intensity has increased and it is happening almost every year now. It is a matter of concern for people of Ladakh," said Jigmet Takpa, Chief Conservator of Forests, Ladakh. He recently took part in the United Nations Conference on Climate Change at Paris in France. Takpa said the temperature was gradually soaring in Ladakh, which had enhanced the frequency of creation of artificial lakes due to melting of glaciers, causing danger to life and property in the region. "Earlier, there used to be floods once in a decade in Ladakh. Now, it has become a permanent phenomenon. Incidents of heavy rain in July and August have gone up and there has been uncertainty and unpredictability among people about climate change. It is happening because of human-induced anthropogenic interference," he said. Takpa, however, said water had become a big challenge for

people as they feared a drought-like situation in the near future because glaciers had been melting and shrinking in the region. "People along streams fear that they may face a water crisis in the near future due to melting and shrinking of glaciers," he said. Sonam Lotus, Regional Director, Meteorological Department, who belongs to Ladakh, said there had been an "agricultural shift" due to change in climate pattern in the region. "There has been a gradual rise in temperature, but this rise is not significant for the time being. In the global pattern, there is melting of glaciers, but it will be wrong to say that temperature in winter is relatively high these days. The lowest-ever temperature in Ladakh was minus 28°C, which was recorded many decades ago. These were extreme weather conditions which happen once in many years," he said. Leh district had suffered colossal damage to government and private infrastructure and its impact this time was quite higher than what the district had witnessed in 2010 flash floods in the district that left close to 200 deaths and rendered thousands homeless. A total of 45 villages of Leh were affected in the floods. As many as 105 houses were fully damaged, 158 houses partially damaged and 227 houses partially and fully damaged. In addition, at least 3,829 kanals, 1,574 quintals of standing crops and 18,690 trees got damaged in incessant rain and multiple cloudbursts in the district recently. The Ladakh Autonomous Hill Development Council, Leh, said it would submit a detailed proposal to the state government, demanding a comprehensive package of Rs 350 crore for rebuilding the infrastructure which got damaged in floods in August this year. Nawang Rigzin Jora, MLA, Leh, expressed concern over the "fast changing climate" in the region and said some "drastic and immediate remedial" measures were required to be taken to deal with the challenge. "Ladakh is getting warmer. We have seen that there is less snowfall in winter while the intensity of rain has gone up in summer. Our glaciers are melting and it has caused a problem in Ladakh," Jora said.

The Tribune

Dated – 20 Dec, 2015

Defence deals on agenda as Modi heads to Russia on December 23

By Simran Sodhi

Prime Minister Narendra Modi will pay his first state visit to Russia on December 23-24. Though the dates are yet to be officially announced, sources say Modi will head to Russia next week. The visit is likely to see major agreements in the defence sector and further Russian commitment to invest in India. Russian Vice-Premier Dmitry Rogozin paid a one-day visit to New Delhi on December 8 to lay the groundwork for Modi's visit. Russia has been reeling under sanctions imposed by western nations in the wake of the Ukrainian crisis. The recent shooting down of a Russian plane by Turkey has further strained ties in the region with Russia now looking to expand economic ties with other nations. In an interview to Tass, Rogozin said that Russia was looking to India to fill the vacuum. He further said that India-Russia relations now needed to move beyond the military arena. "Previously, it could seem that we were focused on military-technological cooperation. It is no longer so. We need India as a major trade and economic partner in the first place in conditions when we can no longer maintain economic interaction with partners like Turkey because they have, indeed, been treacherous and cunning and have committed something, which is going to throw our relations far back," Rogozin said. Sources said that talks were on with Russia to lease another nuclear submarine to India in December during Modi's visit. Defence Minister Manohar Parrikar, who visited Russia a little more than a month back, held discussions on the subject with Russia. In 2012, India had leased a 12,000-tonne Akula-class nuclear-powered attack submarine, the INS Chakra, for a 10-year period for \$900 million. Even at that time, then Defence Minister AK Antony had confirmed that negotiations were under way for a second nuclear submarine. The final announcement on the leasing of a second submarine might be made during the PM's visit. The last summit meeting between Modi and Russian President Vladimir Putin was held here in January. The two leaders had then discussed the possibility of Russian helicopters being awarded a contract for building 197 Kamov-226T reconnaissance and observation helicopters in India. To sweeten the deal for India, Russia has suggested that this will be built under the "Make in India" initiative. The Indian partner is yet to be decided and could either be Hindustan Aeronautics Ltd (HAL) or Reliance Defence.

The Tribune

Dated – 20 Dec, 2015

Army to open ranges for pvt weapon developers

Vijay Mohan

With the government pitching for “Make in India” in the defence sector and several industrial entities envisioning interest to produce weapons, the Army has drawn a policy to open several of its field firing ranges for trials and evaluation of weapons developed indigenously by the private sector. A draft policy note prepared by the Army states there is a requirement to develop a robust indigenous defence industry for rapid modernisation of the armed forces and it is imperative to extend facilities at its disposal to the industry for strengthening the indigenisation process. Field firing ranges that are available with the Army will be provided to the defence private sector for trials and testing of weapon systems and ammunition and procedures and guidelines for the same are being finalised. Indigenous weapon systems were primarily designed and developed by state-owned Defence Research and Development Organisation and Ordnance Factory Board. It is only recently that the private industry has forayed into the defence sector and two 155-mm howitzers were designed by different groups. There are also local contenders for the Army’s 155-mm gun deal and further down the line could be developments of light artillery guns, rockets and ammunition for small and medium calibre arms as well as tanks and armoured vehicles. While there are a number of ranges across the country, only a few are owned by the Army and the rest have to be notified from time to time by the respective states for use by the Army for specified period. Notification of several ranges has also been an issue with the states and many a time they are hesitant to notify them for training due to local socio-economic pressures.

The Hindu

Dated – 19 Dec, 2015

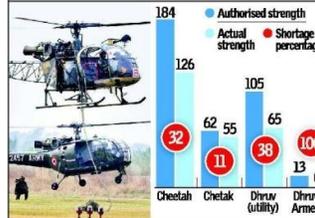
CAG warns of Army’s ageing chopper fleet

BY DINAKAR PERI

Repeated failure of the government to modernise the Army’s helicopter fleet has resulted in the Army Aviation Corps facing a 32 per cent deficiency in its authorised fleet strength, while about 52 per cent of the existing fleet is more than 30 years old, the Comptroller and Auditor-General (CAG) has said. “The effective availability of helicopters for operations gets further reduced to 40 per cent of the authorisation due to low level of serviceability of the existing fleet,” the CAG said in its audit report on “Army, ordnance factories and Defence public sector undertakings” tabled in Parliament on Friday. The corps currently operates 126 Cheetah, 55 Chetak and 65 indigenously built advanced light helicopter Dhruv for multi-purpose. Cheetah and Chetaks are ageing replacement, the low production Hindustan Aeronautics Ltd. (HAL) large numbers. It is yet to induct years after the unit has been raised. could not replace its helicopters since the 10th Plan period (2002-related to acquisition of equipment corps, approved in 11th and 12th in respect of only four could be since. “Failure in meeting the acquisition plans and tardiness in procurement action were the main reasons denying the corps to acquire a suitable replacement for the old and ageing fleet,” the CAG report said. After repeated cancellation of tenders, India has recently selected Russian Kamov-228T utility helicopter, which will be built in India under technology transfer. The deal for this is expected to be signed during Prime Minister Narendra Modi’s visit to Russia next week.

A CHOPPED FLEET

CAG report lists pitfalls of an ageing and severely short-staffed Army Aviation Corps



While the platforms, in need of rate of Dhruv’s, eight a year, by is limiting their induction in the armed Dhruv variants two The report notes that the corps which are due for de-induction 07). Against the 18 schemes, including helicopters for the service capital period, contracts concluded in the nine years targets and objectives of the

Deccan Herald

Dated – 21 Dec, 2015

Flying high with a career in aeronautics

Aeronautical technology offers excellent career prospects for its graduates · from R&D and careers in academia to careers as pilots and even investment banking. All thanks to the transferable nature of the skills developed over the course of a degree in aeronautical engineering! Aeronautical technology courses taught at universities in the UK have a long record of enabling graduates of all nationalities to reach their potential, leading to excellent (and often lucrative) careers, particularly in the aero industry.

Degrees in aeronautical technology equip students with the ability to solve technical problems but also encourages creativity. Aeronautical technology courses generally include the study of mathematics, structures, and the analysis of loads and stress on components. The majority of courses will also stress on the study of materials science, which is a fast evolving subject in aerospace engineering. Design is used to bring all of the subjects together, and state of the art packages such as pre Engineer Creo, Alias and Ansys are used for design, stress analysis and fluid flow analysis. Other subjects studied in the pursuit of this include flight technology which covers everything from aircraft instruments, aircraft design, human factors, applied subsonic and supersonic aerodynamics, aircraft systems and operation and the design of a new aircraft from scratch. Students will also be exposed to studying air crash investigation and analysis and aircraft propulsion systems, from small petrol engines, through the latest gas turbine engines, to rocket propulsion. Particular to Staffordshire University, new modules recently incorporated into the programme include a new design analysis module, plus a new module on UAV design. Aeronautical technology is a practical subject · at Staffordshire University, all students are expected to undertake some flying at the local gliding club or even with the RAF University Air Squadron. The university has a PC-based flight simulator and students are encouraged to take flights on local commercial flight simulators, either in a Boeing 747, 737 or Airbus A320. This practical application and the development of skills outside of the classroom · a hallmark of a UK education · equips students for the world of work, increasing the attractiveness of graduates to industry. In the UK, students are encouraged to apply for an industrial placement, or internship, before their final year of study. This often involves a year working in industry and is invaluable to students. IT allows them to develop their skills within an industrial setting, providing them with a competitive edge and encouraging students to explore different streams within aeronautical engineering. Employers are increasingly placing value on work placements and recognise the benefits of employing a graduate who has already been exposed to the world of work. It is often during a placement or sandwich year when many students decide on the area in which they wish to specialise upon graduation.

After graduating with an undergraduate degree, many students take the opportunity to continue their studies at university, developing specialist skills by taking up MSc degree. For them and the other graduates, there are two main career paths: one is becoming a pilot, the other is entering the engineering field. Becoming a pilot usually requires investment, in a PPL license, Instrument Rating, and eventually a type rating and an ATPL rating. Airlines often help cover the costs of the latter qualifications. However, students should not only consider careers working for commercial airlines but should also keep in mind niche areas · indeed, one of my former students is now flying helicopters in Africa for a wildlife film company! When considering studying for a degree in aeronautical technology, students should check the accreditations attached to individual courses. Accreditations, for example by the IET, are a reflection of quality. Students who complete degrees in this field are multi-skilled and should not underestimate the value of the ability to work effectively in a team; communicate at all levels; work to deadlines; be numerate; and manage design processes. Students should have a wide range of science-based transferable skills together with an in-depth understanding of aircraft, their systems and the aviation industry. This will open many doors in aviation related industries and beyond. *(The author is a senior lecturer at the School of Engineering within the Faculty of Computing, Engineering and Sciences of Staffordshire University, UK.)*

Deccan Herald

Dated – 21 Dec, 2015

Front-line fighter Su-30 MKI flies with flaws

India's front-line fighter aircraft Su-30MKI flies with deficient radar warning receiver, which increases its vulnerability and a flawed fly-by-wire system affecting the flight control and safety parameters of the agile aircraft. Moreover, Su-30MKI has poor serviceability record,

because of which the Indian Air Force squadrons flying the aircraft could not complete half of its scheduled tasks, the Comptroller and Auditor General pointed out in a report tabled in Parliament this week. In five years between 2004-05 and 2008-09, the Su-30MKI fleet could not achieve even 50 per cent of its task. In one year (2005-06), only 31 per cent of the tasks was completed whereas in other years only 40 per cent of the jobs were achieved. The defence ministry accepted low operational utilisation and low serviceability of the aircraft that is the mainstay of the IAF. Large numbers of Su-30MKI are flying with a deficient radar warning receiver, compromising the survivability of the aircraft. In addition, the fly-by-wire system has poor reliability index adversely affecting the stability, controllability, flight safety and flight control of these jets. To have fully-fit Su-30MKI squadrons, the CAG report points out that the first service centre for Su-30 MKI was set up eight years behind the schedule, even though supplying spares and maintenance always posed a big challenge. The planned second and third service centres are nowhere on the horizon. Almost 19 years after the induction of Su-30MKI, the defence ministry is yet to approve the requisite human resources needed to have 11 squadrons of these fighter jets, straining the aircraft's performance. Out of 272 aircraft purchased from Russia, 204 jets were delivered to the IAF, which is flying 7 Su-30 MKI squadrons at the moment, based out of Pune, Bareilly, Tezpur, Chabua and Jodhpur. IAF plans to have Su-30 squadrons in Halwara and Sirsa as well. The Su-30 MKI, however, is not the only example of shoddy aircraft management at the IAF. One of India's prized possession, Phalcon AWACS, could not carry out almost 60 per cent of its planned tasks because of poor serviceability and delay in setting up the ground station. Non-availability of air-to-air refuelling system and restriction in operation due to shortage in runway length at the Phalcon's base in Agra are other crucial reasons that crippled performance of these surveillance aircraft, which India purchased from Israel ignoring noisy protests made by Pakistan.

Deccan Herald

Dated – 19 Dec, 2015

Ex-defence secy R K Mathur appointed CIC

Former defence secretary R K Mathur has been appointed as the Chief Information Commissioner (CIC) with the government deciding not to choose the head from among the serving information commissioners. R K Mathur has been appointed as the Chief Information Commissioner in the Central Information Commission. The above appointment has been made for a term of five years from the date on which he enters upon his office or till he attains the age of sixty-five years, whichever is earlier, an official release said. The post had fallen vacant after Vijai Sharma completed his tenure on December 1. The selection committee led by Prime Minister Narendra Modi, which includes Union Finance Minister Arun Jaitley and leader of Congress in Lok Sabha Mallikarjuna Kharge, had on Wednesday selected Mathur for the post. This is the first time that the CIC has been selected from outside. There are seven information commissioners- Basant Seth, Yashovardhan Azad, Sharat Sabharwal, Manjula Prasher, M A Khan Yusufi, Madabhushanam Sridhar Acharyulu and Sudhir Bhargava. Presently, Seth is the senior-most Information Commissioner.

The Asian Age

Dated – 19 Dec, 2015

New defence buy policy soon

The much-awaited, new and simplified defence procurement procedure with a focus on the Make in India initiative will be out soon, and a defence procurement manual will also be finalised by June 2016, defence minister Manohar Parrikar said Friday. Addressing the consultative committee attached to his ministry here, Mr Parrikar said that the current defence procurement procedure (DPP) is under amendment and is under the consideration of his ministry after a committee of experts headed by Dhirendra Singh submitted its report. The committee was appointed to evolve a policy framework to facilitate Make in India in defence manufacturing, align the policy evolved with DPP-2013 and suggest requisite amendments in DPP-2013 to remove bottlenecks in the procurement process and also simplify and rationalise various aspects of defence procurement. The defence procurement manual is under the process of internal vetting and is expected to be finalised by June end of 2016, a statement by the ministry said. Top defence sources have said that the new DPP is likely to be out in December itself. The DPP has evolved to DPP-2013 through an iterative process since the first DPP in 2002 (2003, 2005, 2006, 2008, 2011 and 2013). It encapsulates the experience

gained in implementing the procurement process over the years, feedback from stakeholders · user services, quality control and maintenance agencies, defence finance, administrative wing and industry. Amendments are carried out continuously keeping in view the requirements of all stakeholders. In DPP-2013, the acquisition of weapon systems and equipment for the armed forces flows from the long term integrated perspective plan (LTIPP). The current LTIPP spells out the capability desired to be achieved by the armed forces over a duration of 15 years (2012-27). The categorisation committees, while considering categorisation of all capital acquisition under the defence procurement procedure, follow a preferred order of categorisation, in decreasing order of preference · Buy (Indian), Buy & Make (Indian), Make, Buy & Make, Buy (Global).

The Asian Age

Dated – 19 Dec, 2015

India building top-secret nuke city: US journal

India is building a top-secret nuclear city to produce thermonuclear weapons and when completed, in 2017, the facility would be the subcontinent's largest military-run complex of nuclear centrifuges, a leading American foreign policy journal has claimed. The secret city in Challakere, Karnataka, could upgrade the country as a nuclear power and unsettle its two major neighbours · Pakistan and China · Foreign Policy magazine said in an investigative report. But another, more controversial ambition, according to retired Indian government officials and independent experts in London and Washington, is to give India an extra stockpile of enriched uranium fuel that could be used in new hydrogen bombs, also known as thermonuclear weapons, substantially increasing the explosive force of those in its existing nuclear arsenal, the report said. The city, when completed in 2017, would be the subcontinent's largest military-run complex of nuclear centrifuges, atomic-research laboratories, and weapons- and aircraft-testing facilities, the report said. India's close neighbours, China and Pakistan, would see this move as a provocation: Experts say they might respond by ratcheting up their own nuclear firepower, the report said. The independent Stockholm International Peace Research Institute (SIPRI) estimates that India already possesses between 90 and 110 nuclear weapons, as compared to Pakistan's estimated stockpile of up to 120. China, which borders India to the north, has approximately 260 warheads. The report does not contain any official response from either the Indian or the US government, but has quoted several unnamed officials and retired government officials for the story. Mysore is being constantly monitored, and we are constantly monitoring progress in Challakere, a former White House official has been quoted as saying by the report.

The Asian Age

Dated – 20 Dec, 2015

No anti-India remarks, Nawaz Sharif warns ministers

Pakistan Prime Minister Nawaz Sharif has stopped his ministers and aides from giving anti-India statements as the two nations move towards peace, official sources said. A close aide of Mr Sharif said that ministers and senior officials had been stopped from issuing statements which could damage the peace process. There will only be statements that encourage the dialogue process rather than digging up the past. The PM has asked close aides and Cabinet members to promote peace, he said. The close aide said the PM was optimistic about better ties with India which would benefit the whole region. He is annoyed by some statements from India that New Delhi only wanted to discuss Azad Kashmir (Pakistan-occupied Kashmir) in talks but understands this is not their government's policy, he added. Mr Sharif, the source said, wanted to give top priority to Kashmir, terrorism and trade when the two sides sit across the table to discuss peace. Another official said the PM and the military leadership were on the same page to make peace with India. There is no difference of opinion and both agree that there should be no compromise on the stated position on key issues, he added. Analysts say it was a positive development that Pakistan and India had agreed to resume the comprehensive dialogue to resolve all outstanding issues.

The Economic Times

Dated – 21 Dec, 2015

Indian Navy Questioned by Parl Panel

NEW DELHI: With at least 11 major accidents in 2014, the Indian Navy is yet to figure out what caused four of them, leading to a sharp rap on the knuckles from a parliamentary panel. The navy, in response to the queries of the parliamentary standing committee on defence, gave a list of 11 major accidents in 2014. At least three were caused by crew error while aterial failure caused two and electrical failure was blamed for two.

Business Standard

Dated – 20 Dec, 2015

Sunita Narain: Paris - The endgame for climate justice

The Paris climate conference has been feted as historic and ambitious. US President Barack Obama has personally called Prime inister Narendra Modi to thank him for India's cooperation to make the deal successful. But read the fine print, and it becomes clear that poorer countries have lost big time. This battle is to save the world from catastrophic climate change impacts so that rich industrialised countries do their fair share to reduce emissions and the emerging world gets its right to development and support to develop differently. The most important element of the Paris agreement is that it endorses the need for the world to keep temperature increase below 1.5°Celsius - this is crucial, as we in India are already seeing devastating impacts of weird weather events when the temperature increase is a mere 0.8-1°C since pre-industrial era. So capping temperatures has to be welcomed. But, if the world wants to cap temperatures then it must also agree to an ambitious plan to cap greenhouse emissions - which trap heat and cause increases in temperatures. The Paris agreement fails in this totally. In fact, the aggregate of all the Intended Nationally Determined Contributions (INDCs) adds up to a minimum increase of 3°C or much more. There is no target set for developed countries to take more aggressive cuts to reduce their contributions to the growing stock of emissions in the atmosphere.

What is even worse is that Paris cements climate apartheid - so that the historical responsibility of the developed world of creating the problem of emissions is erased. Worse, the burden of future transition moves to the still developing world. The fact is that if temperature increase is capped at 1.5°C, then the carbon budget - how much the world can emit to cap that temperature rise - is limited even further. If the world was capping temperatures at 2°C, then the remaining budget - from 2011-2100 - would be roughly 1,000 billion tonnes and when temperature is capped at 1.5°C then the remaining budget shrinks to a mere 400-550 billion tonnes. What is also clear is that at current rates of emissions this 'budget' will be more or less exhausted by 2020. This means that by the time the Paris agreement begins in 2020 there is no right left for the bulk of the world to its development. Nowhere in the Paris draft, other than a weak sentence about "enhanced pre-2020 ambition that can lay a solid foundation for enhanced post-2020 ambition" is the fact mentioned that the already rich countries have to reduce now to leave space for the rest to grow. It is a known fact that the US action plan on climate change is nothing more than business as usual. It is also known that countries like the US have already appropriated some 21 per cent of the budget already spent and will use up another 10 per cent by 2030. The Paris agreement wipes this clean. In fact, what it does is to universalise action to reduce emissions, without apportioning the responsibilities or rights of countries for creating the problem or reducing emissions. In this situation, what countries like India have got are sweet nothings about 'equity' and 'climate justice', which the agreement says is important for 'some'. The agreement does not operationalise equity by asking for the carbon budget to be shared fairly between nations. All it does is to make some vague promises about funds and technology that will be available in the distant future to developing countries for low-carbon growth. In this way, justice is kept as an illusion. The reality is that it is a deal that is inequitable and unambitious. The only way Indian diplomats can call the Paris agreement a victory is by arguing that they did all they can in a situation where the dice was already loaded against them. They stopped complete annihilation. This is indeed true. The question is why does this happen? In my view, there are two reasons. First global negotiations reflect the growing inequality and intolerance in the world. In Paris, for the first time since the beginning of climate negotiations, the erstwhile climate renegades were in control of the dialogue, narrative and the audience. The Umbrella Group is a grouping led by the US and includes the biggest rich polluters, such as Australia and Japan, who have always been in the dock for not taking action to combat climate change. In Paris, these countries had done an image change so that they were pushing for aggressive and ambitious action. Their makeover was not overnight, or sudden. These countries had done their homework, so that the script was crafted skilfully and the propaganda spread. Audaciously. Their civil society had been cajoled into believing that this is their time. The US non-governmental organisations' allegiance was absolute because they (genuinely and naively) believe their government is doing all it can in spite of Republican Party opposition. Their media was in full attention - the likes of *The New York Times* and *BBC* had been

seconded to scold and reprimand the governments of developing countries like India for misbehavior. So, what US government officials could not say, their media spelt out. But, there is a second reason why we lose. It is also because Indian negotiators always fight with their backs against the wall; over time they have no wriggle room left. They collapse and we all fall down. Let's discuss this further in the New Year.

The Pioneer

Dated – 19 Dec, 2015

DELAY IN REPLACING AGEING COPTERS IRKS CAG

The Comptroller and Auditor General(CAG)on Friday pulled up the Defence Ministry for delay in replacing ageing helicopter fleet of Army Aviation Corps and said the unit was facing a shortage of 32 per cent vis-à-vis authorised strength. Making this observation in its report tabled in Parliament, the CAG noted that 52 per cent of the Aviation Corps fleet was more than 30 years old and the %effective availability of helicopters got further reduced to 40 per cent due to low level of serviceability of the existing fleet. At present, the Army has 181 Cheetah and Chetak helicopters and 51 of them are more than 40 years old and 78 are between 30-40 years old. The CAG noted that ever since these helicopters were approved for de-induction in 2002, 23 helicopters had met with accidents. Chetak and Cheetah helicopters are the lifeline of troops stationed at Siachen Glacier and other inaccessible areas in Leh and Ladakh besides Arunachal Pradesh and North-East. The watchdog said despite these shortcomings, Army Aviation Corps could not replace its fleet of Cheetah and Chetaks which are due for de-induction since 10th Plan period (2002-2007) onwards. A group of Army officersqwives had in March this year urged Defence Minister Manohar Parrikar to stop the use of %outdated+ Cheetah and Chetak helicopters, which have claimed a number of lives. The Government had last August scrapped a `6,000-crore tender for procuring 197 light utility helicopters from foreign vendors for the armed forces and decided to allow domestic players to manufacture these helicopters. The global tender for the project, however, is yet to be floated. The CAG also tabled a report on IAF. The country's top auditor also slammed the Indian Air Force for sub-optimal utilisation of operational capabilities of AWACS (air borne warning and control system) aircraft purchased in 2004 for `5,042 crore and has said shortage of aircrew may impact the operations of the planes during hostilities. It further pointed out the low serviceability of the Sukhois, country's front-line combat aircraft.

The Pioneer

Dated – 19 Dec, 2015

WHAT LIES AHEAD IN SOUTH CHINA SEA DISPUTE?

With the emergence of China, it seems a new kind of cold war has already begun and this time, only the zone of conflict has been shifted to the East of Asia. Though China has grown today in both power and prestige, yet it must carefully note that only an amicable interaction and a positive engagement between China and the US could survive the future of Asia, else it would lead to a permanent power rivalry in the days to comeThe South China Sea dispute about territory and sovereignty over a vast ocean area and two island chains popularly known as the Paracels and the Spratlys is fast becoming a potential zone of conflictin Asia. China and Vietnam claim the entire area of the South China Sea and islands as their territory, whereas Brunei, Indonesia, Malaysia, the Philippines and Taiwan have overlapping claims over them. China's claim is purely based on historical surveying expeditions, fishing activities and continuous naval patrols which date back to as early as the 15th century. Many who believe that American predominance is unlikely to fade anytime soon must be careful about China's quiet rise. Also it would be naïve to argue that the US power preponderance brings an end to power rivalry in global politics and at the same time, provides the US an opportunity to manage global security. The US requires multilateralism and cooperation from other States to achieve its policy preferences in maintaining global peace. Though Charles Krauthammer advocated for a unipolar momentled by the US, others like Kenneth Waltz strongly stated that other emerging powers would soon challenge the US dominance and make way for a systemic balance of power in international politics. Indeed the US pivot to Asiaqhas been creating heightened concerns in China about its intentions. Simultaneously, America's constant endeavour to expand military ties with allies and partners and forces in Asia are viewed by many in Beijing as a sustained effort to contain China's rise. It is also argued that the USqinterventionist role in Asia-Pacific region is highly responsible for deterioration of China's strategic environment. Given the intractable nature of the problem in South China Sea, it is felt that China needs to engage all the claimant nations while working out a plausible solution, or else there is an increasing possibility of the area becoming a flashpoint with international consequences. It has been realised that the strategic approach of the ASEAN claimant nations would be highly dependent on the US to check China for maintaining the

regional security order. The last East Asia Summit (EAS) which was convened in Malaysia's capital Kuala Lumpur on November 22, could not offer any substantial solution to the dispute. The summit involved all the ten ASEAN members, four of which have territorial disputes in the sea, with eight other nations, including China and the US, which outright proclaims that it has national interest in safeguarding the freedom of navigation in South China Sea. The heightened concern in the dispute has raised international alarm as China starts building manmade islands on the top of tiny rocks and reefs in the South China Sea that was already submerged in very high tide. The UN Convention on the Law of the Sea (UNCLOS) does not entitle China to claim any territorial waters around it. It was surprising that no sooner had the leaders left the EAS, it was reported that the People's Liberation Army had dispatched a new logistics vessel for its troops in the artificial islands. In the meantime, a foreign ministry official in Beijing confirmed that it would continue building the manmade island. Within the ASEAN, it is the Philippines which took the most vociferous stand against China on the South China Sea dispute. It spoke out for an out and out freedom of navigation in the disputed waters. The rest of the ASEAN members who are well aware about China's aggressive posture normally favour engaging the US to check China in this maritime conflict. Many of the ASEAN members are building up stronger ties with the US and Japan and also signing strategic partnership treaties among themselves. Recently, the Philippines and Vietnam, whose disputes with China are extremely sensitive, have concluded a strategic partnership treaty. Such camaraderie among many of the South East Asian nations has provoked China to be more assertive in its actions. Last month, the Philippines brought the dispute to The Hague and a tribunal is hearing China's claims over South China Sea. China's historic nine dash line also touches Indonesia's oil rich sea off the Natuna Island and it might force the latter to move the International Court of Justice. Even Malaysia is strongly protesting against China's new build-up in the South China Sea. Thus more or less, the South East Asian nations are standing up to China in this protracted conflict which could be more harmful for maintaining harmony among these nations. But the most important aspect of the problem is that for most of these ASEAN countries China is their major trading partner and investor of foreign funds. Hence, this dual dependency of the ASEAN nations on both China and the US is further complicating the conflict zone in the South China Sea. China remains adamant that it has got its sovereign territorial rights over South China Sea and whatever it is doing is within its own territory only. The intervention of foreign powers, particularly the US, is being viewed as a threat to China's sovereignty and there is no question of freedom of navigation as America demands exist in the latter's lexicon. So the US intervention in any form is regarded as an incursion into China's sovereign rights by the nationalists in Beijing. Indeed the Chinese nationalists increasingly blame the Government for perceived inaction and vigorously pursuing for more forces into the fray. While the US is constantly reasserting its presence in the Asia-Pacific region and making closer ties with countries like Vietnam and the Philippines, it is making China more suspicious about America's interests in the region. In the meantime, President Xi Jinping in a speech in Singapore last month had made it clear that islands in the South China Sea have been China's territory since ancient times. He also cautioned that countries from outside the region should respect the need of Asian nations for a peaceful and stable environment so that they could prosper rapidly. At home, the official Xinhua news agency reported the outside countries mentioned by Xi as the US, which has openly criticised China's endeavour to build artificial islands atop submerged islands in the South China Sea. The US has officially made it clear that it has no intention to take sides in the contested maritime dispute of South China Sea but will surely ensure the freedom of navigation in the region. The US President acknowledged the concerns of the ASEAN nations about China's actions in the South China Sea. He reiterated China's long-term interests in the region and said the idea of peaceful development is the inner gene of Chinese culture. He is highly concerned about spreading the rumours about China threat to other nations in Asia-Pacific. To him, this is either due to the ignorance of Chinese history, culture and current policy, or out of some misunderstanding and prejudice, and probably for some ulterior reasons. It is very much clear that in an American made and dominant post-Cold War world, Beijing is finding it too difficult to grow and make its presence felt across the world. With the emergence of China, it seems a new kind of cold war has already begun and this time, only the zone of conflict has been shifted to the East of Asia. Though China has grown today in both power and prestige, yet it must carefully note that only an amicable interaction and a positive engagement between China and US could survive the future of Asia in particular, else it would lead to a permanent power rivalry in the days to come. China oversees a civilisational empire that includes Tibet, Xinjiang, Inner Mongolia, Hong Kong and displays strong propensity to include more territory like Taiwan and South China Sea. With rising tensions in South China Sea, many feel that China does not see itself as just another Nation-State among Nation-States. Rather, it has a profound sense of itself as the centre of civilisation and conceives of itself as not just a country but a historically superior civilisation that

deserves deference from other countries (Blumenthal 2015). However China's ambition of becoming a peaceful power must be coincided with equal respect for sovereignty of all its neighbours and rest of the nations of the world. *(The writer is an independent political analyst based in Delhi)*

The Pioneer

Dated – 19 Dec, 2015

Outsiders should not meddle in South China Sea issue: Chinese Ambassador to India

China today warned countries which are "outside" the region not to "meddle" in the South China Sea issue, saying "muscle flexing" will not be good for regional security. "Countries who are from outside or have nothing to do with the region should not meddle into these issues. This will make it worse," Le Yucheng, Chinese Ambassador to India, said in an apparent message to the United States and India. He was speaking here at the Deccan Herald's Dialogue on 'The Asia Pacific Country: India and Big Power Engagement'. His stand was countered by BJP leader Ram Madhav who batted for freedom of navigation saying as the Indian Ocean does not belong to India and is shared by other countries of the world, similar is the case with South China Sea. "The way China has propelled the global economy in this century, it should also propel peace in the region," he said. The BJP leader said instead of Asia-Pacific, the region should be addressed as Indo-Pacific since its a broader term. Pitching for freedom of navigation in the South China Sea, India has favoured peaceful resolution of the dispute and has economic interests in hydro-carbon rich sea. Le reiterated Chinese claim over the Spratly, an archipelago which is a focal point of the dispute in the hydrocarbon rich sea, and said the islands were reclaimed from the Japanese after the Second World War.

The Pioneer

Dated – 21 Dec, 2015

INDO-BANGLA BORDER TALKS FROM DEC 22

India will hold a six-day-long high-level border dialogue with Bangladesh in Dhaka from December 22 to 27. A 23-member Indian delegation led by Border Security Force (BSF) Director General DK Pathak will travel to the Bangladeshi capital for the six-day bi-annual DG-level talks with their counterparts - the Border Guard Bangladesh (BGB) and senior officials of their Home Department. Home Ministry officials said the meeting is being held at a good time when the ties between the two sides are at their best after Bangladesh recently handed over long-time fugitive and top ULFA leader Anup Chetia to India. The Indian border delegation, including officials from the Union Home Ministry and other border enforcement agencies, is expected to discuss measures to further enhance security along the border and brief the BGB about measures put in place to completely stop instances of cattle smuggling and other illegal substances across the border. Union Home Minister Rajnath Singh, during BSF's 50th Raising Day on December 1 here, had urged the border guarding force to ensure a total clampdown on cross-border animal smuggling along this 4,096-km-long porous and difficult terrain dotted by hilly and riverine areas. The BGB, sources said, is expected to raise the issue of bringing about a complete halt on border killing incidents and suggest enforcement of some strict security protocols by both the sides to achieve this goal. The BGB delegation for the talks, to be held at the paramilitary's headquarters in Dhaka, will be led by its DG Maj Gen Aziz Ahmed. A host of other issues related to activities of Indian insurgent groups suspected to be operating from the other side, smuggling of fake Indian currency, drugs and other banned items will be discussed. Some new measures to enhance operational efficiency between the two sides will also be discussed by the two sides, they said. BSF and BGB are also expected to firm up plans for holding the first-ever joint exercise between the two sides in the Sunderbans in West Bengal next month, they said. The last time the two sides met was in August this year when BGB travelled to India for the talks. A joint declaration of discussions will be signed between the two sides on December 26, a day before the Indian delegation will return to the country.

The Pioneer

Dated – 19 Dec, 2015

From Sukhois to AWACS, auditor finds strategic holes in India's skies

NEW DELHI: The CAG has punched several holes in the operational capabilities of IAF as well as Army Aviation Corps, ranging from poor serviceability of the country's most modern fighters Sukhoi-30MKIs and "eyes in the sky" AWACS to the virtually obsolete Cheetah/Chetak helicopter fleets. The audit watchdog's stinging indictment should serve as a much-needed wake-up call for the politico-

bureaucratic combine as well as armed forces to undertake long-term strategic planning to build military capabilities in a systematic and cost-effective manner, with timely decision-making and proper follow-through. First, take the case of the only three AWACS (airborne warning and control systems) in the shape of Israeli Phalcon radars mounted on Russian IL-76 aircraft, which were inducted as potent force-multipliers in 2009-2011 under a \$1.1 billion deal inked in 2004. The CAG report, tabled in Parliament on Friday, said the AWACS were "high value national assets" that could be "a deciding factor" during conflicts. But there was "sub-optimal utilization" of their operational capabilities in terms of "flying tasks" due to poor planning and serviceability. "On an average, there was a 43% shortfall against the established task of 1,500 flying hours per annum," said CAG.

Similarly, the ongoing induction of Sukhoi-30MKIs -- over 210 of the 272 jets contracted from Russia for over \$12 billion have been inducted till now - came under attack. For one, the serviceability of Sukhois continues to be just around 55-60% (prescribed norm is at least 75%) despite the first fighter being inducted 19 years ago, as was also earlier reported by TOI. The Sukhoi fleet suffers from a "high rate of AOG (aircraft on ground since not airworthy)" due to lack of spares and non-availability of adequate repair facilities. The jets also suffer from "frequent snags" in their fly-by-wire systems and deficient radar warning receivers, among other things. The CAG also slammed the defence ministry's continuing failure to replace the Cheetah/Chetak fleets - 129 of the 181 helicopters are over 30 years old - which the Army Aviation Corps (AAC) uses for reconnaissance and servicing forward areas like Siachen. "AAC is plagued with 32% deficiency in its authorized fleet strength. . . low level of helicopter serviceability further reduces the effective operational availability to 40% of authorization," it said. As reported by TOI earlier, 30 military helicopters have crashed just since 2010, claiming well over 50 lives. The single-engine Cheetahs and Chetaks, which fly on technologies of the 1960s vintage, are a major concern, with a group of Army wives in March even complaining to defence minister Manohar Parrikar about their high crash rate. The long-pending acquisition of 197 such light-utility helicopters from abroad has been scrapped thrice over the last decade due to corruption allegations and technical deviations. India and Russia are now set to ink the \$1 billion project to manufacture 200 twin-engine Kamov-226T helicopters under the "Make in India" policy. But it will take a few years for the deliveries to begin.

The Pioneer

Dated - 19 Dec, 2015

Curiosity finds silica deposits on Mars

WASHINGTON: Nasa's Mars Curiosity rover has found high concentrations of silica — a rock-forming chemical commonly seen on Earth as quartz — which could help scientists learn more about the ancient wet environment on the red planet. Curiosity found much higher concentrations of silica at some sites it has studied in the past seven months. Silica makes up nine-tenths of the composition of some of the rocks. "These high-silica compositions are a puzzle. You can boost the concentration of silica either by leaching away other ingredients while leaving the silica behind, or by bringing in silica from somewhere else," said Albert Yen, a Curiosity team member. Water that is acidic would tend to carry other ingredients away and leave silica behind. Alkaline or neutral water could bring in dissolved silica that would be deposited from the solution. The recent findings on Mount Sharp have intriguing threads linked to what an earlier Nasa rover, Spirit, found halfway around Mars. There, signs of sulfuric acidity were observed. Some silica at one rock Curiosity drilled, called "Buckskin," is in a mineral named tridymite, rare on Earth and never seen before on Mars. The usual origin of tridymite on Earth involves high temperatures in igneous or metamorphic rocks, but the finely layered sedimentary rocks examined by Curiosity have been interpreted as lakebed deposits. It may be evidence for magmatic evolution on Mars.

The Business Standard

Dated – 19 Dec, 2015

India building top-secret nuclear city, claims foreign policy journal

India is building a top-secret nuclear city to produce thermonuclear weapons and when completed in 2017, the facility would be the subcontinent's largest military-run complex of nuclear centrifuges, a leading American foreign policy journal has claimed. The secret city in Challakere in Karnataka could upgrade the country as a nuclear power and unsettle its two major neighbours – Pakistan and China. Foreign Policy magazine said in an investigative report. But another, more controversial ambition, according to retired Indian government officials and independent experts in London and Washington, is to give India an extra stockpile of enriched uranium fuel that could be used in new hydrogen bombs, also known as thermonuclear weapons, substantially increasing the explosive force of those in its existing nuclear arsenal, the report said. The city when completed in 2017 would be the subcontinent's largest military-run complex of nuclear centrifuges, atomic-research laboratories, and weapons- and aircraft-testing facilities, the report said. India's close neighbours, China and Pakistan, would see this move as a provocation: Experts say they might respond by ratcheting up their own nuclear firepower, the report said.

The Sunday Times

Dated – 19 Dec, 2015

The ministry of defence is a bad organisation with no accountability

Are our defence forces suitably tech-ready to fight a war? No, we are not, says the man who led the Army in the Kargil war. Former Chief of Army Staff Gen V P Malik tells Robin David that our war-preparedness will remain hampered unless DRDO and ordnance factories are made more accountable

Are we ready for war in technology age? Just to put things in perspective, technology today is a very important factor in not only military strategy, but also national strategy. Unless you develop and possess technology, you can't reach the level that you want for your nation at all levels. And when you flow from that downwards, military technology becomes essential. But we have really not been able to develop technology, which has been a major concern. I have told the parliamentary committee that we are lagging behind on the aspect of self-reliance. And when you have to buy weapons and weapons systems from abroad because they have better technology, obviously that's not the best way of ensuring your national interest. *What percentage of our technology needs do we import?* Well, till recently, we were importing 70% of our sophisticated weapons systems from abroad, which is a huge number. And during the Kargil war I personally felt that we were so dependent on other countries that they took you for a ride. Let's be clear, there are no friends (among countries). You have given them leverage on you. There were some countries that simply refused to part with weapons and equipment we wanted. *Did you feel hindered during Kargil war?*

There was a total ban on the import of any equipment from the US and UK, because in 1998 we had gone nuclear and 1999 was the war. We were short of spares for Bofors guns, and some parts for our naval helicopters. We did not have proper radar systems which could detect the guns firing from the other side. We did not have any ground sensors and one of the reasons why infiltration took place was that we did not have adequate surveillance devices along the LoC.

Is there greater awareness about filling technology gap in armed forces today? No. There is better realisation among some people but the procurement part is still lagging. The good point is the pursuit of Make in India. I had spoken to Mr (Narendra) Modi long ago, well before he became PM. And similarly I have spoken to other leaders. I have said that you can't have national security if we are importing 70% of our needs from foreign countries. *You believe DRDO has not done its job?* Well, they have not been able to meet our requirements. *What is the answer to that?* DRDO has to focus more on core issues. It must also interact outside its establishment with universities, with technical experts in different fields and there should be no hesitation in encouraging private sector R&D. They should also try and get technologies from outside. But the most important aspect I think is that the DRDO must be made accountable. You set a deadline, you have to meet it. We can accept one, two, three-year delays but you can't accept a delay of 25 years. We gave the GSQR (general staff qualitative requirements) of the tank we wanted. By the time Arjun came, there were these whole lot of anti-tank guided missiles which it could not withstand. When we raised this issue, they said it was not part of the GSQR. Obviously, because the GSQR was given 25 years ago. *The life of a weapon system used to be 25 to 30 years. Today it has come down to 10 to 15 years because the technological developments are much faster. So, if you give me a tank after 15 years, what use is that to me?* The whole problem has been that you have created these public-sector ordnance factories and then you have forced us to buy from them. So they are quite happy to not change. *Where does the ministry of defence stand in all this?* The ministry of defence is a bad organisation. Accountability within the ministry is zero. If DRDO has not delivered, the ministry has not reported the matter to anyone and not taken any action. That is what I have told the parliamentary committee (in 2003-2004 after retirement) – get this damn thing (monitoring and accountability) out of the ministry. The defence PSUs too need to be taken out of the ministry of defence. The joint secretary sitting in the ministry is controlling the PSU. He gets all his privileges from them – car chahiye, ghumna chahiye. There is a nexus. If the DRDO is not delivering, I would like to see some secretary, some joint secretary resigning or being sacked. Besides the DRDO head. But the Comptroller and Auditor General does audit the armed forces. . . The CAG's audit is like a chartered accountant pointing out your faults. Is he checking whether you have acquired (military) capability? No. You have to have capability audits in the armed forces. You can have this within CAG or even outside it with

experts who can give an independent opinion on whether you have acquired capability or not. Your benchmark need not be money. Your benchmark needs to be capability.

The Sunday Times

Dated – 19 Dec, 2015

Don't meddle in S China Sea: Envoy to West

NEW DELHI: China on Saturday warned countries which are "outside" the region not to "meddle" in the South China Sea issue, saying "muscle flexing" will not be good for regional security. "Countries who have nothing to do with the region should not meddle into these issues," Le Yucheng, Chinese ambassador to India, said in an apparent message to the United States and India. BJP's Ram Madhav said as the Indian Ocean does not belong to India and is shared by other countries, similar is the case with South China Sea. Madhav said instead of Asia-Pacific, the region should be addressed as Indo-Pacific. Le also reiterated Chinese claim over the Spratly, an archipelago which is the focal point of the dispute, and said, "After World War II, the Chinese reclaimed the islands occupied by the Japanese. There was no claimant over it until 1970." Le said China is ready for negotiations and has already signed the 'Declaration of Conduct in the South China' with ASEAN nations.

The Sunday Times

Dated – 19 Dec, 2015

US bombers' sorties infuriate China

JING: China on Saturday accused the US of indulging in "serious military provocation" by flying two B-52 bombers in the airspace over islands in the South China Sea claimed by it as tensions between the two countries over the disputed territory came to the fore. The two US bombers flew on December 10 into the airspace near an island and reef of Nansha Islands (Spratly islands) claimed by both China and Vietnam. Military personnel on the island and reef went on high alert and warned the aircraft to leave, the Chinese defence ministry said in a statement. "In the morning of 10 December, two US B-52 bombers entered airspace over the Chinese Nansha islands and nearby areas without authorisation," the statement said. "This behaviour is a serious military provocation which complicates the general situation in the South China Sea, (contributing) to the militarisation of the region," it said. Meanwhile, the Pentagon said the B-2 bombers flying within two nautical miles of the artificial island was unintentional and has ordered an investigation into it. News reports quoted Pentagon spokesman Cmdr Bill Urban as saying in Washington that China had raised its complaints over the flight. However, Urban said the flight was not a "freedom of navigation" operation, indicating that the plane may have strayed off course. The US uses pre-planned freedom of navigation operations to assert its rights to "innocent passage" in other country's territorial waters. China claims whole of the South China Sea. Beijing's claim, however, is strongly contested by the Philippines, Vietnam, Malaysia, Brunei and Taiwan. For its part, the US asserts that it does not recognise China's claims over the South China Sea. China claims that the whole of the sea is its part from ancient times. China vehemently protested in October when a US warship sailed through the waters near an artificial island being built by China disregarding protests from the Philippines and other maritime claimants. An international tribunal constituted under the United Nations Convention on Law of Seas (UNCLOS has admitted the Philippines' petition for arbitration China has boycotted the tribunal proceedings. Chinese defence ministry said the US has continuously sent military ships and planes as a show of force and created tensions in the waters and airspace. Such actions have severely threatened the safety of Chinese personnel and facilities as well as peace and stability of the region, it said. The Chinese defence ministry demanded that the United States immediately adopt measures to avoid such dangerous actions in order to prevent damaging relations between the two militaries and countries.
