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दुनिया देखेगी...अंतरिक्ष के 'योद्धा' भारत को, विश्वभर के दिग्गज जुटेंगे हथियारों की मंडी में

दुनियाभर के दिग्गज जुटेंगे हथियारों की मंडी में एसेट को लेकर भारत की संभावनाएं बढ़ीं।

लखनऊ: डिफेंस एक्सपो-2020 में जमीन, पानी और हवा में मार करने वाले हथियार ही नहीं दिखेंगे। भविष्य के अंतरिक्ष युद्ध में कौन देश कितना कितना ताकतवर है..? इससे भी पर्दा उठेगा। होड़ में इस अत्याधुनिक तकनीक से लैस चुनिंदा चार देशों की कतार में खड़ा भारत भी शामिल होगा। मिशन शक्ति के तहत सेटेलाइट मार गिराने वाले डीआरडीओ के मिसाइल डिफेंस इंटरसेप्टर को पहली बार दुनिया देखेगी। अपने सबसे अचूक अस्त्र को उतारने के पीछे मंशा हथियारों के बाजार में गहरी पैठ बढ़ाना है।

पांच फरवरी से प्रस्तावित डिफेंस एक्सपो-2020 की तरीख जैसे-जैसे नजदीक आ रही है, लखनऊ में सजने वाली हथियारों की मंडी की पूरी तस्वीर साफ हो गई है। इस दौरान हथियार बनाने वाले अग्रणी देशों की तकनीकी ताकत के बीच भारत की कोशिश सबसे बड़ा आयातक नहीं, मेक इन इंडिया के तहत हथियारों का बड़ा निर्यातक बनने की है।



वैसे भी, अंतरिक्ष में युद्ध के कौशल की तरफ कदम बढ़ा चुके दुनिया के चुनिंदा देश अमेरिका, चीन, रूस के साथ भारत भी पहले ही खड़ा है। चूंकि, इन देशों में अकेला चीन ही एक्सपो में भाग नहीं ले रहा है। ऐसे में उसके हिस्से के बड़े बाजार पर भारत की नजर है। साथ ही दुनिया की सबसे तेज रफ्तार वाली सुपरसोनिक मिसाइल ब्रोस समेत अन्य देसी हथियारों को भी प्रमोट करने का इरादा है।

- विदेशी कंपनियां होंगी शामिल , सेटेलाइट मार गिराने वाला मिसाइल डिफेंस इंटरसेप्टर होगा खास
- देश भारत को मिलाकर ए सेट तकनीक से लैस, 2019 में भारत ने किया सफल परीक्षण
- रक्षा उत्पादन क्षेत्र की भारतीय कंपनियां लेंगी चार दिनों तक डिफेंस एक्सपो में हिस्सा
- में से 17 एएच-64 अपाचे हेलीकॉप्टर, 15 में से 10 सीएच-47 चिनूक हेलीकॉप्टर की आपूर्ति हो है चुकी
- बोइंग ने भारत को ट्रांसपोर्ट विमान 11 सी-17 ग्लोबमास्टर 3एस, आठ पी 81 दिए हैं
- 22 में से 17 एएच-64 अपाचे हेलीकॉप्टर, 15 में से 10 सीएच-47 चिनूक हेलीकॉप्टर की आपूर्ति हो चुकी है।
- अब बोइंग भारतीय वायुसेना के साथ इसकी प्रशिक्षण क्षमता को बढ़ावा देगा।
- डिफेंस एक्सपो में बोइंग भारत के एरोस्पेस एवं डिफेंस प्रणाली के विकास पर जोर रहेगा।

- स्पेसक्राफ्ट, लड़ाकू विमान, बैलेस्टिक मिसाइल समेत कई सैन्य हथियार बनाने वाली कंपनी लॉकहिड मार्टिन भी छाएगी।
- भारतीय बाजार के साथ दुनिया भर से आने वाले देशों के बीच पैठ बनाने की तैयारी में है।
- भारत के सहारे तलाशेंगे बाजार
- सेटेलाइट गिराने वाली मिसाइल ए-सेट

बोइंग नापेगा समुद्र

- तमाम कंपनियों के बीच एक्सपो में होगी बोइंग पर सबकी नजर
- दुनिया के जंबो जेट बनाने वाली कंपनी एफए-18 हॉर्नेट को पेश करेगी
- अमेरिकी नौसेना करती इन घातक लड़ाकू विमानों का इस्तेमाल

मेक इन इंडिया के ये हथियार भी होंगे खास

- एंटी सेटेलाइट मिसाइल, ब्रोस के अलावा दुनिया की नजरें डीआरडीओ के बनाए अन्य हथियारों पर भी होगी। रडार के क्षेत्र में इजराइल को भारत कड़ी प्रतिस्पर्धा देता दिखेगा। इसके के लिए इलेक्ट्रॉनिक्स ट्रांसपोर्टेबल रडार अश्विनी, मीडियम पावर रडार अरुध और मल्टी फंक्शनल रडार उतारे जाएंगे।
- पूरी तरह स्वदेशी आर्टिलरी गन धनुष को मार्केट में होवित्जर एम-777 के विकल्प के रूप में पेश किया जाएगा।
- 'अजरून टैंक की बाधाएं दूर करने के बाद इसकी आपूर्ति बढ़ाने की कोशिश रहेगी।
- 'बीईएमएल अपनी मीडियम बुलेट प्रूफ व्हीकल के लिए भी बाजार तलाशेगा'
- भारतीय आर्डिनेंस फैक्ट्री की माइन प्रोटेक्टेट व्हीकल भी दक्षिण अफ्रीका के उपकरणों को चुनौती देंगे।
- एक्सपो में विदेशी कंपनियों की मेक इन इंडिया की प्रतिबद्धता भी नजर आएगी।
- अमेरिका एम-777 होवित्जर आर्टिलरी गन को मेक इन इंडिया थीम पर प्रदर्शित करेगा।

भारत के बाजार पर फिदा बोइंग

एक्सपो पर बोइंग जैसी कंपनियों की भी नजर है। चिन्क के बाद बोइंग की कोशिश भारतीय नौसेना के लिए एफए-18 सुपर हॉर्नेट लड़ाकू विमान बेचने की है। इस विमान को अभी अमेरिकी नौसेना इस्तेमाल कर रही है। रूस की तीन कंपनियां भी विमानों को मार गिराने वाली आधुनिक गन लेकर आ रही है। थॉलेस के थल, जल और वायु सुरक्षा की श्रंखला होगी। मल्टी सेंसर इंटीग्रेटेड सिस्टम सात किलोमीटर के दायरे में उड़ रहे ड्रोन का पता लगाकर उसे नष्ट कर सकता है।

<https://www.jagran.com/uttar-pradesh/lucknow-city-the-giant-from-all-over-the-world-will-gather-in-the-arms-market-in-defence-expo-2020-jagran-special-19989757.html>



Sat, 01 Feb 2020

India continues to develop new K-5 submarine-launched ballistic missile SLBM

India is seeking to develop the K-5, a new submarine-launched ballistic missile (SLBM) in the K family after the test launch on January 19, 2020, of the K-4 intermediate-range submarine-launched ballistic missile

The K missiles is a family of submarine-launched ballistic missiles (SLBM) developed by India to boost its second strike capabilities and thus augment its nuclear deterrence.

The K-4 is an intermediate-range submarine-launched ballistic missile under development by DRDO. It is a 10 m long missile weighing 20 tones, capable of carrying a 2 tone payload up to a range of 3,500 km. INS Arihant, first of the Arihant Class Submarines, will be able to carry 4 K-4 missiles. The K-4 missile was successfully tested on 24 March 2014 from an underwater pontoon submerged 30 m deep. India successfully test fired the 3,500 km strike range nuclear-capable K-4 submarine-launched ballistic missile off the coast of Andhra Pradesh on 19 January 2020.



The K-5 missile is will being developed by Defence Research and Development Organisation (DRDO) for the Indian strategic forces' underwater platforms. It will arm the future variants of Arihant class submarines of the Indian Navy.

The new K-5 submarine-launched ballistic missile is expected to have a strike range of between 5,000 to 6,000 kilometers which will match the Agni V, India's current land-based intercontinental ballistic missile also developed by the Defence Research and Development Organization (DRDO) of India. The K-5 will reportedly be capable of carrying four MIRV (Multiple Independently targetable Reentry Vehicle) warheads of 500kgs each.

The K-5 missile will arm the future variants of Arihant class submarines of the Indian Navy. By successfully adding the K-5 missiles to its arsenal, India will show that it is armed with the ultimate nuclear triad, the capability of striking an enemy by air, land, or sea.

<https://www.navyrecognition.com/index.php/news/defence-news/2020/february/8002-india-continues-to-develop-new-k-5-submarine-launched-ballistic-missile-slbm.html>

Bio-digesters being installed in houseboats

Srinagar: Lakes and Waterways Development Authority (LAWDA) on Friday started the process of installing bio-digesters in households of the catchment area and some houseboats. The DRDO designed Bio-digester are being installed on pilot basis and their efficiency shall be under trial.

A team of scientists from DRDO are on a 3-day visit to ascertain the functioning of four bio-digesters which have been installed in the houseboats. The team from DRDO along with vice chairman, J&K LDA and engineers of LDA took an extensive visit of the areas including Dole Demb, Teilbal and interiors of Lake. The process of installation of Bio-digesters is being directly monitored by the Committee of Experts (CoE) constituted by High Court J&K.

<http://news.statetimes.in/bio-digesters-being-installed-in-houseboats/>

The Sentinel *of this land, for its people*

Sat, 01 Feb 2020

Scientists meet at Tezpur University, discuss food science & technology

Tezpur: More than 50 scientists and 200 participants from across the country are participating in the 27th Indian Convention of Food Scientists and Technologists (ICFoST) at Tezpur University. The Association of Food Scientists and Technologists (India), AFST(I), Tezpur chapter on Thursday kick-started the three-day mega convention hosted by the Department of Food Engineering and Technology, Tezpur University. The theme of the year for the convention is 'Raising Agro-processing and Integrated Novel Technologies for Boosting Organic Wellness (RAINBOW)'.

"The theme of 'RAINBOW' has been meticulously chosen with the intent of integrating the organic capital of our country – Northeast India – into the central chain of food safety and food processing, thereby propagating agro-processing and novel technologies to boost organic wellness," said Dr AK Singh, distinguished scientist and Director General (Life Science), DRDO. He was delivering the inaugural address as the chief guest.

"All over the world, 'organic' has been a premium enticing word for industry, market and the overall well-being of ecosystem. It is therefore imperative to discuss the novel technologies developed across the academia, industry and agriculture sector for increasing the overall processing of agriculture commodities," he said.

He further said that the local farmers need confidence and the confidence would come through awareness and the industry needed to relook the technology needed for them as large-scale machinery was not suitable for small-scale business.

Earlier, Dr DD Wadikar, secretary, AFSTi, introduced the august gathering about the functioning of AFST(I). It is one of the largest professional and educational organizations with around 3,500 members of food scientists and technologists across the globe. "The major objective of AFST(I) is to stimulate and advance knowledge base on various aspects of food science and technology," Dr. Wadikar said.

Later inaugurating the poster session, Dr. Anil Dutt Semwal, Director, DRDO-DFRL, Mysuru hoped that the conference would be the rainbow for students specifically from farmer communities and food science and technology programmes so as to bring in organic Wellness and prosperity to their processed and fresh foods.

During the convention, more than leading food scientists, researchers and policy makers across the country (CFTRI, Mysuru; DRDO, New Delhi; DFRL, Mysuru; IIT, Kharagpur; IIFPT, Thanjaour; NIFTEM, Sonipat; and SLIET and many more) are expected to share their experience and knowledge and the young students will share their innovative ideas to fulfill the objectives of the conference.

The food industry experts from across the country (Exelon Foodbio Advisors Private Limited, Mumbai, Marico Mumbai, Kaleesuwari Refinery Private Limited, Chennai, Food Ingredient Specialities Private Limited, Chennai, Adani-Wilmar, Suhana, FIL and Johnson & Johnson) are also attending the conference for bridging the gap between academia and industry. NABARD and FSSAI are also actively participating in the event.

A food and wellness expo has also been organized during the convention where different organizers related to food industries are displaying their array of expertise.

<https://www.sentinelassam.com/top-headlines/scientists-meet-at-tezpur-university-discuss-food-science-technology/>



Sat, 01 Feb 2020

In a first, IAF's AN-32 plane with indigenous bio-jet fuel takes off from Leh

In a first, the Indian Air Force's (IAF) transport aircraft AN-32, powered with a 10 per cent blend of Indian bio-jet fuel, took-off from Kushok Bakula Rimpochee Airport at Leh on Friday.

This is the first time that both engines of the aircraft were powered by the bio-jet indigenous fuel. The aircraft was flight-tested and its performance was validated at Chandigarh Air Base, prior to undertaking the operational flight to Leh, the IAF said in a statement here.

Leh, at an altitude of 10,682 ft above the mean sea level, is among one of the world's highest and most difficult operational airfield, which is prone to extreme weather conditions.

<https://www.defencenews.in/article/In-a-first,-IAFs-AN-32-plane-with-indigenous-bio-jet-fuel-takes-off-from-Leh-809117>

Defence Budget 2020: A damper for national security

Budget 2020 India: The myth that only diplomacy can subjugate emerging security challenges, is a self-inflicted injury and a fallacy ploy

By Lt Gen AB Shivane

Union Budget 2020 India: The defence budget has been a damper for the most critical component of “Mazboot Bharat”. Quoted by the government as a “promising, proactive and progressive Budget which will make India healthy and wealthy in coming years”, however, lacks the other vital ingredients of a secure and strong India facing multifarious security challenges. As the curtain-raiser to the Def Expo 2020, lack of even mention of the defence budget in the FM speech who was earlier RM, is indeed disappointing. While other priorities for the nation are well appreciated, but they cannot be at the cost of national security. A minuscule 5.8% increase on YoY (Rs 3.37 lakh crore for 2020-21 against last year’s Rs 3.18 lakh crore)allocation is fraught with kinks in the nation’s image of a net security anchor in the region. Out of total allocation, Rs 1.13 lakh crore has been set aside for capital outlay amounting to barely 30% of the budget. The revenue expenditure which includes expenses on payment of salaries and maintenance of establishments has been pegged at Rs 2.09 lakh crore ie 70% of the overall budget. The bare minimum increase in capital outlay will drastically affect several major acquisitions of the army, navy and air force with a little leftover after committed liabilities for new schemes.

The Union Budget 2020 is critical as it serves as a platform for the nation’s march towards a \$5 trillion economy which demands an equally matching defence capability based on strategic autonomy. The journey is sure challenging, which gives this budget an added importance. However, as the Economic Survey 2020 finds a bright spot in the gloom of economic slowdown and predicts 6.5% growth rate for FY 2020-21 calling it ‘blue-sky’ thinking, the absence of matching defence capability development is thus indeed disheartening. The constraints of an economic slowdown are well appreciated, but the fact is India’s multi-spectrum security challenges today, are fast outpacing capability building process impinging upon our national security. Thus, receding fiscal defence resources are creating widening capability gaps for countering escalating threats. A defence budget with less than 2% of GDP coupled with an R&D expenditure less than 1 % of GDP does not augur well for India’s national defence, desired technology prowess, international stature and strategic autonomy. The argument of year on year allocation of amount marginally increasing, is flawed when inflation, foreign exchange depreciation, pension, pay and allowances, committed liabilities and civil component are dovetailed, resulting in a paltry amount for new schemes or sustenance.

The myth that only diplomacy can subjugate emerging security challenges, is a self-inflicted injury and a fallacy ploy. The debacle of 1962 must never be forgotten when matters of defence were shrouded in similar cloaks of delusion. Our politicians need to be made aware of the fact that the guns versus butter debate is flawed. A strong nation needs matching military capability to provide the security environment needed for its sustained growth. The irony is that defence budgeting is not populist budgeting but insurance to the nation. Unfortunately, populist budgeting in an era of domestic upheaval finds greater favour because of its higher short term visibility, vote bank politics and party-centric political sagacity.

To be capable to counter future threats, we must address all three critical components; transformed politico-military culture based on greater mutual trust and understanding, transformed defence

planning process focussed on outcomes and transformed joint service capabilities through supportive budgetary reforms. The defence budget needs to be guided by certain economic realities and benchmarks. The Defence Budget must be pegged at 40 to 50% of the predicted growth rate implying that if the economic survey 2020 has predicted 6.5 % growth, defence budget must be pegged at least 2.5% to 3% of GDP. In terms of absolute YoY amount, it must see an increase of near 15% to ensure measurable capital for modernisation and sustenance. Further, the imbalance between revenue and capital must be restored to 60:40 ratio the earliest. The need is also to work out pragmatic modalities for a non-lapsable “Defence Modernisation Fund” under newly raised DMA/CDS, restructuring, integration and right balancing MoD for imbibing cultural reforms and transformation, giving much-needed fillip to evolving a defence industrial base, addressing outcome-oriented and not existing procedure marred elusive procurement process, and a services calibrated modernisation strategy with enhanced focus on optimising joint warfare future capabilities and structures. The calibrated modernisation must relate to prioritized modernisation, based on acquisitions adding maximum value to combat effectiveness, mitigating critical vulnerabilities and accepting certain risks in temporal terms. This would demand tri service-based filtration for the “best bang for the buck”. The key question, however, remains – ‘Is that elusive buck even insight’? The Defence Budget 2020 is certainly indicative of its absence. Ironically a government which built its credibility pre-elections based on strong political will and demonstrative capability to safeguard national security seems to have gone into a memory lapse.

(The author is a distinguished Armoured Corps officer and is presently appointed as Consultant MoD/OFB. Views are personal).

<https://www.financialexpress.com/budget/defence-budget-2020-a-damper-for-national-security/1849197/>

Defence allocation triggers concerns on modernisation

By Rahul Singh

NEW DELHI: India on Saturday set aside ~3.37 lakh crore for defence spending in its budget for 2020-21, an increase of 6% over last year's budget estimate (BE) and only 1.9% over the revised estimate (RE) for 2019-20, triggering concerns among experts that insufficient funding could hit the military's modernisation drive.

According to budget papers, last year's BE and RE stood at ~3.18 lakh crore and ~3.31 lakh crore. While BE refers to budgetary projections made for the next financial year, the actual money spent during the year comes under RE. If defence pensions are taken into account, the budget for 2020-21 stands at ~4.71 lakh crore compared to ~4.31 lakh crore and ~4.48 lakh crore in last year's budget and RE respectively.

This year's budget includes ~1.13 lakh crore under the capital head for the modernisation of the armed forces — ~10,340 crore more than last year's BE and just ~3,340 crore higher than the RE for 2019-20 under the capital head.

The military, experts said, could find it hard to pursue its modernisation efforts because of a scarcity of funds. "At first reading, the allocation under the capital head seems to be insufficient considering armed forces need to fill large capability voids," said Air Vice Marshal Manmohan

Bahadur (ret'd), additional director general, Centre for Air Power Studies. He said, with major acquisitions in the pipeline, additional funds will have to be somehow generated. The budget speech in Parliament made

no mention of military spending except that national security was a top priority for the government.

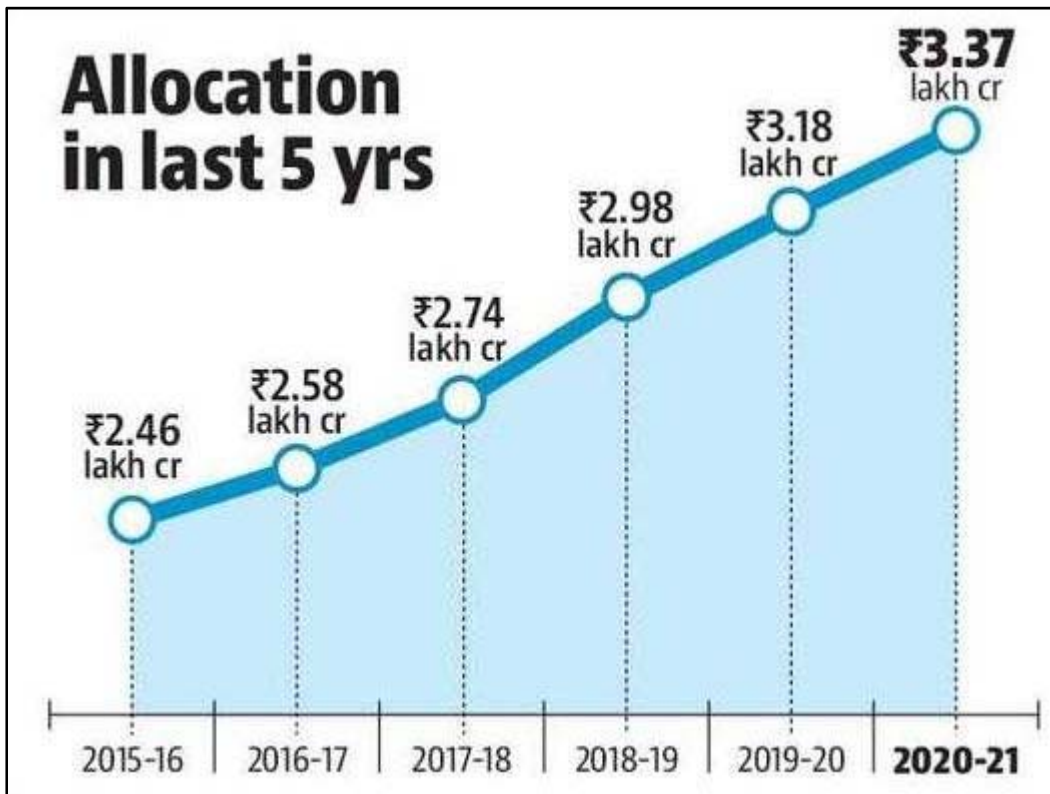
"We were hoping to get more money than what has been allocated, but the government has finite resources that have to be distributed across different sectors. We will have to prioritise our purchases," said a military official, asking not to be named.

The military's expectations from the budget were high as it plans to induct a wide range of weapons and systems. "We have

To use the budget smartly and make the most of what has been given to us," said a second senior military official who asked not to be named. This year's budget (excluding pensions) stands at 1.5% of the coun-

try's gross domestic product and accounts for a little over 11% of total government expenditure for 2020-21.

Reacting to the budget, former finance minister and senior Congress leader P Chidambaram said the newly appointed chief of defence staff (CDS) should raise his voice against the inadequate budgetary allocation. "I want him to protest loudly. I hope he will. I assure him our voice will join him in protesting loudly but he should lead the protest," Chidambaram said at a news conference.



Marginal increase in defence budget could mar new acquisitions

The disappointing part is that there has been a very marginal increase in the capital outlay for defence for 2020-21 as compared to the budget estimates and revised estimates of 2019-20, which will affect several big ticket projects of the defence forces that are being done for building capabilities against China and Pakistan

By Manu Pubby, Shaurya Karanbir Gurung

New Delhi: The union government on Saturday allocated Rs 3.37 lakh crore as the defence budget for 2020-21, which is a hike of only 5.8 percent over the allocation for this sector for the current financial year. The disappointing part is that there has been a very marginal increase in the capital outlay for defence for 2020-21 as compared to the budget estimates and revised estimates for 2019-20, which will affect several big ticket projects of the defence forces that are being done for building capabilities against China and Pakistan.

There was also no mention of the defence budget during the budget speech of Finance Minister Nirmala Sitharaman who was earlier the Defence Minister, indicating that the government has prioritised other sectors over defence. Without the pension, the defence budget is only 1.5 percent of the GDP.

As part of the Rs 3.37 lakh crore (excluding pension) allocated for defence for 2020-21, Rs 1.18 lakh crore is the capital outlay and Rs 2.18 lakh crore is the revenue head. Separately Rs 1.33 lakh crore is the allocation for pensions. The capital outlay for the budget estimate for 2019-20 was Rs 1.08 lakh crore. So, there has only been an increase of Rs 10,306.2 crore in the capital head for 2020-21 as compared to what it was for the current financial year. Similarly, there has only been an increase of Rs 3,183.64 crore in the capital head as compared to what it was in the revised estimate for 2019-20. The capital outlay for the revised estimate was Rs 1.15 lakh crore.

The bare minimum increase in capital outlay will drastically affect several major acquisitions of the army, navy and air force. The army is already procuring high-end artillery systems such as the M777 ultra light howitzers, the K-9 Vajra self-propelled gun and the indigenously developed Dhanush for the frontiers with China and Pakistan. Payments for these are ongoing. The IAF too is also paying for modern weapon systems such as the Rafale fighters and S-400 air defence system.

The meagre allocation will also affect the navy, which had earlier approached the government for additional funds amid a severe financial crunch that is forcing it to rationalise and reduce its requirements. Due to the low budget, the navy has had to rework its plan of having 200 warships by 2027. The navy has been pushing to get its share of the defence budget back to the 18 percent it was 2012-13 from 13 percent for the current financial year. The navy has also had to cut down on the numbers planned to be acquired in some projects such as Mine Counter Measure Vessels and P8i maritime reconnaissance aircraft.

In view of the committed liabilities from past years the allocated budget will fall short of the armed forces' requirements. The budget is also unlikely to cater to inflation and GST rates.

The defence budget this time is only a 5.8 percent hike as compared to defence budget estimate of 2019-20, while it is only a 1.9 percent increase over the revised estimate. The hike is much less as compared to the percentage increase in the defence budget for 2019-20, which stood at 7.93 percent.

The revenue head continues to remain larger than the capital outlay. This is mainly because of the large number of pays and allowances, including increments that have to be paid for the personnel of

the defence forces. The revenue head also takes care of repairs and transport, which are crucial for running a force. For example in the army, the revenue to capital ratio is 82:18. However, this head too has witnessed only a marginal increase over what it was in budget and revenue estimates of 2019-20. Meanwhile, separately Rs 1.33 lakh crore is the allocation for pensions.

But, it remains to be seen whether the appointment of the Chief of Defence Staff, aimed at improving jointness between the forces, can synergise their requirements and prioritise them according to the budget.

Defence Minister Rajnath Singh, commenting on the budget, said, "The first Budget of the new decade presented today by Finance Minister Smt. Nirmala Sitharaman gives an outline of a New and Confident India. It is a promising, proactive and progressive Budget which will make India healthy and wealthy in coming years."

https://economictimes.indiatimes.com/news/defence/marginal-increase-in-defence-budget-could-mar-new-acquisitions/articleshow/73839394.cms?utm_source=Colombia&utm_medium=C1&utm_campaign=CTN_ET_hp&utm_c



Sun, 02 Feb 2020

Left defence-less: Budget allocation for defence lowest since Indo-China war

While Finance Minister Nirmala Sitharaman did not mention the defence budget in her speech, Budget papers show the total defence budget grew by 6%.

By Sandeep Unnithan

New Delhi: The Defence Ministry's welfare component, defence pensions, now loom large over the money it spends on the armed forces. While Finance Minister Nirmala Sitharaman did not mention the defence budget in her speech, Budget papers show the total defence budget grew by 6%. The defence pension bill, on the other hand, grew by 13%.

The pension bill hiked from Rs 1.17 lakh crore to Rs 1.33 lakh crore this year, forming a sizeable chunk of the Rs 4.71 lakh crore total defence budget. To put this in perspective, India spends more on its defence pensioners than Pakistan's defence budget (Rs 1 lakh crore this year). Armed forces say their modest 6% hike over last year's Rs 4.31 lakh crore budget will be insufficient to meet the requirements of the officials.

The military is in the process of upgrading their ageing arsenals with new fighter jets, warships and submarines. But it also has an army of defence pensioners to look after. India has approximately 26 lakh defence pensioners and each year it adds 55 lakh pensioners to this total. Five-yearly revisions in pension - the One Rank One Pension (OROP) - granted by the government in 2015 - means that the pension burden is only set to increase.

The defence budget (minus pensions) is currently around 1.8% of the GDP. Defence analysts say it is one of the lowest since the 1962 India-China border war. The government clubs the defence budget with pensions to say it is over 2% of the GDP. The Army accounts for a lion's share of the budget - over 56%. This year's defence budget saw an increase of Rs 2,500 crore in the Army's capital budget (when compared to revised estimates of last year's defence budget). The IAF, in sharp contrast, saw capital budget slashed by Rs 1,200 crore.

This month marks the first anniversary of the February 26 Balakot airstrike, the first time the IAF crossed the international border with Pakistan since 1971. The February 27 air battle over Naushera where a MiG21 was shot down exposed chinks in its armour - the force says it needs new warplanes and beyond visual range missiles to plug gaps. Reduced budgetary allocations do not make it easier.

<https://www.indiatoday.in/business/budget-2020/story/left-defenceless-budget-allocation-for-defence-lowest-since-indo-china-war-1642466-2020-02-02>

ThePrint

Sun, 02 Feb 2020

Defence pension jumps 13.6% in Budget 2020, but overall allocation rises just 3%

The total defence budget, including pensions, stands at Rs 4.71 lakh crore.

Pensions constitute 28% of the defence ministry's overall expenditure

By Amrita Nayak dutta

New Delhi: The allocation for defence pension has shot up by a significant 13.6 per cent to Rs 1.33 lakh crore in the Union Budget 2020-21, even though the overall capital budget allocation for the armed forces has seen a marginal increase of just 3 per cent, or Rs 3,400 crore.

The total defence budget this financial year, including pensions, stands at Rs 4.71 lakh crore. Excluding pensions, the defence budget has just increased by 1.82 per cent. The capital outlay for the Army has increased 10.3 per cent, while that for the Navy has risen 2 per cent. The outlay for the Indian Air Force, meanwhile, has decreased by 2.3 per cent.

Defence pensions, including those for civil employees of the defence ministry, are higher than the pay and allowances for the services, which stand at Rs 1.17 lakh crore. Pensions constitute 28 per cent of the overall expenditure of the defence ministry, even higher than the Rs 1.13 lakh crore earmarked for new acquisitions and modernisation of the armed forces.

The Army is the most manpower-intensive service of the three with a strength of 13 lakh personnel, and the pension allocation for it is Rs 1.13 lakh crore. For the Indian Air Force and the Navy, the figures stand at Rs 0.13 lakh crore and Rs 0.072 lakh crore respectively.

A matter of concern

Budget documents show that the increase in defence pension is largely because of an increase in pensioners and an impact of dearness relief.

A senior defence officer told ThePrint the services are aware of the burgeoning pensions, and have been looking for plausible solutions.

“We are aware of the problem, but it is difficult to cut down on defence pensions, as they are a factor in motivating defence personnel to serve in difficult conditions,” the officer said.

Calling the increasing defence pension a big concern, another senior officer said that the Army, in particular, has been contemplating ways to optimise engagement of its personnel by increasing the number of service years.

“Instead of taking any drastic measures, the feasibility of increasing the retirement age of soldiers is being studied. This could go a long way in reducing the pensions burden,” the second officer said, adding that increasing the retirement age of non-combatants by a few years is also under discussion.

<https://theprint.in/economy/defence-pension-jumps-13-6-in-budget-2020-but-overall-allocation-rises-just-3/358304/>

Defence budget up 5%, capital spending flat; pension budget zooms

Despite the large number of weapons systems due for procurement, capital allocation has been raised only marginally from Rs 115,350 crore in the current year to Rs 118,534 crore in 2020-21

By Ajai Shukla

New Delhi: The defence budget for the year 2020-21 has been raised by just 5 per cent over the current year's revised allocations, following a multi-year trend of steadily reducing the share of defence spending as a percentage of the government's total outlay.

Nirmala Sitharaman, herself a former defence minister, has allocated to defence Rs 471,378 crore, an increase of Rs 22,558 crore over the current year's revised estimate of Rs 448,820 crore. This includes the outlay for revenue and capital expenditure, as well as military pensions.

This amounts to 15.5 per cent of the government's total spending of Rs 3,042,230 crore next year. That share of government spending is significantly lower than this year's share of 16.6 per cent, the 17.4 per cent share in 2018-19 and the 17.7 per cent in 2017-18.

Despite the large number of weapons systems due for procurement, the capital allocation has been raised only marginally from Rs 115,350 crore in the current year to Rs 118,534 crore in 2020-21. That rise of less than three per cent is insufficient to even cover inflation and forex exchange rate slippages. The military will, therefore, have less buying power next year.

Worryingly, the only appreciable rise in spending is in defence pensions, for which the allocation has risen by almost 14 per cent to Rs 133,825 crore for 2020-21. This raise comes on the back of an even larger 16 per cent raise this year, over the 2018-19 pension allocation.

Since the grant of "one rank, one pension" in 2015-16, the military pension budget has more than doubled from the level of Rs 60,000 crore in 2015-16.

The Indian Air Force (IAF) has again been allocated the lion's share of the capital budget – Rs 43,282 crore, much of which will go towards instalments on earlier procurements, such as the 36 Rafale fighters that will begin delivery this year. However, this is lower than the IAF's allocation of Rs 44,869 crore in the current year's revised estimates.

There is disappointment for the navy, which has received a flat capital allocation of Rs 29,188 crore, despite public statements from senior admirals, including navy chief Admiral Karambir Singh, seeking a larger share of the defence budget.

	2017-18 (Actual)	2018-19 (Actual)	2019-20 (RE)	2020-21 (BE)
Revenue allocation	1,92,273	2,02,070	2,15,661	2,19,020
Capital allocation	95,431	99,611	1,15,350	1,18,534
Pension allocation	92,000	1,01,775	1,17,810	1,33,825
Total defence budget	3,79,704	4,03,456	4,48,820	4,71,378
Total govt spending	21,41,973	23,15,113	26,98,552	30,42,230
Defence as percentage of govt spending (%)	17.7	17.4	16.6	15.5
GDP	1,67,84,679	1,87,22,302	20442,233	2,24,89,420
Defence as % of GDP	2.23	2.16	2.18	2.1

Source: Compiled from Budget documents

Without that, the navy says it will be in no position to process important procurements – such as the production of six advanced submarines under Project 75I and the building of a second indigenous aircraft carrier to follow INS Vikrant, which Cochin Shipyard Ltd is likely to deliver next year.

The army has got the largest hike in capital spending, but this 8 per cent rise of Rs 2,669 crore will be insufficient to pay for the artillery guns, tanks and air defence systems the army badly requires.

https://www.business-standard.com/budget/article/defence-budget-up-5-capital-spending-flat-pension-budget-zooms-120020101523_1.html



Sun, 02 Feb 2020

Budget 2020: रक्षा बजट में मामूली बढ़ोतरी, सरकार ने आवंटित किए 3.37 लाख करोड़ रुपये

नई दिल्ली: रक्षा बजट में मामूली बढ़ोतरी करते हुए 2020-21 के लिए इसमें 3.37 लाख करोड़ रुपये का प्रावधान किया गया है, जबकि इससे पिछले साल यह 3.18 लाख करोड़ रुपये था। इसके साथ ही उन उम्मीदों को झटका लगा है, जिनमें सेना के तेजी से आधुनिकीकरण के लिए बजट आवंटन में उल्लेखनीय बढ़ोतरी का अनुमान जताया गया था।

वित्त मंत्री निर्मला सीतारमण द्वारा शनिवार को लोकसभा में पेश किए गए आम बजट के मुताबिक कुल रक्षा आवंटन में 1.13 लाख करोड़ रुपये पूंजीगत व्यय के लिए दिए गए हैं। इसका इस्तेमाल नए हथियार, वायुयान, युद्धपोत और अन्य सैन्य उपकरण खरीदने के लिए किया जाएगा।

राजस्व व्यय के मद में 2.09 लाख करोड़ रुपये खर्च होंगे, जिसमें वेतन पर व्यय और रक्षा प्रतिष्ठानों का रखरखाव शामिल है। कुल आवंटन में पेंशन भुगतान के लिए अलग रखे गए 1.33 लाख करोड़ रुपये शामिल नहीं हैं। विशेषज्ञों के मुताबिक रक्षा आवंटन जीडीपी का 1.5 प्रतिशत बना हुआ है, और यह 1962 के बाद से सबसे कम है।

बजट के बाद क्या बोले रक्षा मंत्री

रक्षा मंत्री राजनाथ सिंह ने शनिवार को वित्त वर्ष 2020-21 के लिए पेश किये गये केन्द्रीय बजट की सराहना की। उन्होंने कहा कि यह विकास को बढ़ायेगा और अर्थव्यवस्था में मांग फिर से पैदा करेगा। सिंह ने कहा कि यह बजट न केवल निवेश अनुकूल है बल्कि यह किसानों की आय को दोगुना करने और भारतीय उद्योगों को स्थिर करने में महत्वपूर्ण साबित होगा। रक्षा मंत्री ने कहा, 'वित्त मंत्री निर्मला सीतारमण द्वारा पेश किये गये नये दशक का पहला बजट नये और आत्मविश्वासी भारत की रूपरेखा पेश करता है। यह एक आशाजनक, सक्रिय और प्रगतिशील बजट है जो आने वाले वर्षों में देश को और समृद्ध बनाएगा।

<https://www.livehindustan.com/national/story-rs-3-37-lakh-crore-allocated-for-defence-budget-2996422.html>

Budget 2020: भारत के रक्षा बजट में 6 फीसद की इजाफा, 4.7 लाख करोड़ किए आवंटित

भारतीय सेना को मजबूती देने के लिए आम बजट 2020-21 में रक्षा क्षेत्र के बजट में छह फीसद का इजाफा किया गया है।

नई दिल्ली: वित्तमंत्री ने 2020-21 के बजट में देश की सुरक्षा को पुखता बनाने के मकसद से रक्षा क्षेत्र को मिलने वाले बजट में 6 फीसद का इजाफा किया है। इसको 2019-20 की तुलना में 3.18 लाख करोड़ से बढ़ाकर 3.37 लाख करोड़ किया गया है। इस बजट की सबसे खास बात ये है कि सेना के आधुनिकीकरण और नए और अत्याधुनिक हथियारों की खरीद के लिए सेना को 1,10,734 करोड़ का आवंटन किया गया है। वर्ष 2019-20 में इस क्षेत्र के लिए दिए गए बजट से ये राशि अधिक है। इस बजट में यदि रक्षा पेंशन को भी जोड़ा जाए तो इस बार का ये बजट करीब 4.7 लाख करोड़ का है। इस बार रक्षा पेंशन के बजट को पिछले वर्ष की तुलना में 1.33 लाख करोड़ से बढ़ाकर 1.77 लाख करोड़ किया गया है।

बीते कुछ वर्षों पर यदि नजर डालेंगे तो पता चलता है कि भारत ने लगातार अपने रक्षा बजट में इजाफा किया है। यह इस लिहाज से भी खास है क्योंकि भारत अपनी सुरक्षा नीतियों के साथ-साथ अपनी सेना के आधुनिकीकरण को लेकर काफी सजग हुआ है। वहीं भारत का पड़ोसी देश चीन अपनी रणनीतिक स्थिति को मजबूती देने के लिए काफी कुछ नया कर रहा है। इसलिए भी रक्षा बजट में इजाफा करना बेहद जरूरी था।

गौरतलब है कि बीते वर्ष आम चुनाव से पहले जो आर्थिक लेखाजोखा तत्कालीन वित्त मंत्री पीयूष गोयल ने पेश किया था उसमें भी उन्होंने रक्षा क्षेत्र के लिए खजाना खोल दिया था। वित्त मंत्री ने तब एलान किया कि रक्षा बजट का आवंटन तीन लाख करोड़ रुपये से ज्यादा होगा। रक्षा बजट में पहली बार इतनी बड़ी धन राशि का आवंटन किया गया था। 2018 की तुलना में 2019 के रक्षा बजट में पांच हजार करोड़ की वृद्धि की गई थी। 2018 का रक्षा बजट 2.95 लाख करोड़ था। 2017 का रक्षा बजट 2.74 करोड़ रुपये था। इसके अलावा 2019 के बजट में उन जवानों के भत्ते में भी इजाफा किया गया था जो हाई रिस्क इलाकों में अपनी जान दांव पर लगाकर देश की रक्षा करते हैं।

आपको यहां पर ये भी बता दें कि चीन की तुलना में भारत का रक्षा बजट काफी कम रहा है। चीन का रक्षा बजट भारत से तीन गुना ज्यादा है। वहीं भारत इस क्षेत्र पर अपनी जीडीपी का दो फीसद से भी कम खर्च करता आया है। हालांकि रक्षा जानकार हर बार रक्षा बजट को जीडीपी के तीन फीसद तक करने की मांग करते रहे हैं। इसकी वजह ये भी है कि अमेरिका अपनी जीडीपी का जहां 4 फीसद खर्च करता है वहीं चीन 2.5 और पाकिस्तान 3.5 प्रतिशत रक्षा क्षेत्र के लिए आवंटित करता है।

<https://www.jagran.com/business/budget-finance-minister-rise-defense-budget-by-6-percent-in-union-budget-2020-jagran-special-19989943.html>

IAF needs 200 new fighters but Modi govt has cut funds in Budget 2020

*Nirmala Sitharaman marginally increased the capital budget of both
the Navy and Army in the Union Budget 2020-21 announced Saturday*

By Snehash Alex Philip

New Delhi: The Indian Air Force (IAF), which plans to acquire 200 fighter aircraft amid its depleting strength, saw a drop in capital funds allocation in Finance Minister Nirmala Sitharaman's Union Budget 2020-21 against revised estimates for the current fiscal.

While Sitharaman had allocated Rs 39,302.64 crore for the IAF capital expenditure in her last budget in July 2019, it was increased to Rs 44,869.14 crore in the revised estimates for 2019-20.

On Saturday, Sitharaman, who has served as defence minister in the past, allocated Rs 43,281.91 crore for 2020-21 — a 3.5 per cent decrease from the revised estimates.

The move came despite the fact that the IAF's committed liabilities — payments to be made for past orders — was around the same figure as the revised estimates, defence sources told ThePrint.

Even though the IAF officials put up a brave front saying the revised estimates for 2020-21 would be more, sources called the development saddening.

The Army and Navy were luckier with marginal increase in their outlay.

While the revised estimates for the Army was at Rs 29,666.90 crore this fiscal, the budgetary estimates for the next fiscal has been increased by 8.4 per cent to Rs 32,392.38 crore.

The Navy, which has been reeling under severe fund crunch, also saw a minor increase — the budget allocation for 2020-21 stood at Rs 26,688.28, a 2 per cent rise from the revised estimates of Rs 26,156.43 crore.

'200 aircraft to be bought'

Last month, Defence Secretary Ajay Kumar had said that the government is in the process of acquiring around 200 aircraft to deal with the depleting aerial inventories of the IAF.

"Roughly (for) 200 aircraft, the acquisition is in process," he said. "We are in the process of finalising the contract for 83 Light Combat Aircraft (LCA) Mark 1A, which are advanced fighters to meet the urgent needs of India."

The IAF is also in the process of issuing a tender for 114 new fighter jets.

The Air Force is down to 28 fighter squadrons against a sanctioned strength of 42. Of this, about 10 squadrons are made up of the MiG-21 Bisons and Jaguars, which ideally should have been retired long ago.

The budget revision has come just a year after the IAF was outgunned and outmatched by Pakistan, which carried out a raid on 27 February 2019 targeting Indian military installations a day after the IAF's Balakot airstrikes.

The IAF was mechanically outgunned by Pakistan with its superior fighters, missiles and the airborne early warning and control systems.

The force's plans for more modern mid-air refuellers and replacement of the vintage Avro transport aircraft have also been stalled for now due to paucity of funds.

<https://theprint.in/defence/iaf-needs-200-new-fighters-but-modi-govt-has-cut-funds-in-budget-2020/358347/>

DefExpo 2020 set to give major boost to India's military might

It is no wonder that big boys like Raytheon, SAAB, IAI, Rosoboronexport, and Boeing are taking part in the event

By Kamal Shah

New Delhi: Lucknow will be host to the DefExpo 2020 from 5-9 February. It will be an exhibition of military weaponry, support system hardware and technology. The four-day mega event is designed to flex military muscles and also indicate that India is a major buyer in the global military shopping arcade. It will also act as the perfect showcase for top companies to parade their wares to customers with massive budgets to invest in across-the-board upgrades.

Much of the global interest has been reignited in India as the Chinese dragon chases its own tail both economically and administratively. In both the short term and the long haul, it faces internal dissent of the tangible sort. In the balance of power in this hemisphere, suddenly India is the fulcrum and a strong deterrent to Beijing's adventurism.

The current clumsiness over handling what is still the beginning of the Coronavirus has added to the concern that the Xi Jinping regime is under the cosh and faces vocal opposition like never before.

In this scenario, India finds great favour, if still largely unexpressed in Washington DC. Strategic alliances over the next 10 years will change dramatically with India and the US having the common purpose of bookending China and her rising status as the superpower in the region. They may pretend otherwise, but a lack of options makes for stranger bedfellows than the two largest democracies making a pact.

As things stand, the US may have the military force and weaponry to compete and even have superiority, but the geographical distance would make for a logistical nightmare. Ergo, India becomes the natural ally even if does not yet have the firepower to compete. By 2030, India will then have to rework and upgrade its military planning to ensure it can provide a suitable bulwark. These next 10 years should see a huge overhaul of India's defensive preparedness and the spike in its armed forces' arsenal.

Such a masterplan would include procurement of a range of weapons, missiles, air defence systems, fighter jets, submarines and warships, drones, surveillance equipment and developing infrastructure for extensive use of artificial intelligence, official sources said.

The government's immediate priority is to fast-track pending proposals, including procuring 2,600 infantry combat vehicles, 1,700 future ready combat vehicles for the Indian Army and paving way for supplying 110 multirole fighter aircraft to the Indian Air Force.

The plan includes procurement of a range of weapons, missiles, air defence systems, fighter to bolster its operational capability, the Navy has already finalised a plan to have 200 ships, 500 aircraft and 24 attack submarines in the next 3-4 years. At present, the Navy has around 132 ships, 220 aircraft and 15 submarines.

India has already shown its prowess and in-house capability and capacity for state-of-the-art fifth generation missile technology. The BrahMos (designated PJ-10), is a joint venture between the Russian Federation's NPO Mashinostroyeniya and India's Defence Research and Development Organisation (DRDO), who together have formed BrahMos Aerospace.

The PJ-10 is a medium-range ramjet supersonic cruise missile that can be launched from submarine, ships, aircraft, or land. It is the fastest supersonic cruise missile in the world. The roadmap

lies in front of its decision makers and it is only a question of going ahead with a time-bound induction of new weapons. The money is there, too which makes it so enticing for the global vendors.

India has already cleared a blueprint in the spend is \$130 billion in the next five to seven years to modernise the armed forces and bolster combat capabilities over rivals in the region, according to an official document and military sources.

That is plenty of big money and it is no wonder then that the big boys like Raytheon, SAAB, Lockheed Martin, Airbus, Dassault Aviation, IAI, Rosoboronexport, Thales, Boeing, BAE Systems and a thousand other companies from 70 countries are taking part in what is being touted as the largest ever exhibition of its kind. With that kind of budget and India looking at anti-tank missiles, now generation artillery and air defense umbrellas besides inculcating Excalibur ammunition for its howitzers and frontline artillery, this is no surprise.

Indian strategist and force planners must instead seek ways to offset their weaknesses and neutralise Chinese strength. One method will be to invest in nuclear submarines and move away from vulnerable surface vessels to underwater strength, according to one report.

Nuclear submarines have greater range, endurance, speed, and often greater payload. India appears committed to possessing a small fleet of nuclear submarines. The Indian Navy has always left itself vulnerable by being visible as a fleet and not moving away from the destroyer/frigate concept to more concealed oceanic power. But it is in the air that India has to think ahead of the curve.

Given their particularly high cost of procurement, maintenance, and training, as well as historical failures, India should begin its rationalization of procurement in tactical combat aircraft—namely multi-role fighters. Even though 36 Rafales are on the way, conventional fighter aircraft are passé.

One report says; “India’s recent history of combat-aircraft development and procurement is worthy of its own discussion, but the short version is that India has failed to procure sufficient advanced (fourth-generation-plus) aircraft to meet the near-term requirements of its Air Force, let alone compete with China. Consolidating near- to medium-term procurement on just two aircraft types would allow India to get more for its money. These two types should be a light multi-role fighter and an advanced fourth-generation-plus multi-role fighter. Should India retain its aircraft carriers, this more advanced fighter would ideally be capable of operating from India’s extant STOVAR aircraft carriers.”

Over the next two decades, India should consider an alternative. That would be to bypass fifth-generation aircraft and get in front of the queue to check out what technologies emerge in the next generation. The report accurately goes on to say: “Given the time it has taken India to procure fourth-generation aircraft, any decision today by India to procure fifth-generation aircraft is likely to be overcome by events before the aircraft are delivered. Moreover, in a predominantly defensive role, fourth-generation aircraft armed with advanced weapons and sensors are cost-effective solutions.”

Perhaps drone and remote controlled air attack and surveillance fleets are the way to go. In recent years, ground controlled air power has grown exponentially.

For India (and the United States in some areas), China’s rise should be a clarion call for fundamental reform in how their armed forces are trained, organised, equipped, and commanded. No time to waste and DefExpo 2020 is a major milestone on that road.

<https://www.sundayguardianlive.com/business/defexpo-2020-set-give-major-boost-indias-military-might>

Open display of equipments raises security concerns

By Rakesh K Singh

New Delhi: Open display of protection parameters and resistance of personal protection equipment like bullet-resistant vests and headgears besides armoured troop carriers in billboards and literature for the upcoming Defence Expo at Lucknow has raised alarm bells ringing in the security establishment as such specifics can potentially compromise the safety of security personnel in counter-terror and anti-Naxal operations.

“Showcasing vital and sensitive information related to protection systems should be stopped forthwith and necessary directions be issued by Defence Ministry that only the finished products should be displayed without dishing out specific details of protection level,” a serving official in a lead counter-terror force said..

Intelligence insiders conceded that information collected from such expositions by the sleeper cells of terror organisations and over ground workers of Naxal outfits have in the past been exploited by the insidious groups to target the troops.

The billboards and literature of the defence equipment manufacturers display the level of armour resistance from different kinds of bullet fires and area weapons like grenade and the impact of firing from different distance. Terror groups as also Naxal outfits can suitably strategise to nullify the resistance provided by the armour by tweaking the distance of their fire on the target or increasing quantity and quality of explosives for ambushing the protective gears and vehicles of the troops, another official engaged in counter-terror operation in Jammu and Kashmir.

During the last Defence Expo in Chennai, Laboratory reports of reputed Terminal Ballistic Research Laboratory (TBRL) and Gujarat State Forensic Univerity were displayed by the private players engaged in manufacturing and marketing defence systems, including personal protection gears and troop carriers.

Government regulations prohibit displaying specific details of sensitive items even while issuing tenders for procurement of such items. The regulations clearly postulate that such details should not be displayed on the websites or otherwise in keeping with national interest.

Strategic interests of the security forces should not be undermined by the private players in the Defence industry or the Defence Public Sector Undertakings (PSUs) or Ordinance Factory Board (OFB) to further their commercial interests as they can defeat the whole purpose of acquisition of protective equipment and vehicles, another senior official of an Central armed force said, adding complete confidentiality should be maintained while dealing with such equipment or systems.

Any protection system or equipment whose vital details have been leaked in open domain by the equipment manufacturers or suppliers should not be inducted in the forces as they can be compromised by the inimical elements, counter-terrorism expert Dr Rituraj Mate said.

<https://www.dailypioneer.com/2020/india/open-display-of-equipments-raises-security-concerns.html>

India-Africa summit to be held for first time in DefExpo; technology transfer agreements to also happen

“A unique feature of the event will be the India-Africa defence conclave. It is being done for the first time. There will be focussed interaction at the ministerial and head of delegation level. We are expecting over 30 countries to participate,” Defence Secretary Dr Ajay Kumar said. He added that 14 defence ministers from African countries have confirmed their participation

By Shaurya Karanbir Gurung

New Delhi: For the first time an India-Africa defence conclave will be held at the Defexpo 2020 which will be the largest ever in India and feature several MOUs and Transfer-of-Technology agreements with foreign countries, Defence Secretary Dr Ajay Kumar said on Friday.

Kumar also said that during the live demonstrations war crafts will be used for the first time in the Gomati river. This will be the 11th edition of the Defexpo and will be held from February 5 to 9. This will be the first time it is being held in Lucknow.

“A unique feature of the event will be the India-Africa defence conclave. It is being done for the first time. There will be focussed interaction at the ministerial and head of delegation level. We are expecting over 30 countries to participate,” he said.

Kumar added that 14 defence ministers from African countries have confirmed their participation in the conclave till now and the number is likely to go up. Twenty-four more countries have indicated their willingness to participate.

“This is the largest ministerial level participation in any sector in India,” he explained, adding that Prime Minister Narendra Modi will be inaugurating it. Defence Minister Rajnath Singh and Uttar Pradesh Chief Minister Yogi Adityanath will be present for the inauguration.

Meanwhile, various MOUs, Transfer-of-Technology agreements and product launches will take place on February 7. “We have major ToTs coming up there,” he said, not elaborating what they are.

Kumar said that this will be the largest Defexpo, as the number of exhibitors is 1,002. About 165 foreign companies have registered for participation. The previous Defexpo held in Chennai in 2018 had 702 exhibitors. “There has been nearly 50 percent jump in the number of exhibitors as compared to the last Defexpo. The exhibition area has nearly doubled from 27,000 square metres to 53,000 square metres,” he said.

The event is also large due to the participation of large number of countries. More than 60 countries are participating. Defence Ministers of nearly 40 countries have confirmed their participation for the DefExpo20, including Czech Republic, Mexico, South Korea and UAE. A delegation from China will also be taking part in the expo. Kumar said that the live demonstrations during the event will take place at two locations, including the Gomati front for aerial and boat displays.

Nineteen business seminars are planned during the DefExpo and 15 of these would be organised by various Industry Chambers, including Confederation of Indian Industries, PHD Combers of Commerce and Associated Chambers of Commerce of India. Some of the seminar topics are futuristic and include discussions on artificial intelligence, robotics, Internet of Things (IoTs), drones, wired warrior.

<https://economictimes.indiatimes.com/news/defence/india-africa-summit-to-be-held-for-first-time-in-defexpo-technology-transfer-agreements-to-also-happen/articleshow/73814083.cms>

Russia to present Kalibr cruise missile, Viking SAM in Indian defence fair

Russia's defence systems manufacturer, Almaz-Antey will present the export version of Kalibr cruise missiles besides the Viking surface-to-air missile system at the DefExpo-2020 arms show in India next week. The Viking is the export version of Russia's Buk-M3 anti-aircraft missile system, Almaz-Antey announced.

Viking, the latest multi-missile mobile medium-range air defence missile system (ADMS) from Russia, will be presented for the first time in India at DefExpo 2020.

Viking is the next generation the Buk ADMS line. In comparison with Buk-M2E, its range of fire has increased nearly by 1.5 times – up to 65 kilometers. Besides, the number of simultaneously engaged targets has also increased by 1.5 times, and the number of ready-for-launch air defence guided missiles in one firing position made of two combat units has grown up from 8 to 18.

Models of missiles "from the Club-S and Club-N integrated missile systems (the export version of the Kalibr missile launcher), the statement says.

The 3M-14T Kalibr-NK is a land-attack cruise missile with a range between 1,500 – 2,500 km. In 2015, Russia launched Kalibr missiles from ships in the Caspian Sea at ISIS targets inside Syria. The Kalibr-NK cruise missiles travelled 1,500 km to reach their targets. It has been reported it is capable of carrying a 450 kg conventional warhead. The missile is believed to fly 64 ft above the sea and 164 ft above the ground at speeds up to 965 km/hour. It is believed to be guided, using GPS and terminal-phase active radar seekers to achieve a reported three meters radius accuracy.

The Russian presentation will feature the AU-220M combat module which can be mounted atop tanks and armored vehicles. The module has a circular rotation and firing range of up to 14.5 kilometers with a maximum rate of fire of 80 rounds per minute. The ammunition includes 57 mm shells: multi-functional with a remote-contact fuse, armor-piercing and guided. This allows you to effectively hit small unmanned aerial vehicles, low-flying aircraft and helicopters, as well as ground lightly armored vehicles and field fortifications.

<https://www.defencenews.in/article/Russia-To-Present-Kalibr-Cruise-Missile,-Viking-SAM-In-Indian-Defence-Fair-809122>

Indo-Bangla military exercise begins today

New Delhi: The ninth edition of the joint military training exercise between India and Bangladesh — SAMPRITI-IX — will commence at Umroi, Meghalaya, from February 3.

The 14-day India-Bangladesh joint military training exercise is an important bilateral defence cooperation endeavour between India and Bangladesh.

During the exercise, both sides will practice counter-terrorism drills. The exercise aims to strengthen military cooperation in counter-terrorism environment simulated under the UN Charter.

During the joint military exercise, a command post exercise and a field training exercise will be conducted. The exercise is planned in such a manner that participants initially get familiar with each other's organisational structure and tactical drills.

Subsequently, joint tactical exercise will be conducted wherein the battle drills of both armies will be practised. The training will culminate with a final validation exercise in which troops of both armies will practice a counter-terrorist operation in a controlled and simulated environment.

<https://www.tribuneindia.com/news/indo-bangla-military-exercise-begins-today-34956>

ISRO aims for stars with low-cost launch vehicles for carrying satellites

Vikram Sarabhai Space Centre Deputy Director TV Haridas said that the ISRO has planned some 500 PSLV launches in the next five years

Thiruvananthapuram: The Indian Space Research Organisation (ISRO) is in the process of making low-cost launch vehicles worth Rs 30-35 crores each, which can put satellites weighing 500kg into the orbit, said Vikram Sarabhai Space Centre Deputy Director TV Haridas.

Speaking at the panel discussion at 'EDGE 2020, The Space Conclave' here on Friday, he said the first such launch is expected to take place in the next four months. "This capability will give ISRO a big commercial boost as it will be able to cater to micro, mini and medium segments of the market. The biggest advantage is that ISRO now can manufacture these vehicles in a turnaround time of just three weeks. ISRO has earmarked USD 1,600 million for launch vehicles of which \$870 million will be for PSLV and remaining for GSLV," said Haridas.

He said that the ISRO has planned some 500 PSLV launches in the next five years. "The Government Owned Contractor Operated (GOCO) model is picking up very well in the space and defence sectors. We want to leverage it to the maximum in the coming days," he said.

Earlier, in his keynote address at a session titled 'Navigating Space Industry – Through Innovation, Agility and Collaboration', Rabin Giles, Director Innovation, CNES Connect, said there is tremendous scope for cooperation between France and India in the development of space technology.

Moon mission: India, France can join hands

"India and France can work to set up a model for the Moon programme," said Giles. Elaborating on the cornerstones for a space deal, Giles said partnerships is the solution. According to him, space industry is a sector where 'patience and dream' play a big part.

Daniel Baker, Director of America's LASP Programme, stressed the need for students from universities to take part in space research programmes. In this context he lauded the new Space Park which will be a launch-pad for exploration. The seeds of success will be in replicating the success of LASP here, he said. PSR Sastry, Director DSP, DRDO said the DRDO is trying to make cost-effective technologies work for them.

Later, in a session titled Enablers of Space Industry – Challenges and Insights into Space Regulations and Policies, Dua Associates partner Ranjan Kaul, TMT Law Practice MD Abhishek Malhotra, and Takshashila Institution co-founder Nitin Pai concurred on the need to encourage the private sector to play a potent role in the country's space sector and the need to enact legislation for the same.

<https://www.newindianexpress.com/nation/2020/feb/01/isro-aims-for-stars-with-low-cost-launch-vehicles-for-carrying-satellites-2097292.html>



Sun, 02 Feb 2020

In a secure space of its own

By Kuldeep Singh Dhir

Space means much more than exciting news today. Multiple-use satellites and space probes are a common phenomena. Space race of the 1950s has culminated in making space assets a crucial part of defence system of most countries. Space is being used for civilian as well as military programmes and the two are intertwined. Attempts by nations to secure strategic hegemony over the adversaries are often a cause of concern. Space needs rules and laws to govern space activities. Codes of conduct, treaties and laws have been evolved for it. Gopalaswamy's book offers an in-depth analysis of present-day space scenario with special emphasis on India.

He begins with the beginning as to how Pt Nehru gave a go ahead for India's space programme soon after launch of first Russian Sputnik in 1957 with Vikram Sarabhai at the helm. Indian National Committee for Space Research, ISRO, Department of Space and Space Commission followed. India tested its first sounding rocket, an American one, in 1963. Our scientists took only two years to manufacture a similar indigenous rocket. During the Cold War era, as a leader of the Non-Aligned Movement, India nurtured its space programme with help from both the US and the USSR.

Year 1975 saw the launch of our first satellite with the Soviet help and Satellite Instructional Television Experiment with the American help. India embarked on its remote sensing programme, launch vehicle project and prestigious INSAT series in 1979, 1980 and 1983, respectively. Starting with 40-kg payload and 400-km intended height Satellite Launch vehicle (SLV), ISRO developed its sophisticate powerful long-range variants like ASLV & PSLV. GSLV is the latest among these. It can station 5000-kg payload in low Earth orbit and 2500 kg payload in geosynchronous orbit.

Dr Abdul Kalam, project director of the launch vehicles, conceived and led India's integrated guided missile programme. It was completed in 2008 with missiles of various kinds and ranges, developed and inducted in our armed forces. Chandrayaan-1(2008), Mangalyaan (2013) and Chandrayaan-2 (2019) made India a space power to reckon with.

Gopalaswamy's narrative underlines that integration of space into military operations and security affairs became part of our space roadmap slowly over the years. The paradigmatic shift from exclusive focus on civilian use to fulfilling security needs was dictated by regional and global threats.

The Indo-Pak war (1971), Kargil imbroglio (1999), Chinese Anti Satellite Test (2007), terrorist attack on Mumbai (2008) and overall world scenario justify this formulation. India was dependent on foreign sources for space-based positioning, navigation and timing data prior to the Kargil War. The US denial and partial or late access to vital data from the USSR or other sources created problems for the security forces during this war. This made India realise the need for indigenous positioning network. NAVIC and GAGAN were the hard lessons of this episode. Similarly, ASAT test of China prodded India to develop this capability and it was achieved in 2019.

ISRO's launch vehicles, control facilities, expertise and excellent track record have encouraged it to take up commercial launching in a big way. Statistics regarding debris from natural and manmade objects in space are frightening because of the threats these pose to satellites and probes. Whereas inter-agency debris co-ordination committee co-ordinates data to avoid collisions, ISRO supplements it from multi-object tracking radar and GSATs.

This book brings out that there is consensus on peaceful use of space but lack of honesty of purpose and mutual trust among nations. There is conflict of interests, suspicion and scramble for space hegemony by major space powers. Governance of space activities is a tough job. UN conducts it through various treaties and agreements. All these aim at keeping space free from weapons of all kinds. International law holds the concerned state responsible for all space activities on its soil, government or private, when it comes to infringement, compensation or punitive action. Legislating National Space Law has thus become necessary to deal with the situation.

India's space programme was largely state owned and therefore the need for space legislation was never appreciated. Emergence of private space entrepreneurs and international law call for enactment of Indian space law immediately. Geospatial Information Regulation Bill 2016 and Draft Space Activities Bill 2017 have been designed for this. Dr Bharath points out that these need thorough revision to make them more effective and comprehensive. India can look to other space-faring nations for new ideas in this respect. The book is thus an instructive and informative read for the layman in general and space buffs as well as policy makers in particular.

<https://www.tribuneindia.com/news/reviews/story/in-a-secure-space-of-its-own-34544>

THE TIMES OF INDIA

Sun, 02 Feb 2020

Space race: China in orbit with 7 times more funding

By Chethan Kumar

New Delhi: The Chinese government has spent seven times more than the Indian government on its space programme, the Economic Survey 2019-2020 released Friday shows.

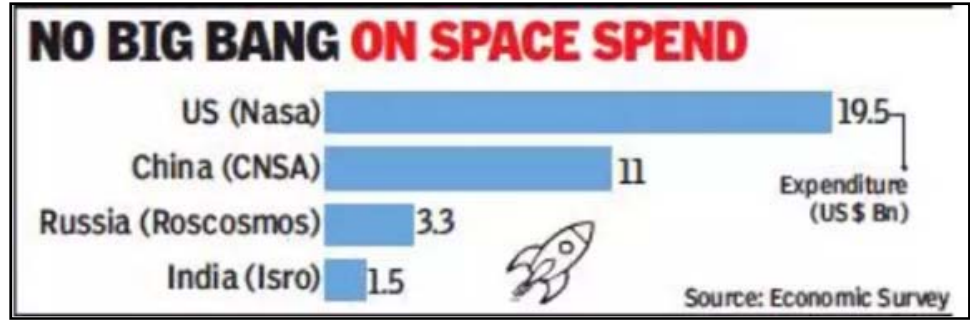
Conceding that India's government space expenditure still lags behind major players in the space sector, the survey further shows that the US spent about 13 times more than India in the same year.

While India's ISRO spent about \$1.5 billion in 2018, US' Nasa spent \$19.5 billion and China's CNSA spent \$11 billion (see table).

India also compares poorly in terms of the number of satellites it launched in the six years between 2013 and 2018.

While Isro, on average launched about 5-7 satellites, agencies of other countries have launched many more. For instance, in 2018, Isro launched seven satellites, while Russia, US and China dominated the sector with 20, 31, and 39 satellites, respectively.

Stating that India has been pursuing a policy that engages private industry more in delivering space-related goods and services, the survey notes: “...Various areas have been identified for attracting private investments including production of Polar Satellite Launch Vehicle (PSLV); satellite integration and assembly; production of composite materials; production of solid, liquid, cryogenic and semi-cryogenic propellants; and production of electronic packages, testing and evaluation for avionics and satellite subsystems.



” It added that the global space economy for 2018 tallied about \$360 billion, which includes space systems manufacturing and space-based services. Explaining the focus areas in this sector, the survey said: “Among key areas of focus, the first area has been satellite communication, with INSAT/GSAT system as the backbone to address the needs for telecommunication, broadcasting and satellite-based broadband infrastructure in the country.”

The second area, it said, has been earth observation and using space-based information for weather forecasting, disaster management, national resource mapping and governance, while the third area has been satellite-aided navigation including GAGAN and NavIC.

“GAGAN, a joint project between ISRO and the Airports Authority of India (AAI), augments GPS coverage of the region to improve accuracy and integrity for civil aviation applications and better air traffic management over Indian airspace. NavIC, a regional Navigation system has also been established for providing Position, Navigation and Timing (PNT) Services,” the survey adds.

<https://timesofindia.indiatimes.com/business/india-business/space-race-china-in-orbit-with-7-times-more-funding/articleshow/73824661.cms>