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Culture of jointness: Increase professional expertise in defence acquisition else it will be imports as usual

By Manmohan Bahadur

“There is an urgent need for a culture of jointness to be developed in government institutions and decision making,” said S Jaishankar, the erudite former foreign secretary, while talking on national security at the Air Commodore Jasjit Singh Memorial Lecture in Delhi last month. It is surprising that such an elementary point had to be emphasised so long after India assumed control of its destiny – but it also highlighted the ‘siloes’ that has marked decision making at apex levels.

This disturbing state of affairs is most visible in the area of defence R&D and manufacturing where India has the shameful tag of being the largest importer of arms. That an attempt is being made to get out of the compartmentalisation is evident in the creation of the Defence Planning Committee (DPC); being headed by the NSA it would, hopefully, bring an element of coherence and synergy in strategic decision making in matters defence. But is that the panacea?

Doctrine, strategy and technical creativity are not the preserve of people at the level of service chiefs, DRDO head, government secretaries and NSA who, amongst other bigwigs, constitute the DPC. These higher-ups fine tune the real work done earlier by lower functionaries, starting from director and joint secretary; so, the proverbial pudding can only be as good as the base it gets. The government needs to stoop to conquer, as it were, if it means business and wants the moribund defence R&D and manufacturing to start stirring.

One example will bring home the morass we find ourselves in. While HAL struggles to get the delayed by decades final operational clearance for the Tejas, a sixth generation fighter concept was showcased at the recent Farnborough Airshow – the cockpit of the British Tempest fighter would have no instruments, with the pilot operating through a virtual reality and augmented reality helmet system!

While the endeavour to bring in multi-ministerial cohesion at the highest echelons (DPC) is good, the kick-starting has also to happen at the mid policy formulation levels of the defence ministry; the exclusion of the MoD from the list of ministries where professional advisers from outside the IAS bureaucracy are being sought beats logic and common sense. Another quip from Jaishankar would be apt here: “We in India have an industry of policy making without one of policy analysis.” Policy making is a favourite pastime but the analysis of why earlier policies failed is missing. Are we alone in this predicament? No.

The US realised in the 1990s that their military acquisition programme was, in the words of their defence historian William Gregory, “managed and over-reformed into impotence with volumes of oversight regulations”. He added that the US Congress had been, “pursuing an impossible dream by trying to legislate perfection ... when no regulation could create good management or top-notch people”. The US acted resolutely; the Defense Acquisition University was established, and it now runs postgraduate and doctorate programmes on defence procurements – basically, they resolved to acquire professional expertise (and not generalists) in the acquisition process.

If the DPC is to succeed in its endeavour of speeding up defence indigenisation while equipping the armed forces in a timely manner, it needs professionals of the armed forces to be positioned at executive positions (joint and additional secretary) in the MoD. The soldier, sailor and airman of today knows a thing or two about armament, technology, systems, doctrine, strategy and, of course, war fighting; and yes, they are also not novices at diplomacy and administration.

Inability to accept and include their expertise would only attest to what Gaius Petronius, a Roman courtier during Nero's times, said: "We tend to meet any new situation by reorganising; and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralisation."

We must stop being spasmodically euphoric whenever the US 'declares' India to be a 'major defence partner' or as recently when accorded 'Strategic Trade Authorisation Status STA1'. A feeling of satisfaction must flow from genuine self-sufficiency in our own abilities. But for that to happen, 'jointness' in thought and action has to permeate higher decision making levels of MoD with the inclusion of all stakeholders – bureaucracy, professionals from the services, scientists and industry working together to a purpose. Else, it would be imports as usual.

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Thu, 02 Aug 2018

Taskforce set up for roadmap to build indigenous plane: Suresh Prabhu

The government has set up a high- level task force to develop a roadmap for building aircraft under the Make in India' programme which will decide on setting up a special purpose vehicle.

New Delhi: The government has set up a high- level task force to develop a roadmap for building aircraft under the 'Make in India' programme, which will decide on setting up a special purpose vehicle (SPV) for the Rs 10,000- crore project, Rajya Sabha was informed on Wednesday. "A high-level task force to develop the roadmap with implementable recommendations has been set up under the chairmanship of the Civil Aviation Minister," Civil Aviation Minister Suresh Prabhu told members in Rajya Sabha.

Responding to supplementaries on the issue, he said the task force has been working on the matter and have already taken several steps, but a decision on forming an SPV will be taken at the Committee of Secretaries.

The task force will consist of 106 people from HAL, NAL, ADF and DRDO for appraisal. So, these will be the persons actually constituting the SPV. Enough financial and administrative powers may be sought for the SPV to implement the project, he said.

"This is an idea which will actually change the manufacturing infrastructure. It is almost a Rs 10,000 crore project," he said. Prabhu said we are not just trying manufacturing through this process, but will also encourage anyone who has manufacturing capabilities to manufacture aircraft so that we can bridge the gap that exists between the demand and supply and actually do that at the same time.

In his written reply, he said a High-Level Task Force under the Chairpersonship of the Minister of Civil Aviation has been taken up for the holistic development of the ecosphere for the manufacture of civilian aircraft, helicopters and associated aviation equipment in India.

This has been done in pursuance of the National Civil Aircraft Development (NCAD) programme and for the promotion of India as an important investment destination and global hub for the manufacture, design and innovation under the 'Make in India' initiative, Prabhu said.

"The issue of the development of the Regional Transport Aircraft was considered by the Committee of Secretaries in a meeting held by the Cabinet Secretary on 18.05.2018 and further actions have been taken up in accordance with the decisions taken therein, including the constitution of a Sub-Committee on the Special Purpose Vehicle for manufacture of the regional transport aircraft in India," he said.

<https://www.timesnownews.com/business-economy/industry/article/taskforce-set-up-for-roadmap-to-build-indigenous-plane-suresh-prabhu/262995>

A third of national capital budget goes to army: Govt

AJAI SHUKLA
New Delhi, 1 August

Traditionally, the government has measured defence allocations as a percentage of gross national product (GNP), or as a share of total government spending. In recent years, the total defence budget, inclusive of pensions, has been slightly over 2 per cent of gross domestic product (GDP) and 16-18 per cent of government expenditure.

But now, the government has put forward in Parliament a new, and more telling, metric, which is the defence capital allocation as a percentage of the national capital spending. Facing pressure to increase the capital budget, which buys new weapons and equipment, the government is arguing that defence already accounts for one-third of the national capital spend.

A defence ministry written response, tabled in Parliament on Wednesday, stated that the defence capital budget had already been increased from ₹915.79 billion in 2017-18 to ₹995.63 billion in the current year — a rise of 8.72 per cent.

"Significantly, the capital allocation for the Ministry of Defence in the current fiscal year is 33 per cent of the total central government expenditure on capital account and the total defence budget is 16.6 per cent of the central government expenditure," said Minister of State for Defence Subhash Bhamre.

Senior defence ministry officials have told *Business Standard* that it is meaningless to evaluate defence spending as a percentage of GDP, since the bulk of that figure is in the informal economy and outside the tax pool.

These officials argue that defence revenue expenditure — with the bulk of it spent on salaries, pensions and running costs — is a fixed liability. Only in capital allocations does the government



DEFENCE ALLOCATION

	2016-17 (Actual)	2017-18 (RE)	2018-19 (BE)
Defence capital allocation (₹ bn)	914.83	914.61	995.63
Total defence allocation (₹ bn)	3,515.5	3,740.03	4,043.64
Total govt capital budget (₹ bn)	2,846.1	2,734.45	3,004.41
Share of govt capital spend (%)	32	33	33
Total govt expenditure (₹ bn)	19,751.94	22,177.5	24,422.13
Share of total govt spend (%)	17.8	16.9	16.6
Gross Domestic Product (₹ bn)	159,754.29	167,846.79	187,223.02
Share of GDP (%)	2.20	2.23	2.16

have the leeway to increase or decrease defence spending. And with the military already the highest recipient of capital expenditure, there is little scope for allocating significantly more.

Nor does the defence ministry believe there is an urgent need to allocate more money to defence modernisation. "There is adequate stocks of arms and ammunition with the Armed Forces who are well equipped for meeting any operational requirements," said Bhamre, responding to

another question. "In the last three financial years (2015-16 to 2017-18), 58

contracts worth about ₹117,656 crore (₹1,176.56 billion) were signed with foreign vendors for procurement of defence capital equipment for defence forces," said a defence ministry response, elaborating that these vendors are from Russia, Israel, the US and France.

A *Business Standard* analysis indicates that, while capital allocations to defence have held steady as a proportion of the national capital spend, defence allocations as a whole have declined over the last three years. From 17.8 per cent of government spending in 2016-17, defence was allocated 16.9 per cent last year and 16.6 per cent in the current fiscal. As a percentage of GDP, defence spending declined from 2.2 per cent to 2.16 per cent during the same period.

Thu, 02 Aug 2018

Armed forces short of 9,000 officers: Minister

Indian armed forces are grappling with a shortage of 9,093 officers, with the major deficiency being in the “fighting or non-select ranks” of Lt-Colonels (Commander in Navy and Wing Commander in IAF) and below despite advertising campaigns.

The 13-lakh strong Army is short of 7,298 officers from an authorised strength of 49,933, while the shortages in Navy and IAF stand at 1,606 (authorised 11,352) and 192 (authorised 12,584), minister of state for defence Subhash Bhamre told Lok Sabha on Wednesday.

Not many with requisite “officer-like qualities” are coming forward to join the armed forces despite salaries and pensions registering a major hike after implementation of the 7th Central Pay Commission.

Thu, 02 Aug 2018

Nellore being considered for rocket station

Madras: Atomic Energy Commission chairman Vikram A. Sarabhai today made a two-hour aerial survey of two sites in Madras and Andhra Pradesh in connection with the proposed setting up of a rocket launching station on the east coast. Dr Sarabhai was accompanied by Madras industries minister, V. R. Nedunchezian and top officials of both Madras and Andhra Pradesh governments and also of the Atomic Energy Commission. The site recommended by the Madras

government for the proposed rocket launching station lies to the south of Palar river in Tenpattinam Island in Chingleput district. The other site suggested by the AP government is Sri Hari Kota Island in Nellore district, bordering Madras. The Atomic Energy Commission is understood to have indicated that they would be requiring about 10,000 acres of open land for the purpose. A final decision regarding the location of the rocket launching station on the east coast, just like the one at Thumba in Kerala is expected to be taken by the Commission after a detailed study of the relative merits of these two sites. — UNI

Thu, 02 Aug 2018

Indian-Australian, 3 others win ‘Nobel of maths

New Delhi-Born Akshay Venkatesh Bags Fields Medal for ‘Profound Contributions to Mathematics’

Every four years, at an international gathering of mathematicians, the subject’s youngest and brightest are honoured with the Fields Medal, often described as the Nobel Prize of mathematics. This year’s recipients, announced on Wednesday at the International Congress of Mathematicians in Rio de Janeiro, include renowned Indian-Australian mathematician Akshay Venkatesh. New Delhi-born Venkatesh, 36, who is currently teaching at Stanford

University, has won the Fields Medal for his “profound contributions to an exceptionally broad range of subjects in mathematics” and his “strikingly far-reaching conjectures”.

From being a child prodigy to becoming one of the most renowned researchers in the field of mathematics, Venkatesh’s journey has been full of achievements and accolades. Having moved to Perth with his parents when he was 2, he participated in physics and math Olympiads — the premier international competitions for high school students — and won medals in the two subjects at ages 11 and 12, respectively.

He finished high school when he was 13 and went to the University of Western Australia, graduating with first class honours in mathematics in 1997, at the age of 16. In 2002, he earned his PhD at the age of 20. Since then, he has gone from holding a postdoctoral position at MIT to becoming a Clay Research Fellow and, now a professor at Stanford University.

Venkatesh has worked at the highest level in number theory, arithmetic geometry, topology, automorphic forms and ergodic theory. His research has been recognised with many awards, including the Ostrowski Prize, the Infosys Prize, the Salem Prize and Sastra Ramanujan Prize.

Recently, Venkatesh and one of his former graduate students found a different way to prove a groundbreaking theorem from the 1980s that stated that one could tell whether a set of equations had a finite number of solutions or infinitely many just by looking at the form of the equations. Although the result is not new, their novel approach could lead to further progress in understanding the solvability of equations.

“He truly is a universal mathematician,” said Jordan Ellenberg, a mathematician at the University of Wisconsin, who has worked on problems with Venkatesh. “His work has gone in a lot of different directions.”

The other Fields medalists this year are Peter Scholze, 30, of the University of Bonn; Caucher Birkar, 40, of the University of Cambridge in England; and Alessio Figalli, 34, of the Swiss Federal Institute of Technology in Zurich.

At 30, Scholze is one of the youngest ever recipients of the award. The youngest winner, Jean-Pierre Serre in 1954, was 27. By custom, Fields medals are bestowed to mathematicians 40 years old or younger. Scholze gained prominence when he was still in graduate school in 2010, simplifying a complicated book length, 288-page proof to a novella-size 37-page version. In his mathematics, he works with fractal structures that he calls perfectoid spaces.

Kurdish refugee turned Cambridge University professor Birkar’s field is algebraic geometry, which investigates connections between numbers and shapes.

The medal, first awarded in 1936, was conceived by John Charles Fields, a Canadian mathematician. Each winner receives a 15,000 Canadian-dollar cash prize. nyt & agencies.

THE ASIAN AGE

Thu, 02 Aug 2018

Hubble telescope beams back stunning image of Milky Way’s 'big sister'

The Hubble Space Telescope has beamed back a beautiful image of the Milky Way's 'big sister' - a stunning spiral galaxy that measures over 200,000 light-years across, NASA said.

The image, taken by the Hubble's Wide Field Camera 3 (WFC3), shows that the galaxy called NGC 6744 is still actively producing new stars.

NGC 6744 resembles our Milky Way, although it is much larger, measuring more than 200,000 light-years across compared to a 100,000-light-year diameter for our home galaxy.

Like the Milky Way, NGC 6744 has a prominent central region packed with old yellow stars. Moving away from the galactic core, one can see shades of pink and blue in parts of the dusty spiral arms.

While the blue sites are full of young star clusters, the pink ones are regions of active star formation, indicating that the galaxy is still very lively.

In 2005, a supernova named SN 2005at was discovered within NGC 6744, adding to the argument of this galaxy's liveliness. SN 2005at is a Type Ic supernova, formed when a massive star collapses on itself and loses its hydrogen envelope.

THE ASIAN AGE

Thu, 02 Aug 2018

New AI system can design drugs from scratch

The system, called Reinforcement Learning for Structural Evolution (release), comprises two neural networks which can be thought of as a teacher and a student.

Washington: Scientists have developed an artificial intelligence(AI) system that can learn to design drug molecules from scratch, potentially accelerating the development of new medicines. The system, called Reinforcement Learning for Structural Evolution (release), comprises two neural networks which can be thought of as a teacher and a student. The teacher knows the syntax and linguistic rules behind the vocabulary of chemical structures for about 1.7 million known biologically active molecules.

By working with the teacher, the student learns over time and becomes better at proposing molecules that are likely to be useful as new medicines. "If we compare this process to learning a language, then after the student learns the molecular alphabet and the rules of the language, they can create new 'words,' or molecules," said Alexander Tropsha, from the University of North Carolina (UNC) at Chapel Hill in the US.

"If the new molecule is realistic and has the desired effect, the teacher approves. If not, the teacher disapproves, forcing the student to avoid bad molecules and create good ones," said Tropsha. release is a powerful innovation to virtual screening, the computational method widely used by the pharmaceutical industry to identify viable drug candidates. Virtual screening allows scientists to evaluate existing large chemical libraries, but the method only works for known chemicals. release has the unique ability to create and evaluate new molecules."A scientist using virtual screening is like a customer ordering in a restaurant. What can be ordered is usually limited by the menu," said Alexander isayev from UNC, one of the creators of release.

"We want to give scientists a grocery store and a personal chef who can create any dish they want," said isayev. The team has used release to generate molecules with properties that they specified, such as desired bioactivity and safety profiles. They also used the release method to design molecules with customized physical properties, such as melting point and solubility in water, and to design new compounds with inhibitory activity against an enzyme that is associated with leukemia."The ability of the algorithm to design new, and therefore immediately patentable, chemical entities with specific biological activities and optimal safety profiles should be highly attractive to an industry that is constantly searching for new approaches to shorten the time it takes to bring a new drug candidate to clinical trials," said Tropsha.



Thu, 02 Aug 2018

A censored Google search for China

Alphabet Inc.'s Google is preparing to launch a censored version of its search engine for China that will block results Beijing considers sensitive, The Intercept reported. Google's been working on a project code-named Dragonfly since the spring of 2017 and demonstrated a sanitized version of its search app to Chinese officials, the news outlet reported, citing company documents and unidentified people familiar with the matter. A final version of the app could be launched within six to nine months, it said.

"We provide a number of mobile apps in China, such as Google Translate and Files Go, help Chinese developers, and have made significant investments in Chinese companies like JD.com. But we don't comment on speculation about future plans," Google said in an emailed statement. China has been the biggest hole in Google's global footprint since it largely withdrew from the country in 2010 by refusing to self-censor search content. Its stance later saw most of its services blocked, including Gmail and the Google Play app store. Offering a censored search app would mark a significant about-face for a company that began life with the motto "Don't Be Evil" and champions free communication on the internet.

Why China's Great Firewall Bans Google and Pooh Bear: Quick Take

In the company's absence, Baidu Inc. has strengthened its grip on search in China while Microsoft Corp.'s Bing operates in the country by censoring subjects and words. Facebook and Twitter are blocked outright. Shares in Baidu, which reported better-than-expected results a day earlier, fell as much as 3 percent in pre-market trade.

