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Let's put our money in the light combat aircraft (Comment)

In its pursuit of global maritime dominance, China has decided to create a force of three aircraft-carriers -- one for each of its fleets. Like India, China first acquired an old Soviet-era aircraft-carrier, but (unlike us) refurbished it at home and commissioned it as the ski-jump equipped Liaoning in 2012. A bigger, indigenously-designed and- built ship, designated "Type 001A", followed in April 2017. An even larger successor designated "Type 002", shunning the ski-jump and emulating US design philosophies, is on the way.

In order to maintain three operational carriers, the PLA Navy (PLAN) will need to build at least five or six such ships. While the Chinese economy does have the strength to fund such an ambitious programme, India needs to note two aspects of this strategy. For years, China remained dogmatically opposed to aircraft-carriers, deriding them as "sitting ducks" for missiles and submarines, and evolving an "anti-access, area denial" (A2/AD) doctrine, to keep US carriers at bay. Six years' experience of operating the Liaoning has obviously convinced Beijing that the availability of tactical air-power at sea on a 24x7 basis is vital for PLAN operations in distant waters. The reconciliation of China's faith in A2/AD with a hugely expensive carrier-building programme signifies that this doctrinal shift has been debated and approved by the Party Politburo.

The second point of note is the intense Chinese focus on autarchy in weapon-systems; huge resources and effort have been devoted to develop a home-built fighter for their new carriers. Disregarding Moscow's protests over IPR violation, China acquired a prototype Russian Sukhoi-33, in 2000, and within a decade, reverse-engineered it to deliver the Shenyang J-15 (Flying Shark) carrier-borne fighter.

Against this background, India's endeavours to produce a carrier-borne fighter deserve attention. The Indian Navy (IN), having tasted success in indigenous warship design and building, decided to turn to the aeronautics field in the 1990s. Finding the Defence Research and Development Organisation's (DRDO) Light Combat Aircraft (LCA) programme in the doldrums, the navy saw an opportunity for India to join the select list of countries producing carrier-borne aircraft. The decision to initiate a LCA-Navy programme acknowledged the talent and ingenuity of our aircraft designers and engineers, and aimed to energise our stagnant defence-technology base. A closer examination of the embryo-LCA revealed some major challenges in adapting a shore-based aircraft to fly from a ship. They included lack of engine thrust, a weak undercarriage, requirement of an arrester hook and need for fuselage strengthening. Undaunted, the navy affirmed its faith in the programme by initiating a development programme and contributing over Rs 400 crore as well as engineers and test pilots to this DRDO project. The LCA-Navy prototype rolled out in July 2010 and its first flight took place in April 2012. Very early in the programme, the IN acknowledged the possibility that this project may (a) either not succeed or (b) fail to meet the timelines required for India's first Indigenous Aircraft Carrier (IAC-1). A conscious decision was thus taken that in parallel with the LCA, the navy would identify an alternative aircraft for its new carriers. As the LCA-Navy programme kept slipping, this alternative turned out to be the MiG-29K, which was purchased along with INS Vikramaditya.

The IAF version of LCA was delivered for squadron service in 2016. The IAF has placed an order for 123 aircraft; thus securing the short-term future of the LCA, regardless of other fighter acquisitions. The LCA-Navy, on the other hand, received a setback when, in December 2016, the IN was said to have "rejected" this aircraft for its future aircraft-carriers. This ostensible volte face by the IN appears to have come as a blow to DRDO and the LCA-Navy prototype, having completed simulated carrier take-offs from a specially created ski-jump ashore, is parked in a hangar, awaiting resumption of trials. The navy had good reasons for its actions, and dejection over the LCA-Navy is misplaced. There was an urgent need to formulate the specifications of the navy's second indigenous aircraft-carrier (IAC-2), which could only happen once it was known what type of aircraft will operate from it; and the LCA-Navy was clearly far from ready. Moreover, DRDO deserves this rebuke for tardy progress of LCA-Navy, and for projecting unrealistic targets and

timelines. While the LCA-Navy may have "missed the bus" for IAC-2, it can certainly remain a candidate for the ski-jump equipped Vikramaditya (in-service) and IAC-1 (nearing completion).

The IAC-2 will enter service at a juncture where a maritime balance-of-power struggle may be under way between China and India. PLAN ships and submarines are already frequenting the Indian Ocean, and its carrier task-forces will soon arrive to establish dominance along China's maritime "silk road". India's response to attempted intimidation at sea will need to be robust, and decisions relating to the design and capabilities of IAC-2 assume strategic importance. The design, production and flight-testing of the LCA and LCA-Navy prototypes have generated invaluable experience, knowledge and data which must not be allowed to go waste. Its development must be pursued, and on successful completion of its ship-trials programme, the LCA-Navy can be assigned a carrier-borne operational (or even training) role commensurate with the limitations imposed by its performance.

In a wider perspective, much of what has been said, so far, is equally true of India's vital but languishing Kaveri turbo-jet engine programme. One cannot emphasise strongly enough that the LCA and the Kaveri turbojet constitute the heart and soul of India's aeronautical future, and temporary setbacks must not be allowed to derail these projects. MoD needs to enunciate a 50-year vision to carefully nurture these vital programmes by (a) ensuring a long production-run for the LCA as well as its "evolved" successors and (b) by acquiring foreign expertise for "de-bugging" and operationalising the Kaveri, whatever the time and cost. India abandoned its first indigenous fighter, the HF-24 Marut, prematurely on the flawed assumption that we would never find the right engine to power it; ignoring the reality that technology does not remain static. This was a blunder we must never repeat. Having come so far down the developmental path, the LCA production must not stop at 123 aircraft. Along with the enhanced Kaveri turbojet, the LCA programme must form the launch-pad for all future fighter projects for the IAF and the Indian Navy.

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