India's Military Modernization: Strategic Technologies and Weapons Systems, edited by Rajesh Basrur and Bharath Gopalaswamy, New Delhi: Oxford University Press, 2015, pp. 276, INR 795

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The Oxford University Press could not have timed it better with its second part of the two-part project on Indian military modernisation in the field of advanced technologies like cruise missiles, nuclear weapons, anti-satellite weapons, missile defence, and information warfare. The adjoining regional countries of the Indian peninsula are flooded with new research vis-à-vis modern weapons and in utilising technology to develop even more advanced weaponry. It is, therefore, prudent for India to step up and be recognised for the power that it professes to be.

As a result, a collection of well-thought-out essays on the path taken by India is highly opportune and welcome. Advisory, analytical, critical and something treading on the brink of would-love-to-have wistfulness, the edited volume is not a mere motley collection of random thoughts. The various contributors have been carefully assigned technical matters and strategic topics of national importance. Ranging from true-blue academicians to soldiers-turned-academicians to technologists, the selected authors have done well to bring forth their diverse thoughts into a robust framework which offers a lot of material to chew over in its 260-odd pages.

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The nine essayists have taken it upon themselves to view India's modernisation of its military and strategic capabilities through a mixed lens. They have efficiently woven in the nuances of domestic opportunities, external drivers and their interoperability. As a result, they have largely succeeded in providing an unbiased evaluation of the true state of India's capabilities. The ability of all the authors to raise pertinent questions and call a spade a spade fearlessly is particularly impressive and educative.

There is no beating around the bush and no pulling back of punches in the extremely informative essays, which is a refreshing trait indeed. Full marks to the editorial board too for supporting the viewpoints of the authors. A lot has been said about the alleged mismatch between the bureaucracy, the military and the technocratic didactic temper in varied forums and writings in the past. But this collection of writings offers specific examples of mismatches and their reasons, and then goes the extra mile by offering doable panaceas. Their policy-relevant suggestions and changes for the future is what makes the difference and makes the essay volume stand out to be counted.

All authors and essayists in the volume unanimously agree to a certain level of continuity accompanied with an evolving change in India's strategic capabilities since its inception. However, progress in the strategic realm, they feel, is going forward at a snail's pace. In the minds of the authors, the main reasons for this barely discernable upward graph movement are a distinct lack of clear direction from the government (past and present) and a conspicuous inertia in matters of strategic importance per se. Ergo the slow improvements and the limited changes in institutional capacities and capabilities leading to a policy-relevant future devoid of strategic import.

The authors also rue the non-inclusion of the military in crafting national strategy and national security-related policies. As per their rationale, this severely limits the scope of a dramatic incremental transformation in India's strategic capabilities. Truer words have not been said. A case in point is the argument of Admiral (Retd.) Arun Prakash (the then Chairman of the Chiefs of Staff Committee), quoted in the book, on the appointment of the long overdue Chief of the Defence Staff (CDS) vis-à-vis the hierarchal difference between the three-starred Commander in Chief of India's Strategic Armed Forces who controls the Indian arsenal of strategic weapons and the four-starred armed services chiefs who command the strategic delivery units. A delicate relationship

indeed, made even more intriguing with the essential inclusion of the political element in the decision-making chain.

The tables and figures provided in support of viewpoints are accurate to a large extent and this variable accuracy is something we all have to live with. The military is not going to allow access and the scientists developing the technology and the weapons are always going to mark up capabilities. But having said that, the educated guesses made are not mere ballpark figures from the back of an envelope and are nearly up there with true figures. One is also pleasantly surprised to see quite an exhaustive and modern warfare-oriented abbreviation collection which helps the reader to grasp the hues of tactics, research and developments in the field with relative ease.

The volume has been able to bring out the gaps between theory, practice and credibility in national policy, technologist dominance of the modernisation blitz, relevant innovation and weaponisation. Some of the options are definitely futuristic and optimistic, but then space and cyberwarfare (or information warfare) do not have any frontiers. The volume editors have managed to keep the flow of logic smooth and easy with due emphasis on style and accuracy. This has lent an air of comfortable reading to the entire essay collection. Scientific and technological writings often run the fear of becoming dry and dull. These treatises, however, are immune to those threats as they have politics, inter-service collaborations, scientific curiosity, strategic mystique and technological brilliance mingling with facts, history and a keen geostrategic perspective.

The occasional editorial lapses like the mixing up of chapters in the Introduction (Chapter 8 on cruise missiles sneaks in between Chapters 2 and 3) and the lack of a tabular timeline depicting Indian achievements can be marked up to an aberration and safely ignored. Also, it would have been of immense help if the Chinese achievements in space, cyberwarfare, hypersonic glide vehicles and ASAT (Anti-Satellite Weapon) could have been covered in greater detail. In its bid to attain technical prowess, China has been accelerating its space efforts amongst other military modernisation efforts. The average rate of satellite launches in 2009-14 was more than double of 2003-08 and more than triple in 1997-2002. In 2015 alone China undertook 13 space launches, all of which were successful.

But, on the whole, India's Military Modernization: Strategic Technologies and Weapons Systems, edited by Rajesh Basrur and Bharath Gopalaswamy, is a book which any serious student of Indian strategy and scientific temper cannot ignore. S/he would be remiss to do so at his/her own peril. The book, by and large, appears to be aimed at the departments of Political Science and International Relations of varied universities. The reason for this could predominantly be attributed to the opaqueness and shroud of secrecy enveloping the Indian strategic ambit. While institutional libraries, research scholars in the strategic field as well as think tanks could benefit from the arguments and data put forth in the collection of essays, true-blue military officials would, at the same time, find the obvious blanks, lacunae and inaccuracies irksome.

With the Indo-Pacific region emerging as a tour de force on the international geostrategic and economic scene, South Asia has rediscovered its relevance in an ever-changing global and political scenario by acquiring a distinctive strategic hue. Combined with corresponding heft in world affairs, this has the potential to make the Indo-Pacific region a major game changer and player. The authors and essayists do delve into this interesting cauldron of mystique and try to analyse where the Indian strategic prowess fits in here. One can only hope that the Indian powers that be are able to take the lead from the direction provided by the writers and take the country to greater heights.