



EDITOR'S NOTE

Space, nuclear issues and geo-politics continue to dominate discourses on strategic issues.

The salient position that space occupies in the American scheme of things is well known. More particularly, the American military is so heavily dependent on space assets that space control is an essential prerequisite before any military action is envisaged. Although China's space potential is increasing rapidly, the gulf between the space capability of the US and any other country is vast. Therefore, it follows that loss of some space assets will have a far more debilitating impact on the US than on any other country. There are many ways to interfere with the adversary's space capability, and technology is fashioning even more effective means to interfere with the functioning of space assets and, may be, ensuring deniability as well. Some means readily available to many space-faring nations are cyber attacks, direct ascent to attack missiles, co-orbital satellites, Directed Energy Weapons (DEWs), jamming, etc. **Dr Manpreet Sethi**, in her article on the choices with the US, argues that there are many initiatives taken by the US to ensure not only space supremacy but also total space control. However, the US is fast recognising that offensive action may not be the best option and is now joining other countries in adopting confidence-building measures. The US is also joining other countries in a complementary and coordinated endeavour to ensure that space remains a 'global commons'.

Still on the subject of space, **Gp Capt P A Patil** argues that 'direct attack Anti-Satellite (ASAT) operations' no longer comprise the method of choice to hinder the adversary's space capability. A paradigm shift has taken place towards soft kills, temporary or permanent. The options available are many, and growing. These include interference with communication links through cybernetic attacks, jamming, hacking of computer controlled systems, etc.

These options have the added advantage of deniability. Again, to interfere with space assets, access to space may not be necessary as it is easier to interfere with, or damage, ground-based control stations.

The manner in which conflicts are prosecuted is rapidly changing and the spectrum of conflict is continuously enlarging. Yet air power continues, and will continue, to play a major role in the conduct of war, including fourth generation warfare. However, it is prudent to analyse the cost-effective way to do so. In a relatively detailed and well analysed study, **Gp Capt Vivek Kapur** discusses the strengths and weaknesses of different weapon systems to recommend a cost-effective use of air power. A highly recommended read.

Ever since the prime minister spoke of "Make in India", the phrase has excited the imagination of many. In the military domain, the concept is particularly relevant. **Wg Cdr R K Narang** examines the issue with a view of determining what is feasible. He gives his view of what can and should be done. He covers the historical background and warns that as we move forward, we are likely to encounter many commercial, legal and other pitfalls, particularly as the profit motive will remain a cardinal factor. He cautions that we must be careful of the military, bureaucratic, industrial and political combine. A very important recommendation is that we must find ways to enhance our skill levels, both qualitatively and quantitatively.

Sumati Sidharth and Manoj Kumar question why strategic Research and Development (R&D) in the defence sector is lagging behind whilst that is not the case in other sectors. They argue that the Defence Research and Development Organisation (DRDO) should have done much better, given that it has a captive market and the funding is also reasonable. One of the many recommendations is that DRDO should be more open and approachable. Also, the tendency to operate within silos both within DRDO and without should be eschewed.

This issue carries two articles on nuclear matters. Much has been written about the 'Iran nuclear deal', and when **Stuti Banerjee** wrote the article, it was very much a 'work in progress'. Even though the US Congress has failed to stop the deal, there are still many bridges to cross and more articles

on the subject will find a place in future issues of our journal. Stuti traces the history of US-Iran relations and argues that the deal is good for both the US and Iran, and both countries need to have it implemented in letter and spirit. She touches on regional imperatives as well.

The second article on nuclear matters is by **Hina Pandey**. She essays an assessment of the nuclear Non-Proliferation Treaty (NPT) Review Conference, 2015. Possibly as expected, not much came of the deliberations and a formal final document proved elusive. The conference was marked for the salience given to the humanitarian impact. With so little gained by the Review Conferences, possibly it is time for a relook at the functioning of the NPT.

China's growing presence in the Indian Ocean Region (IOR) is a cause for concern. It poses a challenge to the other players in the region and has led to a complex interplay of global politics and economics. **Cdr Yogesh V Athawale** traces the history and seeks answers to what India should do to retain regional leadership and ensure that the Indian Ocean remains a zone of peace. He has done a scholarly study and his recommendations are worth reading even if some may have differing views on their viability.

Xinjiang and the Uighur movement will possibly remain a thorn for China for some time at least. It stands to reason that in a large country like China, an authoritarian central government has to exercise strict control over a peripheral region. China also has to be careful over the possible impact of the Uighur movement on Tibet. It is a complicated situation and **Swati Arun** tries to demystify China's approach to the region.

Happy reading.

