Heading towards strategic instability

This article is related to General Studies-Paper III(Sci & Tech., Internal Security)

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India must be alert as there is a possibility of emerging disruptive technologies prompting inadvertent conflict.

In late 2018, the government decided to set up three new agencies — the Defence Cyber Agency, the Defence Space Agency and the Special Operations Division — in order to address the new age challenges to national security. While this is indeed a useful step in the right direction, it is also important to note that the constitution of these agencies is a far cry from the crucial recommendations given by the Naresh Chandra Task Force and the Chiefs of Staff Committee, both of which had suggested the formation of three separate joint commands to deal with new challenges to India's national security in the cyber, space and special operations domains.

This rather lacklustre response to major 'futuristic' challenges to our national security raises a larger question: is India adequately prepared for the new age wars in general or is it still preparing for the last war it fought, and won?

High-tech innovations

There is a revolution in military affairs that seems to have attracted the attention of strategic analysts and policy planners across the world. The current focus in military thinking across the world is increasingly moving away from traditional heavy-duty military hardware to high-tech innovations such as artificial intelligence (AI), big data analytics, satellite jammers, hypersonic strike technology, advanced cyber capabilities and spectrum denial and high-energy lasers. In the light of the unprecedented capabilities that these systems offer, there is also an increased focus on developing suitable command and control as well as doctrinal concepts to accommodate and calibrate them.

The arrival of these technologies might deeply frustrate strategic stability as we know it given their disruptive nature. Strategic stability in the contemporary international system, especially among the nuclear weapon states, depends on several age-old certainties, the most important being the issue of survivability of a state's nuclear arsenal and its ability to carry out a second strike after a first attack. Once accuracies get better, hypersonic glide vehicles replace conventional delivery systems, real time tracking and surveillance make major strides, and AI-enabled systems take over, survivability of nuclear arsenal, which lies at the heart of great power stability, could take a severe beating. There was, for instance, an assumption that the naval leg of a nuclear triad is the most survivable part since it is hidden away in the depths of the ocean away from the adversary's gaze. However, the potential ability of deep-sea drones to detect ballistic-missile armed nuclear submarines or SSBNs may make this assurance a thing of the past thereby frustrating traditional calculations.

Now add the arrival of these new technologies to the emerging strategic competition among great

powers. The U.S.'s withdrawal from the Intermediate-Range Nuclear Forces treaty is perhaps an indication of a potential arms race in the offing. In a January 2018 article, the Economist put it succinctly: "Disruptive new technologies, worsening relations between Russia and America and a less cautious Russian leadership than in the cold war have raised fears that a new era of strategic instability may be approaching."

Fears of conflict

There is an inherent paradox vis-à-vis high technology-enabled military systems. While on the one hand, it is imperative for states to redesign their systems in the light of these new technologies, especially the digital and cyber components, this also makes the cyber- and digital-enabled systems vulnerable to covert cyberattacks. More so, given that such surreptitious attacks might take place in the early stages of a conflict, ensuing confusion and scare might lead to uncontrolled escalation with little time for assessment and judgement.

The biggest fear about these technologies, the implications of which we don't fully understand yet, is their potential to increase the risks of intentional and inadvertent nuclear use. Such scenarios may be unlikely but not improbable. Here's what the Economist had to say on precisely such a scenario: "Both China and Russia fear that new American long-range non-nuclear strike capabilities could be used to deliver a disarming attack on a substantial part of their strategic forces or decapitate their nuclear command and control. Although they would still launch their surviving nuclear missiles, improved missile-defence systems of the U.S. would mop up most of the remainder before their warheads could do any damage."

The fear of a bolt-from-the-blue attack against one's command and control systems or a disabling strike against strategic arsenal using new technological solutions is likely to dominate the strategic mindspace of great powers in the days ahead, thereby further deepening mistrust and creating instability. Therefore, the possibility of emerging military technologies prompting inadvertent escalation and conflict cannot and should not be ruled out.

Chinese capabilities

China has emerged as a key actor in the field of emerging military technologies. This is something that will concern New Delhi in the days ahead. Some analysts believe that Beijing is in the lead position in emerging technologies with potential military applications such as quantum computing, 3D printing, hypersonic missiles and AI. If indeed, Beijing continues to develop hypersonic systems, for instance, it could potentially target a range of targets in the U.S. While the Chinese focus is evidently on U.S. capabilities, which China interprets as a potential threat, this is not without latent concerns for New Delhi. India might, in turn, consider developing some of these technologies which will create dilemmas for Islamabad. The cascading strategic competition then looks unavoidable at this point, and that is worrisome. And yet, it might be difficult to avoid some of these developments given their dual use.

However, there is a need to ask how survivable India's naval platforms are given the feverish developments of advanced sensory capability in the neighbourhood. Is it sufficiently prepared to face the new age wars? Has the urgency associated with these technological developments dawned on the security planners in New Delhi?

It is in this context that we must revisit the government's decision to set up the agencies to address cyber and space challenges. Clearly, this is a timely effort from the government to have finally decided to set them up — though they are not yet in place. It is unfortunate that unlike what was envisioned earlier, these agencies will be reduced in their powers and their standing in the pecking order of defence planning in the country. Moreover, reports indicate that the Space Command will be headed by the Air Force, the Army will head the Special Operations Command,

and the Navy will be given the responsibility of the Cyber Command. If indeed that happens, their effectiveness in terms of tri-service synergy will be much less than anticipated. Even more so, given that the higher defence decision-making in the country is still civil services-dominated, despite the recent attempts to correct it, the effectiveness of these agencies will remain weak.

GS World Team...

Space technology in border management

Reference

- Recently, Union Home Minister Rajnath Singh has approved the report of the workforce on space technology in border management.
- The Ministry of Home Affairs had formed the work force so that the areas can be traced for the use of space technology in the improvement of border management.
- The Task Force was headed by the Joint Secretary (Border Management) and its members included representatives from the Frontier Forces, Space Department and Border Management Division.
- The Home Ministry finalized the report after consultation with all the stakeholders, including the Border Security Forces, ISRO, National Security Council Secretariat and the Ministry of Defense.
- The following areas have been marked for the use of space technology:

• Island development
• Border Security
• Communication and Shipping
• GIS and operational planning system
• Border Structure Development

main point

- Small, medium and long term plans have been proposed to complete the project on time, which will be completed in five years. Close cooperation with ISRO and Ministry of Defense will be done for this.
- Several suggestions have been given in the report to increase the capacity of the border guard forces. Under the short term requirements, bandwidth will be arranged for high resolution imagery and communication for border Security forces.
- In view of the medium-term requirement, ISRO is launching a satellite, which will be used by the Home Ministry only.
- Under the long term, the Home Ministry will develop network infrastructure so that other agencies can share satellite resources.
- Central Armed Police Forces posted in remote areas will be provided with satellite communication facilities.
- This project will strengthen the island and border security and will help in the development of infrastructure in the border and insular areas.
- ISRO will launch a special satellite for the Ministry of Home Affairs so that it can help strengthen its boundaries with other countries.

Defense industrial corridor

Reference

- Recently, Defense Minister Nirmala Sitharaman inaugurated the country's second defense industrial corridor in Tamil Nadu.
- It has been named the Tamil Nadu Defense Industrial Corridor.
- Five cities of Tamil Nadu will be included in this.
- On the occasion of the inauguration of the defense industrial corridor, Defense Minister Nirmala Sitharaman said that the development of these defense corridors will create a well planned and competent industrial base, which would increase the production of defense equipments in the country.

What is it?

- A total of Rs 3,038 crore will be invested in this defense corridor, which will be the largest investment by government companies.
- Ordinance Factory Board, Bharat Electronics Limited and Bharat Dynamics Limited will invest Rs 2,305 crore, 140.5 crore and Rs 150 crore respectively.
- Private sector TVS, Data Patterns and Alpha Designs will Be invest Rs 50 crores, 75 crores and 100 crores respectively.
- Lockheed Martin, one of the world's largest companies producing defense equipment, has also expressed a desire to invest in it.
- Its purpose is to open defense sector for private partners and make equipment in India and export it abroad.

Background

- While presenting the budget on February 02, 2018, the Finance Minister had announced the establishment of two defense industrial production corridor in the country.
- The objective of creating defense industrial corridors is to establish contacts between different defense industrial units.
- On August 11, last year, Uttar Pradesh Defense Industrial Corridor was inaugurated in Aligarh, in which an investment of Rs 3,732 crore was announced.
- Defense industrial corridors have a strategic partnership with Indian companies in a way and it is also beneficial for the foreign markets including

Expected Questions (Prelims Exams)

1. CIn the end of 2018, Indian government has taken the decision to establish which agencies to tackle the challenges of new age national security?

1. Defence Cyber Agency
2. Defence Sapce Agency.
3. Special Operation Division

Code:-

(a) Only 1
(b) 1 and 2
(c) 1 and 3
(d) All of the above

Expected Questions (Mains Exams)

Q. Increasing disruptive industry in the world indicates towards the struggle in future. Is India Capable of tackling these situations? Discuss.

(250 Words)(250 Words)

Note: Answer of Prelims Expected Question given on 31 Jan. is 1(c)