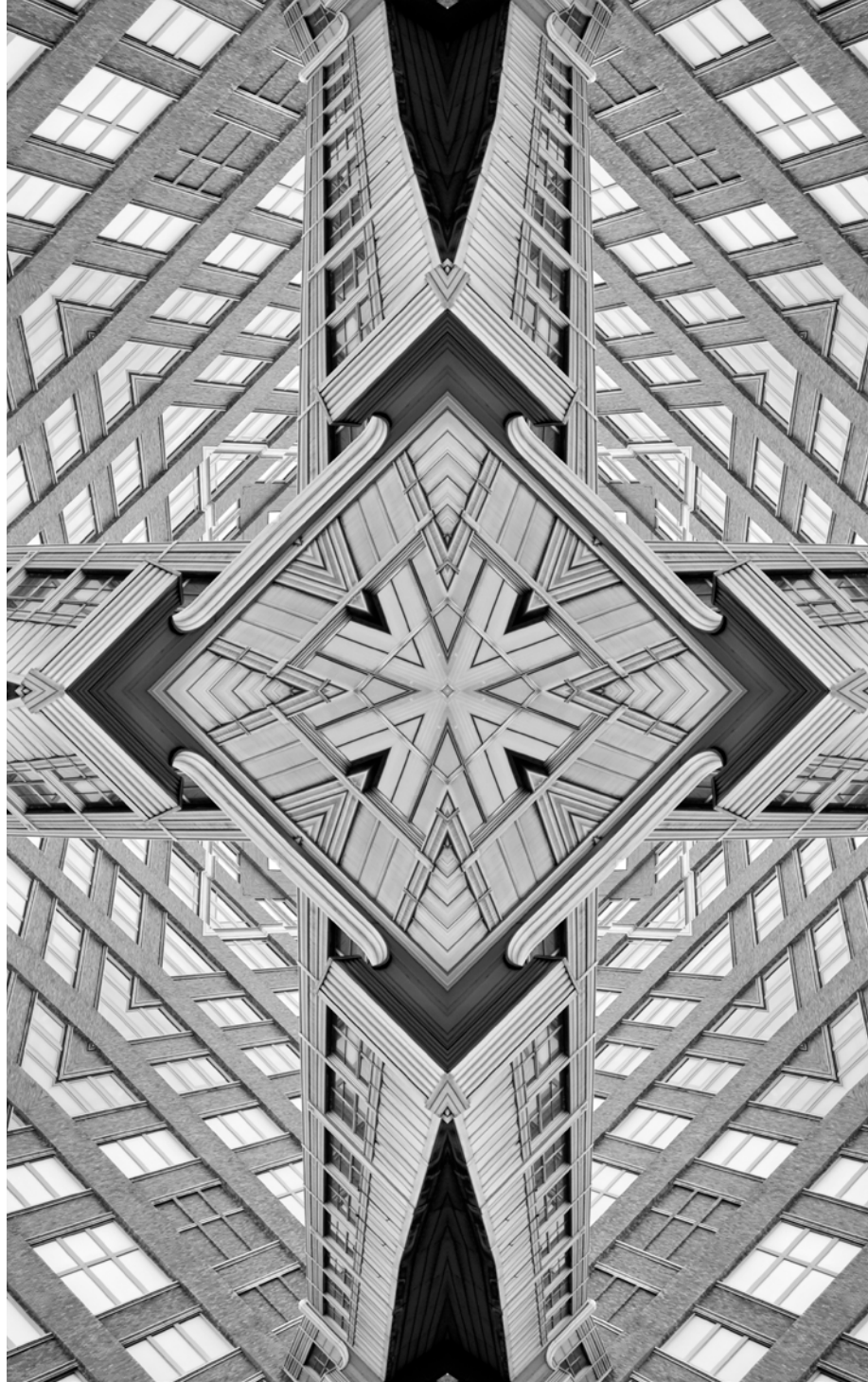ORF
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Brief

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Fighting Future Wars: Preparing India for Conflicts in the 21ˢᵗ Century

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Abstract

A nation-state—with its numerous institutions, actors, and daily interactions—is a complex system and it is a tall task to predict the future trajectory of any of its subsystems such as the armed forces. What is certain, though, is that every sovereign state aims to have a military that is of the highest possible calibre. One of two paths may be chosen to achieve this goal: tying-in the military's capability development with the economic performance of the state, or the military developing enabling and cross-cutting capabilities that are relatively independent of the fluctuations in the country's economic fortunes. A future-ready force need not necessarily be funding- or resource-intensive; the imperative is a smart approach to its threat environment and the ways to mitigate it. The future of warfare seems to be shifting towards non-contact and information operations, supplemented by limited actions in the physical domain. India needs to be oriented, prepared and equipped to fight this kind of conflict.

The State and War

'War' is almost unanimously understood as the use of violence by the state to attain certain political objectives.[1] There are, however, some qualifications to this seemingly straightforward definition. The image of conventional war is a mental and theoretical juxtaposition of two unrelated sets of historic events: Westphalian pre-nation-state war between kingdoms, and the globe-spanning First and Second World Wars. These have mingled with each other to create a static image of 'war'—a catastrophic act that is violent beyond imagination. While the destructiveness of the First and Second World Wars today serves as a mental model of how wars are generally fought, they have also been used to define and lay down rules by international bodies on what constitutes war and aggression. Thus, norms of territoriality still define and trigger alarms for a hypothetical attack on one nation-state by another.[2]

In theory, war is never imagined to be protracted or interminable, even when instigated by the most expansionist of powers, and every war contains within it the seeds of its own termination. It is in the interaction of opposing forces, the seemingly achievable nature of military objectives, and the societal passion that it invokes, that war may go on beyond what both sides calculated or imagined it to be.[3] Indeed, *total war*, which leads to the decimation of the opposer's society, culture, population and way of living, is the only war that can be defined as finished.[4] Every other outcome is merely a "strategic pause" before the next round. In contemporary times, when total war is neither imaginable nor possible, everyone is condemned to live in a society where competition is the norm. Such competition takes the form of hybrid warfare, proxy war—actions below the hypothetical "redlines" of territorial aggression by a country's armed forces.[5] The nature of this 'competition'—straddling the extreme ends of war and peace—is slowly yet steadily changing the way militaries are being utilised, and will be utilised in the future.

State-Military Relations

The relationship between the state and the military has largely remained unchanged over the course of human history, with the latter being used to settle disputes at the far end of political negotiations. Thus, war—in the form of violent confrontation between two opposing sides to settle political disputes—has remained a constant in human society. However, over time, wars have become increasingly complex, no longer concluding with the abject surrender, annihilation and/or occupation of the losing side's territory. Military force or legitimate violence of the state is in itself contested, not only in the physical domains of land, air and water, but also the emerging domains of cyber, space, and electromagnetic spectrum. Full-scale conventional wars are slowly becoming a thing of the past, and contemporary focus is on militarising and securitising increasingly civil domains.[6]

Indeed, with the exception of the First and Second World Wars, most wars post-1945 have been intra-state wars or 'new wars'—violent contests between state(s) and non-state actors.[7] The relation between the state and its military force, therefore, is now driven by the goal to optimise, or prioritise amongst, the three power imperatives: *power projection, prevention of power implosion,* and *maintenance of status quo.* Although there may be some overlap amongst the three, for the most part, these categories are impervious to one other.[8]

The United States: A Case Study of Over-Maximisation

The United States (US) is a fitting study in the over-maximisation of all three imperatives simultaneously, and one from which other states can learn. In the aftermath of the 9/11 terrorist attacks, the US military invaded Afghanistan and, with the help of the Northern Alliance, were able to effectively destroy the Taliban and al-Qaeda as fighting forces within a few months.[9] Thereafter, the US declared a "War on Terror"—a concept so nebulous and abstract[10] that it is inherently interminable. Cueing to

> War is never imagined to be protracted or interminable; every war contains within it the seeds of its own termination.

a certain neoconservative lobby,[11] the US also declared war on Iraq in 2003 and later expanded this crusade into more than a dozen countries, including Syria, Libya, Somalia and even Pakistan.[12] Manned special forces operators were later replaced by unmanned armed drones. Thus, power projection was first maximised and later extended beyond means.

To the direct detriment of the country, the "War on Terror" did two things: it provided extremists and terrorists with a recruiting and propaganda goldmine, and it created an anti-thesis by fostering and strengthening the Far Right/Alt-Right white supremacist groups within the US.[13] These groups gained currency with the proliferation of conspiracy theories (QAnon) on social media and the spillover of the anger in response to the 2008 financial crash.[14] The US was losing track of critical *power implosion* factors, which eventually culminated in the biggest attack on the so-called "world's strongest democracy"—the 6 June 2021 siege of the US Capitol. In 2020-21, the US finally withdrew from Afghanistan, to focus on its competition with China[15] and maintain its status quo as the world leader.

The State and War

India and Its Military

Within the framework of the three power imperatives, India's priorities are maintaining the status quo (as well as both its contested borders) and preventing power implosion, while power projection remains a distant possibility.[16] In India's context, "power implosion" does not solely mean internal disturbances or non-state actors: it also includes loss of territorial and/or functional control due to climate change, food insecurity, or any other factor that may not yet have been conceived as a threat. Taking this "power imperative" model as the basis, some contours of a future-ready force can be drawn out.

International Environment

The international environment that India currently operates in is fluid, dynamic, and subject to constant stresses. The era of a certain type of stability, with the US as the sole superpower, is over—to be replaced by constant friction with the nearest contender, China.[17] Certain other powers have risen, if not to the position of a "pole," at least near it. The European Union (EU) is at odds with itself, with many diverging issues—refugees, climate crisis, nationalism, significance of the Euro, and now the Russia-Ukraine crisis—threatening to put the brakes on this unique experiment in pooling sovereignties.[18] Russian actions in Ukraine, and growing convergence with China, seem to stretch US Indo-Pacific strategy, by dividing focus on to the Eastern European theatre.

The era of minilateralism/plurilateralism (or interests-based coalitions) is on the rise, as a result of the failure of regional and international institutions to develop a consensus on critical security, economic, political, technological and ecological issues.[19] For its part, India now plays a huge role in a significant number of functional groupings, such as the Quad, Shanghai Cooperation Organisation (SCO), BRICS, Bay of Bengal Initiative for Multi-Sectoral Technical, and Economic Cooperation (BIMSTEC), and G20. The future of such groupings remains to be seen, as they present a geopolitical self-contradiction. Further, allocating sovereignties based on specific issues will be difficult between countries with Westphalian disputes: for instance, India and China's mutual interests in climate change and trade negotiations may be marred by territorial issues.

> " The international environment that India currently operates in is fluid, dynamic, and subject to stresses. "

India and Its Military

New realignments (not yet alliances but more than abstract ideas) have started being etched out. While Russia, China, Iran and Pakistan are generally aligning their aims with each other, the US 'camp' is mostly running on empty. The US's vigour in countering China has not been received enthusiastically by Germany, whose economic stewardship of the EU is dependent on Chinese markets and financing.[20] Similarly, Germany has hesitatingly taken actions against Russia including holding off on Nord Stream II and supplying the Ukrainians with arms and ammunition. The Australia-UK-US trilateral security partnership, announced on 15 September 2021, has securitised an Australia-Chinese relationship that was previously devoid of any military elements.[21] It also put a spanner between an ongoing French-Australia trade deal over diesel-electric submarines, exacerbating the distrust between the US and Europe.[22] The US is now torn between the defence of Europe and the forfeiture of the Indo-Pacific to Chinese hegemony.

Over the past few years, there has been a heightened global focus on the great-power competition and most seem to have forgotten the terror-filled years of the 1990s and 2000s. The re-Caliphatisation of Afghanistan and the inconclusive yet bitter and deadly war between the Houthis and the Saudis have also led to the re-emergence of the Islamic State (IS).[23] Pakistan has been using recruits to export its brand of proxy war into other countries. Turkey, on the other hand, after a successful demonstration of Bayraktar diplomacy,[24] has been busy exporting unmanned drones to states and non-state actors. In Kashmir, plans are allegedly in place to reactivate the IS-Khorasan Province (ISKP)[25]—an affiliate of the IS active in South Asia and Central Asia— and revive the flailing insurgency in the Valley.[26] The Taliban, too, is battling the ISKP terrorists and have suffered multiple casualties in the weeks since they took over in Kabul.[27] Terrorism as a form of violence has not receded from international relations, and will continue to be a significant drain on state resources in the future.

India's Role in the Current International Order

The international order is in flux, and nothing is more reflective of this than the creation of a host of ad-hoc coalitions. Within this flux, India has a key role to play. On the strength of its three 'Ds' —Demography, Democracy, and Demand[28]—India stands both as a beacon of multicultural democracy and as a rock against adventurous nation-states and terror groups. The country's size, economic heft, professional military forces, huge markets, and resilient institutions make it a critical player in shaping the new world order, if and when it emerges. Until then, with unipolarity melting away but yet to be replaced with a more stable order, India must play the role of a balancer, a facilitator amongst various groupings—those already in place as well as others that could emerge in the near future.[29]

Extrapolation: Threat Environment in 2030

In the next decade, collusion between China and Pakistan will continue to pose a threat. For India, maintenance of the status quo on both borders will require a proactive stance, and at times, offensive actions, to thwart the revisionist tendencies of the two nations. In the maritime domain, the threat of PLAN submarines[30] and unmanned underwater vehicles (UUVs)[31] will loom large. The emphasis on the New Generation Artificial Intelligence Development Plan (AIDP) and the 'Made in China 2025' plan, both released simultaneously in July 2017, may give impetus to militarisation in Artificial Intelligence (AI)[32]—although the current crackdown on the big tech companies in China and the throttling of China's semiconductor supply chain by the US may prematurely halt this ambition.[33]

In the forthcoming decade, there will be increased risks of cyber-attacks, intellectual property threats, spoofing or interference with satellites, electromagnetic spectrum attacks against weapon platforms, disinformation campaigns targeting India, and 'grey-zone' operations.[34] The future is also likely to bring a growing reliance on standoff weapons (hypersonic missiles, glide bombs, loitering munition), unmanned platforms, autonomous weapon systems (humans on the loop)—to get into the OODA (Observe-Orient-Decide-Act) cycle of the adversary as quickly as possible and expedite the occurrence of the next strategic pause.

All this will be played out in the background of climate change, refugee crises, pandemics, brittle supply chains, and a host of "unknown unknowns"[35] that cannot be accounted for in any predictive model. The vulnerability of global supply chains and a greater emphasis on additive manufacturing is likely to lead to a re-localisation of the economy, with globalisation enabling trade-offs between highly specialised and segregated sectors of the world economy. This, in turn, will further fuel indigenisation, adding to ongoing conflict;[36] due to products—physical and digital—being made and sold locally, it will be easier for state and non-state actors to initiate such conflicts, leading to the securitisation and militarisation of civilian issues.

The current trend towards multipolarity is also marked by a diminution of attrition warfare as a means to achieve a political settlement. This means that the wars of yore, which involved manned platforms such as tanks, aircrafts and infantry will slowly be interspersed with those involving standoff weapons, unmanned systems, cyber-attacks and disinformation campaigns. In the past, occupation of territory (long considered the *sine qua non* of such war-fighting), resulting in politically negotiated settlements, was dependent on the staying power of the victor's forces over its adversary's lands. This is no longer the case, given the lack of distinct demarcations between war and peacetime. As a result, the world is now in persistent conflict and controlled offensives.

Ironically, countries are developing increasingly autonomous weapon systems powered by machine learning and AI, whose key aim is to provide at "machine speed"[37] a plethora of options to theatre commanders, for quick and lethal strikes against enemy targets. The character of warfare has changed as a result. States that matter geopolitically enjoy this respite almost exclusively; however, they are also likely to engage in wars as technology demonstrators or proof of concepts for their own operational innovations and platforms.

A certain Spanish war mentality comes to the fore, demonstrated aptly by the Azerbaijan- Armenian war, which was fought at two levels: the more direct and brutal one between the two countries over Nagorno-Karabakh, but the bigger and more crucial one that pitted the Turkish Bayraktar diplomacy and Israeli unmanned expertise against Russian mechanised hardware.[38] This war was also the test of a new operational concept that rejected the age-old mechanised form of warfare, in favour of the new, *eye (and hammer) in the sky* form.

> "There is a lack of distinct demarcations between war and peacetime; the world is now in persistent conflict and controlled offensives."

Extrapolation: Threat Environment in 2030

Ideal Attributes of a Future-Ready Force

Some attributes that the Indian Armed Forces need to develop in the next eight to 10 years, to make them future-ready, are given in the following points.

1. **Lean and Agile**

   The age of "Corps and Divisions" must be reimagined. While such large bodies of troops have some merit from the perspective of coercive diplomacy, they must also be economically justifiable. From a military perspective, wars are no longer attrition or manoeuvre based; indeed informationisation[39] is increasingly becoming the tool of modern warfare. Thus, a future-ready force needs to be small, modular, networked and capable of Potent Force Quick Time (PFQT) operations,[40] i.e. based on the symbiosis between the three services, but also manned-unmanned teaming (MUMT),[41] where complementary teams of human operators and unmanned vehicles and drones carry out heavy and time-compressed strikes against adversary positions, preferably from stand-off distances.

2. **Enhanced Theatre Commands (ETCs)**

   The current model of geographical theatre commands, though a step in the right direction, still considers physical geography as the core imperative. However, in an era where cyber and space technologies, and related capabilities, are set to increase, it makes sense to inculcate them as part of these theatre commands. The concept of ETCs recognises that some war-fighting will happen outside the confines of geographic location, and for that, organic cyber and information war (IW) capabilities must be integrated into each theatre command. Currently, the Defence Cyber Agency (DCA) is a tri-services organisation that reviews in a centralised manner the Indian Armed Forces' offensive and defensive capabilities in the cyber domain. A disaggregation, at least starting at the level of Theatre Command HQ, will be necessary to incorporate these capabilities into the Theatre Commanders' respective military plans. ETCs can leverage capabilities in cyber and IW domains for future war-fighting, both in the short and long term.

3. **Specialised Cadres**

   With the increasing fragmentation of subjects and domains into super and hyper-specialisations, it is imperative that the Indian Armed Forces include specialists in domains such as cyber, AI, linguistics, public relations, unmanned platform operators, robotics, space, and electromagnetic spectrum. By 2030, these subjects are likely to form a crucial part of non-contact warfare.

Ideal Attributes of a
Future-Ready Force

4. **Proliferation of Unmanned Vehicles**

    The future of warfare is unmanned. Despite being a societal interaction that
    is singly human, war-fighting will be dominated by unmanned platforms in
    all three domains of land, air, and water. Unmanned aerial vehicles (UAVs),
    armed and unarmed, will dominate the skies in the near to long term, with a
    heavy emphasis on autonomy, bio-inspiration, miniaturisation, and swarms.
    UAVs will also bridge the gap between the Indian Army and the Indian
    Air Force's aerial requirements. As long-range vectors, armed UAVs will
    slowly and steadily diminish the requirements of artillery guns, and close-air
    support aircraft. Different variants of UAVs will act as communication relays
    for networked troops, jammers, and ISR, amongst others. On the naval side,
    UUVs will be used in Humanitarian Assistance and Disaster Relief (HADR)
    operations, decoys and armed "smart" torpedoes against bigger ships of
    the adversary. On land, unmanned drones will be used as load-carrying
    transports for ground troops in difficult terrains, minefield traversing, IED
    detecting and defusing, amongst other tasks.

5. **Counter Disinformation Offensives (CDOs)**

    The Indian Armed Forces should be prepared to undertake not only
    kinetic operations but also CDOs in the social media domain, to prevent a
    "cognitive blowout" of military personnel as well as Indian citizens. Since the
    non-contact nature of warfare will not be limited to the kinetic domain, and
    will encompass cognitive and informational aspects, specialised branches
    of the armed forces will need to conduct pre-emptive operations, utilising
    social media networks and harnessing the Web. As mentioned earlier, the
    securitisation of civil domains such as trade, economics, protests, and debates
    will lead to a greater interaction and interfacing of the military with civilians,
    where cognitive battles will play a dominant role vis-a-vis kinetic ones. With
    the impending move of social media towards a metaverse,[42] Virtual Reality
    and Augmented Reality training will take priority.

6. **Fully Digitised Force**

    The future force will ideally be completely digitised, as the only way to utilise
    and exploit niche and emerging technologies is through the computerisation
    and generation of data, followed by the standardisation of data labels,
    collection, collation and analysis of data. Such a process will allow the three
    services to be "plugged" into a common system with adequate built-in
    safeguards. Combined with the Indian Armed Forces' cloud system, BADAL
    (Bulk Accumulation of Data for Automation and Learning),[43] this setup will
    provide theatre commanders and the subordinate cyber/space departments
    to undertake informed and integrated offensives.

Recommendations

Radical transformations need to be implemented within the Indian Armed Forces to make them battle-ready for the future. These must be pursued with vigour and persistence, to ensure that the armed forces can deliver results, despite budget cuts.

1. Disruptive Acquisitions

Major acquisition decisions generally replace an ageing platform with an advanced version of the same platform. Several studies have shown that disruption cannot come from the same industry that is required to be revolutionised. It is imperative to inculcate disruptive thinking, and that means breaking down service-specific and arms-specific silos. The procurement procedures must be made flexible and less dense, with the L1 system being eliminated. Collaborations with other departments must be encouraged, so that the Forces can 'outsource' the relevant processes to other ministries and departments. Similarly, serving officers need to be given longer and more varied exposure to the private industry, so that disruptive ideas can be incubated. Here, the Indian Army's pyramidical structure can be used to the advantage of both the organisation and the individual. Product managers—officers trained in acquisition, procurement, GSQRs—posted at relevant HQs can be trained from the pool of non-empanelled officers.

2. Mini-Offsets

Many countries have come up with the idea of offsets which are countering capabilities that could cancel out the technological advancements of an adversary state's military. The US, for example, is currently following the "Third Offset," which focuses on developing autonomous systems and AI as a means to out-compete China and Russia.[44] However, both China and the US have mammoth defence budgets that they can use to experiment and re-orient their entire defence industry towards a particular domain. India does not have this luxury; what it does have is a series of strengths in certain technologies that can be leveraged to create mini-offsets and pose serious challenges to its adversaries. Information technology (IT), unmanned systems, and satellites are some of the strengths that India can capitalise on, to build unprecedented advantages over adversaries, especially in the realm of non-contact warfare.

Recommendations

3. Costed Priorities

The Indian defence budget has consistently fallen short of certain funds, leading to the non-fulfilment of committed liabilities. Over time, the armed forces have frequently committed capital funds for platforms that become obsolete by the time it is viable to induct them. As the current Chief of the Army Staff (COAS) General M.M. Naravane notes, "[T]he requirements of [the] information age cannot be hamstrung by [the] procedures of the industrial age."[45] There is a need to revisit the entire concept of "committed liabilities," since they continue to be treated as the holy grails of weapons procurement in the Indian Armed Forces.

Instead, an integrated system of "costed priorities"[46] needs to be put in place, with inputs from theatre commanders and strict timelines whittled down to a couple of years—from conceptualisation to procurement. This will catalyse the armed forces and the Ministry of Defence to simplify and speed up procedures, facilitate procurements and R&D in emerging technologies, and develop integrated solutions to future challenges instead of getting straitjacketed in service- and arms-specific silos. This needs to be supplemented by a significant increase in the defence budget for the next five to eight years, creation of the non-lapsable Modernisation Fund for Defence and Internal Security (MFDIS), and a White Paper on National Defence or else a National Security Strategy to give direction and shape to these procurements and capabilities.

4. Handholding

To create disruption in today's exponential age, certain ideas must be carefully executed, handholding them across the "Valley of Death"[47]—a metaphor often used to describe the gap between university research and its commercialisation. The armed forces can plan and forecast certain shifts in technology. Most technologies generally follow an S-curve, which begins by following a rough exponential trajectory.[48] Since the initial phases of research into a niche technology are not exciting for those outside the field, they tend to be overlooked. It is here that handholding, either by the Government of India or the armed forces, can facilitate and encourage rapid and intensive research into the relevant technologies, taking them to an inflection point. Currently, most emerging technologies such as AI, quantum technology, and space launch, remain low on the exponential curve.

5. Utilise the 'Tour of Duty' Concept

The 'Tour of Duty' concept should exclusively be used to induct engineering and IT graduates into the armed forces for a limited period. The Tour of Duty can be used as a bridge between non-technical service officers and technologically oriented civilians that can help the forces usher in the digital age.

6. Publish a National Security Strategy

The Indian national security is discursive for the most part. Nonetheless, it is still prudent to create a documented National Security Strategy (NSS) that will lay down national goals, timelines, and measures for achieving them. This will facilitate procurements and technology development for the forces. Further, as in the case of the nuclear policy, certain parts of the NSS can be unclassified and open to public debates, while the more operational parts are kept classified. This will ensure that the broader strategic community, as well as the public, are integrated into the forces' developmental blueprint, in accordance with India's larger vision.

Recommendations

Conclusion

Akshat Upadhyay is a serving Indian Army officer who has written on lone-wolf terrorism, coercive diplomacy, information operations, and the role of emerging technologies.

The current transformation of the Indian Armed Forces is only structural, and not capabilities-based. Therefore, there remain gaps on how to create a credible theory of victory for India, especially in the age of no-contact warfare. Furthermore, the armed forces, despite some accretions in emerging technologies, are constrained by antiquated procurement procedures and an attrition war mindset.

This must be discarded in favour of a decentralised, networked, flexible, and directive style—one that prioritises disruptive thinking rather than well-rehearsed battle drills. The recommendations made in this brief, if applied well in time, can prepare the armed forces to prevail over their adversaries in the next two to three decades, giving political imperatives the space to play out and lead to political settlements. **ORF**

> "India's armed forces must favour a decentralised, networked, flexible, and directive style—one that prioritises disruptive thinking rather than well-rehearsed battle drills."

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Endnotes

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