

U.S.I. JOURNAL

INDIA'S OLDEST JOURNAL ON DEFENCE AFFAIRS



(Estd. 1870)

PRINCIPAL CONTENTS

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General Anil Chauhan,
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Sea Drones in Maritime Warfare: The
Ukraine Experience

Vice Admiral AK Chawla,
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New Criminal Laws in India

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Enhancing India's Soft Power: A Strategic
Imperative

Vinayak Sharma

Vol CLIV

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USI LATEST PUBLICATIONS; 2022-2024

Pub Code	Type	Title of Publication and Author	Price (₹)	Year
CMHCS-7/ 2024	Book	'Alha Udal Ballad Rendition of Western Uttar Pradesh' – A War Rendition of India Author and Translator Dr Amit Pathak	1695	2024
CMHCS-8/ 2024	Book	'Valour and Honour – Indian Army through the Ages' Edited by Maj Gen Ian Cardozo, AVSM, SM (Retd) and Maj Gen Jagatbir Singh, VSM (Retd)	1495	2024
OP-2/ 2024**	Occasional paper	'POLITICAL AND ECONOMIC INSTABILITY IN MYANMAR : IMPLICATIONS FOR INDIA'S 'ACT EAST' POLICY' By Mr Subir Bhaumik	250	2024
OP-3/ 2024**	Occasional paper	'Impact of Technology Enabled Cognitive Operations in Hybrid Warfare' by Lt Gen (Dr) RS Panwar, AVSM, SM, VSM (Retd)	350	2024
OP-4/ 2024**	Occasional Paper	'Protection of Cultural Property in Armed Conflict' by Wg Cdr (Dr) UC Jha (Retd)	250	2024
Adm/SY B-24**	Year Book	'STRATEGIC YEAR BOOK 2024' Editor-in-Chief Maj Gen BK Sharma, AVSM, SM** (Retd), Edited by Maj Gen Sanjeev Chowdhry (Retd), Ms Komal Chaudhary, Mr Vinayak Sharma and Mr Mihir S.	2750	2024
Adm-1/ 2024	Book	'INDIA'S STRATEGIC THOUGHT AND MULTI-DOMAIN WARFARE PERSPECTIVES' Edited by Maj Gen Sanjeev Chowdhry (Retd), Ms Komal Chaudhary & Mr Vinayak Sharma (Pentagon Press)	995	2024
Adm-Mil Ops/ 2024**	Book	"MILITARY OPERATIONS – Legal Framework for Multi-Domain Warfare" By Wg Cdr Umesh Chandra Jha (Retd) & Mr Kishore Kumar Khera	1750	2024
P-39/ 2023**	National Security paper	"THE INDO-PACIFIC CONSTRUCT-INDIA'S MARITIME HIGHWAY TO GREAT POWER STATUS" by Vice Admiral Anil Kumar Chawla, PVSM, AVSM, NM,VSM, PhD(Retd)	395	2024
M-1/ 2024**	Monograph	"PRESENT AND EMERGING THREATS TO NATIONAL SECURITY IN DIGITAL AND CYBER SPACE – AN ANALYSIS OF SECURITY AND LEGAL ISSUES" by Lt Cdr Bharat Singh (Retd) & Gp Capt Raja Singh (Retd)	395	2024
M-2/ 2024**	Monograph	'Protection of Civilians in Modern Conflicts and International Humanitarian Law' Edited by Maj Gen PK Goswami,VSM (Retd), Maj Gen AK Bardalai (Retd) and Ms Kompal Zinta	395	2024
OP-1/ 2024**	Occasional Paper	"OPTIMISATION OF PROFESSIONAL WARGAMING WITH BOARD AND TABLETOP WARGAMES WHICH REALLY ARE QUALITATIVE AGENT-BASED MODELS" by Lt Gen (Dr) SK Gadeock, AVSM(Retd) & Col Saikat K Bose	350	2024
M-1/ 2023**		"India Tibet Relations (1947-1962)" By Mr Claude Arpi	395	2023
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OP-2/ 2023**		"The Great Helmsman and the Generalissimo : A Personal Feud That Endures" by Col Sanjay Kannothe,VSM	250	2023
Adm-SYB/23**		"STRATEGIC YEAR BOOK 2023" Editor-in-Chief Maj Gen BK Sharma, AVSM, SM & Bar (Retd), and Edited by Lt Gen GS Katoch, PVSM,AVSM,VSM (Retd), Gp Capt Sharad Tewari, VM (Retd) & Dr Jyoti Yadav	2250	2023
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OP-6/ 2023**		"ORBAT & DECORATIONS FOR THE AZAD HIND FAUJ" By Shri Neelotpal Mishra	350	2023
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OP-8/ 2023**		First Lt Gen PS Bhagat Memorial Lecture "Legacy of Lt Gen Prem Bhagat – A Visionary and Strategic Leader" held at Manekshaw Centre on 14 June 2023. Compiled by Ms Tanya Jain	350	2023
OP-9/ 2023**		Fourth General KV Krishna Rao Memorial Lecture "Theaterisation in Light of the Malayan Campaign and The Fall of Singapore in World War II" held at Manekshaw Centre on 29 Dec 2022. By General MM Naravane, PVSM,AVSM,SM, VSM (Retd)	350	2023
Adm-UNPO/2 023		"INDIA AND THE UN PEACE OPERATIONS-In Service of Humanity and Global Peace" By Col (Dr) Kulwant Kumar Sharma (Retd) M/s KW Publishers Pvt Ltd	1880	2023
M-1/ 2022**		"Eastern Military Thought" By Colonel Harjeet Singh (Retd)	325	2022
CMHCS-5		"History of Indian Air Defence Artillery 1940-1945" By Col Mandeep Singh (Retd) M/s Manohar Publishers & Distributors	1495	2022

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(contd. back inside cover page)

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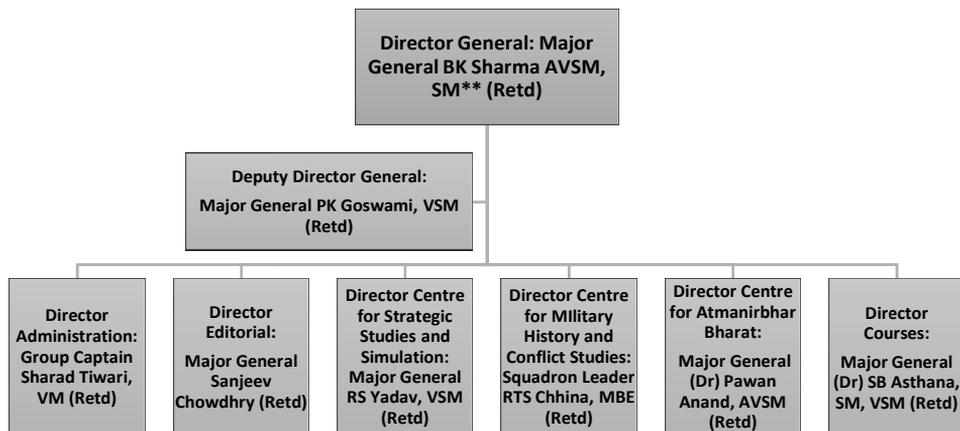
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5. Course Schedules.

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- USI welcomes original researched articles pertaining to national security, defence matters and military history for publication in the USI Journal. Articles should preferably not exceed 3,000 words. Along with the article, the author should forward abstract of the article not exceeding ten per cent of the total words. These should be forwarded as a word document on e-mail to the Director Editorial, USI of India, on direditorial@usiofindia.org. In the e-mail, the author should state that: The article titled (Title of Article) has neither been previously published in print or online, nor has it been offered to any other agency for publication. The Editor reserves the right to make alterations.
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- The author will receive a copy of the issue of the Journal in which his/her article appears along with three offprints. A suitable honorarium will also be paid after the article is published.

Guide to Writing Endnotes

- Endnotes are notes added to the main body of a paper or an article, in which the author directs readers to sources referred to or to add extra comments of his or her own. Endnotes are placed at the end of the paper/article. A superscript number (1,2,3,4) at the end of the sentence signals the reader to look for the corresponding endnote at the end of the article. The endnotes should be numbered consecutively, starting from '1'. Citations should include the author's name, title of the book (in italics), publishing information (in parenthesis) and pages consulted, all separated by commas. Citations should be in the Chicago Manual of Style (CMS) format. A quick reference is available at: https://www.chicagomanualofstyle.org/tools_citationguide/citation-guide-1.html.

- Some examples are given below:

¹ Michael Baxandall, *Painting and Experience in Fifteenth-Century Italy : A Prime in the Social History of Pictorial Style*, (Oxford University Press, London, 1988), p. 45.

² Lina Bolzoni and Pietri Coral, *The Culture Memory*,(Bologna : Societa editrice Il Mulino, 1992), p. 45.

³ Use of *Ibid.*, *op. cit.*, and *loc. cit.*

Ibid. refers to the immediate preceding reference; *op. cit.* refers to the prior reference by the same author and *loc. cit.* is used instead of *op. cit.* when reference is made to a work previously cited and to the same page in that work. For example :-

⁴ R Polrer, *Learning Physics*, (Academic, New York, 1993), p. 4.

⁵ *Ibid*, p. 9.

⁶ T Eliot, *Astrophysics*, (Springer, Berlin, 1989), p.141.

⁷ R Millan, *Art of Latin Grammar*, (Academic, New York, 1997), p.23.

⁸ Elliot, *op cit.*, p148.

⁹ Elliot, *loc, cit.*

- Where websites have been used to access information, the complete web address of the website should be cited, followed by the date the website was accessed by the author e.g. Accessed 24 Jun 2024

<http://www.fordham.edu/halsall/mod/1947degana.html> .

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During Jul-Sep 2024, 45 Officers registered for Course Membership.

CONTENTS

July to September 2024

Editorial	357
Jointmanship: The Way Forward General Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM.....	361
Sea Drones in Maritime Warfare: The Ukraine Experience Vice Admiral AK Chawla, PVSM, AVSM, NM, VSM, PhD (Retd).....	373
New Criminal Laws in India Wing Commander (Dr) UC Jha (Retd).....	386
Enhancing India's Soft Power: A Strategic Imperative Vinayak Sharma.....	395
Defence Industrialisation in Developing Countries: An Analysis of India Commander Raghvendra Chaturvedi (Retd) Dr M Venkatesan.....	409
Ammunition Management in Modern Warfare: Analysing Recent Conflicts and their Strategic Implications Brigadier Biju Jacob, VSM.....	425
The Dragon's Shadow: Understanding China's Impact on India's Approach to Tibet Dr Beena.....	442
The Elephant's Trumpet for Taming the Dragon Air Commodore Shirish Dhakate.....	457
China's Influence in the United Nations: An Evolving Role Colonel DCS Mayal (Retd).....	468
Increasing Indian Air Force's Footprint in Indian Ocean Region Wing Commander AS Singh Squadron Leader Umang Gupta.....	485
Tactical Transport Operations Along Northern Border Air Commodore Kunal Kala Wing Commander Rathiesh NM Squadron Leader Dasari Abhishek Squadron Leader Prashant Kumar P Gitte.....	499
Russia-Ukraine Conflict: Military Lessons for India Group Captain (Dr) Swaim Prakash Singh.....	524
Letter to the Editor Gautam Hazarika.....	544
Review Article and Short Book Review Major General Jagatbir Singh, VSM (Retd) Dr Jyoti Yadav	545

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From the Editor's Desk

Dear Readers,

We take great pride and responsibility in presenting the third edition of the United Service Institution (USI) of India Journal for 2024. For over a century and a half, the USI has been a trusted source of insightful analysis on key issues related to national security, international affairs, military history, United Nations (UN) Peacekeeping, and geopolitics.

This edition features 12 meticulously researched articles covering a wide array of topics. These include the use of sea drones in maritime warfare, the implications of India's new criminal laws, the role of India's soft power, defence industrialisation, and ammunition management. Additionally, two China-focused articles explore China's impact on India's outreach to Tibet and India's strategies to counter China. We also present two articles on the Indian Air Force (IAF). The first discusses the expansion of the IAF's presence in the Indian Ocean Region (IOR), while the second delves into tactical transport operations along India's northern border. Lastly, this issue includes the runner-up entry from the USI Gold Medal Essay Competition 2023, which examines the military lessons for India from the Russo-Ukrainian War.

The featured article, 'Jointmanship: The Way Ahead' by Gen Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM, the Chief of Defence Staff, explores the ongoing efforts to enhance cross-service cooperation through jointness, a concept fundamental to the restructuring of military operations. It examines the creation of theatre commands, the evolution of military tactics from single to multi-domain operations, and the convergence of traditional and emerging warfare domains. Following this, Vice Admiral AK Chawla, PVSM, AVSM, NM, VSM, PhD (Retd), in his article 'Sea Drones in Maritime Warfare: The Ukraine Experience', examines the immense potential of sea drones, highlighting their successes and limitations, using the Ukraine conflict as a case study.

The third article in this series, written by Wing Commander (Dr) UC Jha (Retd), titled 'New Criminal Laws in India', explores the recent legal reforms introduced by the Indian government,

which have comprehensively overhauled the existing system to meet the evolving needs of the administrative and judicial frameworks. He also underscores the need for a complete revision of military laws, advocating for a unified legal code across all three branches of the armed forces. The following article, 'Enhancing India's Soft Power: A Strategic Imperative' by Vinayak Sharma, analyses India's global soft power projection, drawing comparisons with the strategies employed by the United States and China. The author further provides recommendations on how India can institutionalise and strengthen its soft power mechanisms on the global stage.

In the fifth article 'Defence Industrialisation in Developing Countries: An analysis of India' by Commander Raghvendra Chaturvedi (Retd) and Dr M Venkatesan assess the challenges facing India's defence production and outline a roadmap for achieving self-reliance in the defence manufacturing sector. The sixth article, 'Ammunition Management in Modern Warfare: Analysing Recent Conflicts and Their Strategic Implications', by Brigadier Biju Jacob, VSM provides insights into optimising ammunition management in modern warfare, using case studies from Ukraine, Israel, and Armenia. The article also delves into the broader implications of ammunition management on defence policies, addressing key factors such as resource allocation, international alliances, and arms trade regulations.

In the article 'The Dragon's Shadow: Understanding China's Impact on India's Approach to Tibet', Dr Beena examines how China is consolidating its influence in Tibet through infrastructure development, military presence, and cultural assimilation. She further explores how China's policies in Tibet are reshaping regional dynamics and compelling India to reassess and revamp its own approach. The eighth article, which is the second part of his article in the Apr-Jun issue of the USI Journal, 'The Elephant's Trumpet for Taming the Dragon Part II', by Air Commodore Shirish Dhakate, focuses on China's current and future trajectory. It highlights the systematic reorganisation of China's command structures and their significant implications, stressing the need for a comprehensive analysis. The article outlines strategic measures

India can adopt to effectively address these developments. The following article, 'China's Influence in the United Nations: An Evolving Role', by Colonel DCS Mayal (Retd), discusses how China views the UN as a strategic tool to advance its 'Middle Kingdom' vision. The author explains how Beijing has furthered its agenda by positioning nationals and proxies in key UN roles, providing financial support, and launching aligned programs, thereby, enabling China to shape global agendas and build coalitions that challenge western dominance.

The next article, 'Increasing Indian Air Force's Footprint in the Indian Ocean Region', by Wing Commander AS Singh and Squadron Leader Umang Gupta, explores the strategic significance of the IOR, a crucial maritime zone where global powers vie for influence due to its strategic location and abundant resources. This competition has intensified naval activities, defence partnerships, and geopolitical manoeuvring. The authors contend that an expanded IAF presence in the region could prove to be a game-changer, enhancing India's ability to achieve its strategic objectives. The penultimate article, 'Tactical Transport Operations Along the Northern Border', by Air Commodore Kunal Kala, Wing Commander Rathiesh NM, Squadron Leader Dasari Abhishek, and Squadron Leader Prashant Kumar P Gitte, addresses the challenges and opportunities the IAF faces in the mountainous northern region. The hostile nature of India's northern neighbours presents significant tactical challenges, requiring the IAF to operate at the tactical level. The article underscores the critical importance of tactical air operations along the Northern Border.

The final and 12th article, 'Russia-Ukraine Conflict: Military Lessons for India', by Group Captain (Dr) Swaim Prakash Singh, which earned the 2nd Runner-up position in the Gold Medal Essay Competition, explores the key lessons India can draw from the Russia-Ukraine war. The article highlights how the multifaceted nature of the conflict has transformed modern warfare, incorporating conventional military strategies, hybrid tactics, and strategic considerations. It offers India valuable insights to strengthen its military preparedness and adapt to evolving warfare dynamics.

The final section of the Journal features a review article and a brief book review of two titles acquired by the USI library. These include:

- 'Maharajas, Emperors, Viceroy, Borders: Nepal's Relations North and South' by Sam Cowan; Reviewed by Maj Gen Jagatbir Singh, VSM (Retd).
- 'Vision Courage and Service: Life and Times of General TN Raina, MVC' by Brigadier Satish K Issar; Reviewed by Dr Jyoti Yadav.

In conclusion, this edition of the USI Journal offers a rich and insightful collection of articles and reviews that thoroughly examine contemporary military and geopolitical challenges. Each contribution reflects the expertise and commitment of our authors, providing nuanced perspectives on the critical issues shaping the current global landscape.

We sincerely thank the Indian Council of Social Science Research for their generous financial support, and our authors without which this publication would not have been possible. We hope this edition of the USI Journal serves not only as a valuable repository of knowledge but also as a guiding light through the intricate landscape of national security and geopolitics.

As always, we welcome your feedback and suggestions. Happy reading, and may the discussions within inspire thoughtful reflection as we navigate the challenges of the year ahead.

**Major General
Sanjeev Chowdhry (Retd)
Director Editorial**

Jointmanship: The Way Ahead

General Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM®
Chief of Defence Staff

Abstract

The Indian Armed Forces are undergoing a profound transformation, embracing jointness and integration as key pillars for future readiness. Inspired by Heraclitus's assertion that 'Change is the only constant', these reforms aim to modernise and unify India's defence capabilities. This article explores the ongoing efforts to enhance cross-service cooperation through jointness, a concept fundamental to the restructuring of military operations. It examines the creation of theatre commands, the evolution of military tactics from single to multi-domain operations, and the convergence of traditional and emerging warfare domains. The integration initiatives, guided by a clear vision for the future, reflect a strategic shift in India's military approach, emphasising the importance of a joint culture that transcends service-specific traditions. As the Indian Armed Forces adapt to a rapidly changing global security environment, the focus on jointness and integration will be critical in maintaining an agile and effective defence posture, ensuring that the forces are equipped to meet the challenges of modern warfare.

This is the transcribed and edited version of the lecture given by the Chief of Defence Staff during the 22nd Major General Samir Sinha Memorial Lecture on 21 May 2024.

®**General Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM**, an alumnus of the National Defence Academy, was commissioned into the 6th Battalion of the Eleventh GORKHA RIFLES in Jun 1981. He has commanded an Infantry Battalion in Jammu and Kashmir, a Mountain Brigade in Manipur, and an Infantry Division in the Kashmir Valley and a Corps in the Northeast region. He served as General Officer Commanding-in-Chief of Eastern Command. He was also the Director General of Military Operations during the Balakot Air Strike. After retirement, he was the Military Advisor to the National Security Council Secretariat. An author of two books, he assumed the role of Chief of Defence Staff on 30 Sep 2022.

Journal of the United Service Institution of India, Vol. CLIV, No. 637, July-September 2024.

Introduction

Heraclitus (A Greek philosopher) is often quoted as saying that 'Change is the only constant in life'. It is transnational and inevitable; for instance, how the Indian defence ecosystem is on the path towards major revolutionary reforms. These include the *Atmanirbharta* (Self-reliance) drive in defence manufacturing and procurement; the *Agnipath* scheme, which does the same for the recruitment process; the creation of the Department of Military Affairs (DMA) and the appointment of a Chief of Defence Staff (CDS) for the purposes of theaterisation. The reforms envisaged in the Indian Armed Forces, encompass organisational to structural and from conceptual to cultural. Jointness and jointmanship, is the basic foundation on which all other changes shall rest.

In his seminal work, 'Origin of Species', Charles Darwin states that it can be proved that 'Inheritance, variation, adaptation, selection, and timing' are important for any species to survive. Evolution through natural selection applies to both organisms as well as organisations. Hence, discarding the old to prepare for the future, is a must. Therefore, in today's world, change is not only a manifestation of a natural process but a necessity. In the context of the Indian Armed Forces, the current geopolitical events present new challenges to nation states, the flux in the world order is forcing nations to review their security strategies. The rapid and unbridled march of technology is transforming the way future wars will be fought. Evolving geopolitics and technological advancements are following a non-linear and unpredictable path.

Therefore, it becomes of utmost importance to understand what Jointness and Jointmanship entail; and how the armed forces are to forward with the goal of achieving the same.

Jointness: Some Basics

The Cabinet Note that approved the creation of the post of CDS and the creation of DMA in the Ministry of Defence states that one of the aims and objectives of reforms in the Higher Defence Management in India is 'To bring about jointness' between the Indian Armed Forces. Also, the mandate of the DMA, is to 'Promote jointness in procurement, training, staffing through joint planning and integration of the requirements. Clearly, two distinct activities are envisaged in the Cabinet Note, one being a tangible and

physical activity of bringing jointness, and other of promoting jointness.

‘Jointness’ can be described as ‘Cross service cooperation’ in all stages of military processes, from research through procurement and on to operations. The word ‘Joint’ is prefixed with a number of activities, products and processes such as joint planning, joint capabilities, joint training, joint operations, joint doctrines, joint directives, etc.

These ‘Joint’ activities are predicated on a mindset of jointness prevailing in the environment for that activity, process, or product to achieve its desired aims and objectives. Clearly, jointness lies in a psychological or non-physical domain, a bonding with something that is intangible and abstract. The subject of ‘Reforms in the Higher Defence Organisation’, can hence include an enabling environment, a spirit to work together, creates an atmosphere of trust, generating bonhomie adding to the congenial environment and providing openness so that one can share ideas without prejudice.

Jointness is the *sine qua non* (necessary condition) for ‘Integration’ which can be described as a physical activity. The two activities of ‘Jointness and Integration’, together are considered as important pre-requisites for creation of joint operational structures including theatre commands.

Theatre Commands

The concept of theatre commands aims to separate the ‘Operational’ functions from the ‘Raise-Train-Sustain’ and other administrative functions, and thereby allowing greater focus for the operational commander to matters of security. ‘Force Generation’ and ‘Force Application’, will be two distinct fields, with the forces undergoing re-structuring for achieving the same.

While some may conclude that the establishment of integrated theatre commands is likely the end state of the reforms being attempted, the creation of such commands can be said to mark the beginning of another set of reforms. The theatre commands lay the foundation for catapulting the Indian Armed Forces into the next orbit of military preparedness and warfighting; hence, they are not an end state, it is the beginning of the future for the forces.

The armed forces are in stage of changing tactics from single to multi-domain operations. The tactics, techniques and procedures, the concepts of information flow and linkages will also need to change. Additionally, there is a drive to fuse the emerging domains of space and cyberspace into the traditional domains of land, air, and water. As in the future, the initial engagements of any conflict will involve the control of the emerging domains from the ground. Third, information is also an important reform which is being built from the ground-up. The digitisation of battlefield information and visualisation will lead to overhaul and streamlining of staff work and processes and decision making which hone the capability of the forces to conduct warfare. The digitisation of the same enables the Indian Armed Forces to move from a 'Net-Centric' approach to a 'Data-Centric' approach which entails shifting from information dominance to decision dominance, with artificial intelligence, machine learning, and big data becoming integral parts of the battlefield support structure. The next level of integration involves logistics. At present, there is a program to introduce Joint Logistics Nodes which will ensure a common logistics architecture allowing for inventory to 'Speak' to each other and integrate maintenance.

Modern warfare is increasingly characterised by the convergence of various domains, strategies, and technologies, leading to a complex and multi-dimensional battlefield. The integration of data-centric, celerity-centric, and cognitive-centric approaches emphasises the importance of data-driven decision-making, rapid operational agility, and psychological influence in shaping outcomes. The traditional boundaries between kinetic and non-kinetic methods are blurring, with cognitive strategies playing a crucial role in influencing adversaries' perceptions and decision-making. Simultaneously, the convergence of time and space, driven by emerging and disruptive technologies, is reshaping how operations are conducted, allowing for real-time actions across vast distances. This evolving landscape necessitates a seamless integration of tactics, operational art, and strategic objectives, ensuring that actions on the ground are aligned with broader military goals. As developed nations enter the next Revolution in Military Affairs (RMA), the focus in the cognitive domain will intensify, with theatre commanders prioritising influence operations, information warfare, and perception management. To remain future-ready, militaries must embrace emerging concepts like manned-unmanned teaming, while also implementing organisational changes at lower

echelons, such as separating operations from Repair, Supply, and Transport functions currently managed by Service Headquarters.

The next critical step in this evolution is the absorption of the third Revolution in Military Affairs, which can be termed 'Convergence Warfare'. This phase will be adopted once the theatre commands become operational, marking a significant shift in military strategy. Convergence Warfare will integrate the principles of the first RMA, which focused on manoeuvre warfare, with those of the second RMA, which emphasised net-centric warfare. By combining these previous advancements, Convergence Warfare will create a more unified and sophisticated approach, leveraging both physical manoeuvrability and advanced networked operations to achieve strategic objectives in a highly integrated manner. These developments reflect the intricate and dynamic nature of modern warfare, where technological advancements, cognitive strategies, and integrated operations are increasingly pivotal.

History of Jointness

The need for jointness among the three services was recognised by the political and military leadership of newly independent India very early on and a Joint Services Wing was created at Clement Town, Dehradun, a precursor to the National Defence Academy (NDA) that came up at Khadakwasla, Pune. These formative years were the bedrock of jointness. However, in the absence of any further efforts towards achieving the same, a vacuum began to form with this empty space being filled with doubt and distrust. The divide between the services increased as officers of each service grew in a closed environment within their respective service, imbibing a culture of their own, which is natural as officers are motivated to join a particular service for various reasons, ranging from a distinct uniform to love for their historical or battle accounts or the traditions and work environment that a particular service offers. The differences at the apex level gradually permeated to the rank and file of each service.

Strategy to Promote Jointness

Presenting the bigger picture. Organisations, especially hierarchical and tradition-bound organisations, are status quoist by nature and resist change. When faced with the prospect of change, people consider what they will lose individually rather

than what they will gain collectively. Hence, presenting the bigger picture is one of the most important strategies to promote jointness.

Vision. The next important issue was mapping the route to an end state, which was achieved through formalising and enunciating a clear vision for the armed forces. 'The Vision 2047', which was laid down for the Indian Armed Forces is: 'To be an integrated, all domain force, dynamic and self-reliant in capabilities and thought, ready to respond across the full spectrum of conflict to protect our national interests, in concert with all elements of national power'.

Guiding Coalition. The building of broad consensus among what John Paul Kotter, a leading management guru, speaks about forming a 'Guiding Coalition', that will steer the change, was the next step. It comprised the CDS, the three Chiefs and the Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee. To create the right environment and atmosphere even within the Guiding Coalition, one went back to armed forces' roots. The 1st Conference on creation of Theatre Commands at NDA was held with the CDS in chair. The participants laid wreaths at the Hut of Remembrance and walked together to the Sudan Block Conference Hall. The atmosphere evoked and aroused the latent spirit of jointness, breaking barriers in the process.

Creating a Sense of Urgency. One of the strategies behind all these actions was to present a bigger challenge than the change being enforced, which helped create a sense of urgency. It compelled people to act with passion and purpose, a momentum that excites people to pursue the vision of the future together. It is necessary for individuals to realise the importance of the change and usher it in themselves, in the interest of their continued capability towards national security.

Increased Interaction. The next step was to build the necessary momentum through increased interaction. This was achieved by the CDS through interacting with officers at all levels – Commanders, to middle rung officers and to even young officers. The intention was to build the necessary drive in the environment so that each officer can become a catalyst in this change.

Interaction at Tri-Service Level. The heads of all tri-service training institutions, the Andaman and Nicobar and Strategic Forces Command and the three agencies met on the platform provided

by 'Parivartan Chintan-I', with the aim of deliberating on initiatives that can propel jointness. The focus of 'Parivartan Chintan-I' was jointness rather than integration.

Unstructured Interactions. There were unstructured interactions which were undertaken at formation level as well. It took place in the form of numerous joint wargames and joint exercises which gave an opportunity to larger number of officers to meet and interact. Most of these were spontaneous without any written directives/instructions being issued by the Headquarters Integrated Defence Staff or the DMA. These were done at the Command Headquarter (HQ) level by interaction between the Commander-in-Chiefs directly. Tri Shakti Prahaar of Southern Command was one such initiative. The elements of all the three services were incorporated in Exercise Dweep Shakti of Andaman and Nicobar Command as also Exercise Vayu Shakti, the fire power demonstration of the Indian Air Force (IAF). Gagan Shakti exercise of the IAF also invited participation and observers of other two services.

Tri-Service Demonstration. They were also able to organise a national-level tri-service demonstration of their operational capabilities during Bharat Shakti. It not only showcased 'Made in India' weapon and ammunition systems but also highlighted integration.

Jointness 2.0 – The Way Ahead

Jointness 2.0 is about developing 'Joint Culture' in the armed forces. There are service-specific cultures and even in joint service organisations, officers often come with the baggage of their individual service.

In the IAF, there is a culture of professionalism since they are training for combat every day. This is an excellent virtue; however, the skill of flying is sometimes regarded as so important that broader aspects of national security and professional can be neglected.

The officers of the Indian Navy have a strategic perspective because of the nature of their service. They feel that they are 'Sailor Diplomats' because the attributes of Navy's employment have diplomacy embedded into it.

The Indian Army feels that metrics of victory will always be measured by the number of boots on ground. This large monolithic organisation is so steeped into customs and traditions that it takes time for even information to percolate down through multiple filters, both organisational and cultural.

Joint Culture

Culture is a way of life for a group of people. It is a sum total of their beliefs and values, and it manifests in a particular pattern of behaviour. Developing a culture takes time and it is essential for it to be passed down to successive generations for it to survive and grow. There is a need to create a fourth culture in the armed forces, a joint culture which is crucial as one moves toward establishing joint operational structures. Symbology and rituals are important tools for people to associate with a particular tradition or belief. It helps promoting the creation of a new culture.

Some initiatives that are being processed towards the creation of a joint culture through symbology and rituals:

- Tri-Service participation in national events by inclusion of a tableau and a flypast at the Republic Day Parade.
- A tri-service song and marching tune which is being composed at Army Education Corps Training College and Centre, Pachmarhi, Madhya Pradesh.
- An audio-visual film on jointness and integration.
- The Owl magazine of Defence Services Staff College (DSSC) to become a true representative and spokesperson for development of joint Culture, jointmanship etc.

Joint Staff Course. Jointness in training at the DSSC has been enhanced by the establishment of a Joint Training Team. A Joint Division is being established as a pilot project for the next course, i.e., the 80th Staff Course commencing in Jun 2024, wherein, 44 officers will be subjected to an enhanced joint curriculum with the aim of preparing staff officers for joint staff appointments.

Ingredients of a Joint Culture. The Joint culture while distinct from service-specific Culture, needs to respect the uniqueness of each service. One must be able to distil the best of each service,

and incorporate the highest common factor, rather than settle for the lowest common denominator. It must promote:

- **Original Thinking.** Since officers in joint organisations, with sufficient maturity, will be evolving new concepts, doctrines, tactics etc., they must give a new approach and direction to traditional or old concepts.
- **Non Hierarchal Staff Work.** A mode of operation within an organisation where decision-making and task delegation are not strictly based on a hierarchical structure.
- **4 Is.** Innovative, Inventive, Imaginative and Indigenious.
- **Sharing of Knowledge.**
 - Power is not for hoarding information but sharing it.
 - Seamless sharing of knowledge and ideas both vertically and horizontally must be a signpost of joint culture.
 - The discouragement of the tendency of protecting the 'Knowledge Turf' as this may lead to loss of perceived power and credit.
 - Instead, a culture of openness must not only be encouraged but also incentivised.
- **Receptivity**
 - Be open to ideas about your service from an officer of different service.
 - Resistance to change in a top-down force is inherent. Therefore, it must be rejected if true jointness is to be achieved.
 - What is being said is important than who has said it. In the armed forces, it can become a matter of contention for senior officers, if and when, a junior contradicts them. Or if a member of a different force provides their opinion which might go against the one shared by a superior of a different force. Such instances must be discouraged for achieving true jointness.

- **Future Warfare.** In future Indian warfare, hybrid threats, technological advancements, and multi-domain operations pose challenges. Strategic partnerships are crucial against asymmetric challenges, emphasising border security and modernisation for defence preparedness. Civil-military integration may need to be increased to address non-traditional security issues.

Integration 2.0

The conjoining or bringing together of two diverse entities or organisations can be called integration. It is a physical activity that is apparent, visible and objectively measured. Integration is a prerequisite for the creation of theatre commands and lies between the amorphous state of Jointness to an end state of a functional Theatre Command. In 2023, a number of one-time activities and events were planned.

Some of such initiatives included:

- Operational utilisation of the Indian Navy MiG29K for Operational Readiness Plan duties in coordination with IAF during aircraft carrier maintenance schedule periods.
- Cross postings of few officers.
- Single advertisements calling on the citizens to join the Indian Armed Forces.
- Some unstructured exercises.

In 2024, there has been a need to give them an enduring character by making these activities flow out of a policy or an instruction or an order. It is envisaged that number of joint instructions, joint orders and joint policies/directives would be issued in coming times. These will be arrived at through a consultative process for implementation.

- **Joint Instructions.** Joint Instructions will have financial and legal implications like conditions of service (Joint Staff), pay and allowances, scaling of equipment, financial powers and procedures etc. These would be issued post approval of Secretary DMA.

- **Joint Orders.** Joint Orders would have legal implications and would be issued by the CDS. These orders will be applicable for all joint service organisations and three services. Joint Orders if issued by the Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee under the aegis of HQ IDS would be applicable for Tri-service organisations/establishments only.
- **Joint Policies/Directives.** Joint Policies/Directives would not have the authority of an order but would be required to be implemented by sector/brigade HQ. These would be issued at the level of DMA or HQ IDS, as applicable. For instance, a joint exercises policy has been promulgated by HQ IDS.

Overall, the integration initiatives have been classified under nine verticals. The verticals, in the order of priority, which have been identified and considered essential for integration before the establishment of theatre commands are, operations, operational logistics, capability development, intelligence communication and IT, training, maintenance and support services, human resources and administration and legal.

The integration initiatives are being taken to meet specific objectives. A total of 122 initiatives are being addressed under a two-timeline schedule of Phase I and II which is related to establishment of theatre commands. 65 integration initiatives form part of Phase 1 (as pre-requisites for the creation of joint structures), of which some have already been completed and rest are at advanced stages of implementation.

Adoption of a common operational planning process by all services, interlinking of air defence networks, common standard operating procedures for all in-service missiles, setting up of a joint communication architecture, the notification of the Inter Services Organisation Bill, depot level repair of small arms of the Indian Navy and the IAF being undertaken by the Indian Army, to save time for repair and for sharing expertise, are some of the completed initiatives, to name a few.

Civil-Military Fusion. Integration as an effort should not be limited within military. It should be expanded in a manner to even involve Central Armed Police Forces, and Coast Guard. While efforts of the military are primarily focused towards ensuring a secure nation,

efforts should also be made to magnify outcomes in other fields based on a 'Whole of Nation' approach. Fields like exploration of rare earth materials, extending logistic services, space cooperation, flexible use of airspace, dual use of airfields, ammunition management, development of a core equipment/material related to military as well as civil aircraft are few such examples where imaginative and innovative thinking under a fused civil-military approach would benefit the nation as a whole.

Conclusion

The ongoing transformation of the Indian Armed Forces reflects a dynamic shift towards embracing jointness and integration as essential components for future readiness. The creation of theatre commands, alongside other significant reforms, marks not just an organisational change but a cultural and strategic evolution. These efforts are geared towards enhancing operational efficiency, fostering a joint culture, and ensuring that the armed forces are equipped to meet the challenges of modern warfare.

Jointness and jointmanship require an innovative approach and collaborative effort. There are no limits to the levels of jointness, nor is it a graph with a guaranteed upward trajectory; fluctuations may occur based on circumstances or personalities, which must be guarded against. Creating something new often necessitates discarding the old, a challenging task due to emotional attachments. The concept of 'Creative Destruction' is particularly relevant here, where creativity is infused even into the process of destruction to make it an attractive and necessary step toward progress.

As India navigates the complexities of an evolving global security environment, the emphasis on jointness and integration will be pivotal in maintaining a robust and agile defence posture. The journey towards achieving these goals is not merely about structural adjustments but about cultivating a mindset that values cooperation, adaptability, and forward-thinking. The future of India's defence lies in the successful absorption of these reforms, which will enable the armed forces to operate seamlessly across domains, ensuring national security in an increasingly interconnected and unpredictable world.

Sea Drones in Maritime Warfare: The Ukraine Experience

Vice Admiral AK Chawla, PVSM, AVSM, NM, VSM, PhD (Retd)®

Abstract

The ongoing invasion of Ukraine has an important maritime dimension in which, for the first time in maritime history, sea drones have demonstrated the immense potential they possess in maritime warfare. This article analyses the reasons for the success of sea drones, as well as their limitations. It surmises that while sea drones are not a 'Silver Bullet' that can replace the existing arsenal of naval weapons, or indeed render warships obsolete, they represent a new and potent option that, in coming years will attain greater potency, perhaps even becoming the weapon of choice in maritime warfare.

Introduction

The maritime battlespace of the Russo-Ukrainian War is unique in many ways, being fought entirely in the landlocked Black Sea and the Sea of Azov, rather than the open oceans. The only maritime exit from the Black Sea is through the narrow Straits of Bosphorus and the Dardanelles, both of which lie entirely within the territorial waters of Turkey. Under the Montreux Convention of 1936, Turkey is empowered to control the access of warships through the two Straits in wartime, and if Turkey is not involved in the conflict, warships of nations at war may not pass through them, except when returning to their base. Lying on the northwestern coast of the Black Sea and the Sea of Azov, with the Crimean Peninsula jutting deep into the sea, Ukraine dominates the region. On Ukraine's coastline are 18 major and minor ports,

®Vice Admiral AK Chawla, PVSM, AVSM, NM, VSM, PhD (Retd) superannuated from the Indian Navy on 30 Nov 2021 after serving as the Flag Officer Commanding-in-Chief of the Southern Command. Throughout his career, he commanded five warships, including the aircraft carrier INS Viraat, and led the Indian Navy's Western Fleet. A distinguished maritime thinker, he earned his PhD on 'The Role of Maritime Power in China's Grand Strategy', which is set to be published by Routledge. Currently, he serves as an Adjunct Professor at Rashtriya Raksha University and is involved with various defence think tanks and social initiatives.

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which are its economic lifeline. Russia occupies the northeastern coast of the Black Sea and the Sea of Azov. The other littoral states of the Black Sea include Georgia, Turkey, Bulgaria, and Romania.



Map of the Black Sea and the Sea of Azov

The Crimean Peninsula, annexed by Russia in 2014, contains the vital naval base of Sevastopol, which was home to a large Soviet naval base and is now the home port of Russia's Black Sea Fleet. The ports in the Black Sea are crucial for Russia as they provide access to the Mediterranean, and through that, to the Atlantic and Indian Oceans. Without this access, the Russian Navy and their merchant marine would have to transit thousands of nautical miles around Europe, or through East and Southeast Asia, to reach these waters. Access to the Mediterranean makes Russia a major maritime player in the Levant, the Middle East, North Africa and Southern Europe. Russia's naval bases in the Black Sea also support Russian forces in Syria, including its naval facility at Tartus.

The War Thus Far and the Current Situation

While the overall aim of Russia's invasion of Ukraine was to ensure that it remained within the sphere of Russian influence, the maritime aims of the invasion were evidently threefold. The first and most

obvious aim was to destroy the Ukrainian Navy and achieve sea control in the Sea of Azov and the northwestern Black Sea. The second aim was to cripple Ukraine's economy by choking its maritime trade. This would also prevent any reinforcements of weapons, stores, supplies, and personnel from reaching Ukraine by sea. The third aim was to support the operations carried out by land forces in capturing the southern Ukrainian provinces of Zaporizhia and Kherson. This was primarily to ensure a land bridge to Russia to Crimea, instead of depending on the tenuous connection over the bridge at the Kerch Strait, with the secondary aim of creating a land bridge to Moldova. The fourth aim was to strengthen Russia's strategic access to the Mediterranean, thereby retaining Russia's influence in a critical geographical region.

In the first few months of the war, this strategy worked well. After the invasion commenced on 22 Feb 2022, most Ukrainian Navy units were lost or captured, with some scuttled by the Ukrainians themselves to prevent them from falling into Russian hands. As such, 75.0 per cent of the Ukrainian Navy had fallen into Russian hands after the annexation of Crimea in 2014. A list of Ukrainian ships (Navy and Sea Guard) damaged or sunk by Russian forces, or scuttled by the Ukrainians (Table 1), indicates the scale of devastation suffered by Ukraine.

Ser No	Name of Ship	Type	Remarks
1	Hetman Sahaidachny	Frigate	Krivak-III-class, Flag ship of Ukraine Navy scuttled by Ukrainian forces in Mykolaiv to prevent capture by Russia, 03 Mar 2022
2	Sloviansk	Patrol Boat	Island-class, sunk by Russian Kh-31 air-to-surface missile off Odesa, 03 Mar 2022
3	Henichesk	Minesweeper	Yevgenya-class, sunk with Sloviansk, 03 Mar 2022
4	Akkerman Vyshhorod, Kremenchu, Lubny +1	Gunboats	5 Gyurza-M-class gunboats captured by Russian forces during the fall of Berdiansk (14 Mar 2022) and siege of Mariupol (04 Nov 2022). One boat damaged by Russian ZALA Lancet loitering munition near Ochakiv

Ser No	Name of Ship	Type	Remarks
5	Pryluky	Missile Boat	Matka-class, captured by Russian forces at Berdiansk, 14 Mar 2022
6	Zhuk-class	Patrol Boat	Captured by Russian forces at Berdiansk, 14 Mar 2022
7	Yevgenya-class	Minesweeper	Captured by Russian forces, Berdiansk, 14 Mar 2022
8	Yuri Olefirenko	Landing Ship	Polnocny-class, Captured by Russian forces, Berdiansk, 14 Mar 2022
9	Onadatra-class	Landing Craft	Captured by Russian forces, Berdiansk, 14 Mar 2022
10	Korets	Sea-going Tug	Sorum-class, converted to patrol vessel, captured by Russian forces, Berdiansk, 14 Mar 2022
11	Pereyaslav	Reconnaissance Ship	Project 1824, Damaged by gunfire on Dnieper River, 30 Mar 2022
12	Donbas	Command ship	Destroyed during siege of Mariupol, 06 Apr 2022
13	Dmitry Chubar	Hydrographic Boat	Rubin-class, captured by Russian forces during siege of Mariupol, 24 Feb 2022
14	Stanislav	Fast Assault Craft	Two Centaur-LK-class, lost during counterattack on Snake Island, 29 Nov 2022 and 17 Apr 2023
15	Unmanned Surface Vehicles (USVs)	Attack/ Recce	16-24 USVs destroyed in attacks on Russian forces/ at various bases
16	PO-2-class	Gunboat	Destroyed by ZALA Lancet drone, 17 Apr 2023
17	Vinnytsia	Auxiliary Vessel	Decommissioned Grisha-II-class ASW corvette, ship scuttled at moorings in Ochakiv, 10 Jun 2022
18	Ternopil	ASW corvette	Grisha-class, captured by Russia and sunk during practice firing by SS-N-2 missile fired by Tarantul III missile boat, <i>Ivanovets</i> in north-western Black Sea, 20 Jul 2023

Ukrainian Sea Guard Vessels

Ser No	Name of Ship	Type	Remarks
1	Zhuk-class	Patrol Boats	Four patrol boats destroyed/ captured during siege of Mariupol
2	Lakan-class	Patrol cutters	Six captured during siege of Mariupol

Ser No	Name of Ship	Type	Remarks
3	UMS-1000-class	Patrol cutters	Four captured during siege of Mariupol/at Berdiansk
4	BG-732	Motor yacht	Adamant-class, captured at Berdiansk
5	Donbas	Patrol boat	Stenka-class, sunk during Siege of Mariupol

Table 1 - Ukrainian Warships Sunk/Captured/Damaged by Russia or Scuttled by Ukraine

Immediately after the commencement of the war, Ukraine had requested Turkey to exercise its rights under the Montreux Convention and prevent additional Russian warships from entering the Black Sea. Anticipating this, Russia had reinforced the Black Sea Fleet before the invasion began with 16 units from other fleets in the Baltic, North Sea and the Pacific. These units included missile-armed ships and landing ships. On 27 Feb 2022, Turkey complied with Ukraine's request by declaring that since a state of war existed between Russia and Ukraine, the Straits of Bosphorus were now closed for transit for all warships. The enforcement of the Montreux Convention implied that no additional Russian Navy units could enter the Black Sea. However, additional units were not required, as, in the absence of any credible opposition at sea, the Russian Navy was successful in enforcing complete sea control over the northern portion of the Black Sea within a week of the commencement of the war. The first maritime aim was, therefore, achieved very quickly.

To achieve its second aim, Russia declared a de-facto blockade off the Ukrainian coast by 'Suspending' navigation in the Sea of Azov and the northwestern Black Sea (45° 21' North) citing the conduct of 'Anti-terrorist' operations as the reason for doing so. The Black Sea Fleet also blockaded the Kerch Strait, which connects the Sea of Azov to the Black Sea. The exception to this restriction was the UN-brokered grain deal, under which Ukraine was allowed to export grain, related foodstuffs and fertilisers through three Ukrainian ports, using neutral shipping transiting along a designated maritime humanitarian corridor. However, this deal was rescinded by Russia on 17 Jul 2023. To ensure its seriousness in implementing the blockade, the Russian Navy did not hesitate to use deadly force against merchant ships using

Ukrainian ports or carrying Ukrainian cargo. For example, in the early stages of the war, two merchant ships, a Panama-flagged bulk carrier, the *Namura Queen*, and a Moldova-flagged bunker tanker, *Millennium Spirit*, were hit by Russian missiles and set ablaze. This ensured the complete stoppage of all merchant traffic to and from Ukraine, with serious effects on its economy and warfighting capability.

The third aim, to support the land operations, also progressed smoothly in the initial stage of the war. Black Sea Fleet ships were utilised to attack land targets using Kalibr missiles on board their Buyan-M corvettes, Admiral Grigorovich-class frigates, Project 2022160 class patrol ships and improved Kilo-class submarines. The most publicised action by the Russian Navy was the attack and capture of Ukraine's Snake Island, located 50 nautical miles south of Odessa, very close to the Romanian coast. This action was undertaken by the flagship of the Black Sea Fleet, the Slava-class cruiser *Moskva* and a Project 2022160-class patrol ship, with the Russian Marines executing the actual landing on the island. The Marines also carried out an amphibious attack 30 miles south of the Ukrainian port of Mariupol, on the Sea of Azov, in conjunction with another pincer from the Crimean Peninsula by land forces, hastening its surrender. The capture of vital Ukrainian ports of Mariupol, Berdiansk and Mykolaiv dealt a body blow to the Ukrainian Navy and boosted the bases available for operational use to the Russian Navy. The support provided by the Russian Navy also facilitated in the quick capture of Zaporizhia and Kherson provinces (including its capital, Kherson City), although the aim of creating a land corridor to Moldova by capturing Ukrainian territory further west of the Dnieper River was not achieved.

With the destruction of the Ukrainian Navy and the achievement of sea control in the northwestern Black Sea and the Sea of Azov, the fourth aim of ensuring strategic access to the Mediterranean also appeared to have been achieved.

The Tide Turns

However, the tide turned very quickly against the Russians in the maritime theatre. Bereft of conventional naval forces and facing a relentless squeeze on its economic lifeline, Ukraine crafted a new strategy to counter Russia's naval dominance, which was based on the use of drones, shore-based and air-launched anti-ship

missiles, short-range ballistic missiles, and tactical land attack missiles, as also a few raids by the Special Forces. The absence of any Ukrainian warships meant that Russian forces were primarily engaged in targeting value assets ashore, which required them to operate within land attack missile range of the Ukrainian shore. This, and the geographical circumstances of the Black Sea, where there is limited sea room for Russia's blue water forces to manoeuvre, made them vulnerable to counterattack. The third factor exploited by Ukraine was the proximity of the Black Sea Fleet's headquarters at Sevastopol and other naval bases in Crimea to Ukrainian land and air-based missiles and drones. The limited presence of neutral shipping in the maritime theatre due to Russia's blockade, considerably eased Ukraine's targeting challenges.

The turning point in the maritime war was the sinking of Russia's Black Sea Fleet flagship, and the symbol of Russia's naval power, the *Moskva*, by two Neptune anti-ship missiles launched from Ukrainian fighter aircraft on 14 Apr 2022. Operating in proximity to Odesa, the *Moskva*'s air defence systems were slow in locking on to the two missiles due to the lack of reaction time, having been confused by several other air targets in the vicinity which included both aircraft and drones. A fortuitous hit on the cruiser's magazine led to the ship being abandoned with considerable loss of life. The ship finally sank while being towed to harbour for repairs the next day.

Ukraine began its unmanned vehicle offensive with the use of Turkish Bayraktar TB2 drones to attack small Russian warships operating close to Odesa in May 2022 and was immediately successful in sinking six small naval vessels off Snake Island. The pressure at sea forced Russian forces to withdraw from Snake Island on 30 Jun 2022 and subsequently from the west bank of the Dnieper River on 11 Nov 2022. In Oct 2022, Ukraine also launched a 'Swarm' attack by both sea and air drones on Sevastopol harbour, which resulted in damage to a minesweeper and a frigate, as also some harbour infrastructure. Repeated attacks with deadly effect on Sevastopol also led to the Black Sea Fleet moving its headquarters to Novorossiysk and ships to Russian bases in the eastern part of the Black Sea. However, Ukrainian Magura V5 sea drones targeted warships off these ports as well with an attack on the *Olenagorsky Gorniyak*, a large landing ship, off Novorossiysk on 04 Aug 2023. Severely damaged in the attack, it was the first major warship put out of action by sea drones. In

subsequent months, six other warships were sunk at sea by Magura V5 sea drones, two patrol vessels, one corvette, a large landing ship, one patrol boat and an ocean-going tug. In addition, an intelligence gathering ship was damaged. Ukrainian Sea Baby Sea drones have also been used to lay mines off Russian harbours, which are reported to have damaged two warships and two auxiliary vessels. They have also been used in attacks on the Kerch Bridge with limited success.

Over the past 30 months of the war, more than 30.0 per cent of the force levels that the Black Sea Fleet's force levels at the start of the conflict have been either sunk or severely damaged, which has considerably diminished Russian dominance in the Black Sea, though not in the Sea of Azov. The list of Russian ships sunk/damaged by conventional weapons is provided in Table 2, while the list of Russian ships sunk/damaged by Ukrainian drones is given in Table 3.

Ser No	Ship/ Tonnage	Type	Remarks
1	Saratov	Landing Ship	Alligator-class, seriously damaged by Tochka-U ballistic missile and scuttled, Berdiansk, 24 Mar 2022
2	Moskva	Cruiser	Black Sea Fleet flag ship hit by 2 Neptune anti-ship missiles and sunk off Sevastopol, 14 Apr 2022
3	Vasily Bekh	Rescue Tug	Sunk by 2 Harpoon anti-ship missiles off Snake Island, 17 Jun 2022
4	Veliky Ustyug	Corvette	Buyan-M-class, damaged by BM-21 Grad rocket system in the Azov Sea, 17 Jun 2022
5	Admiral Makarov	Frigate	Black Sea Fleet flag ship damaged in Sevastopol harbour, 30 Oct 2022
6	Minsk	Landing Ship	Destroyed in dry dock in Sevastopol by Storm Shadow missiles fired by Su-34s, 13 Sep 2023
7	<i>Rostov-on-Don</i>	Submarine	Kilo-class submarine dry-docked in Sevastopol destroyed by Storm Shadow missiles fired by Su-34s, 13 Sep 2023

Ser No	Ship/ Tonnage	Type	Remarks
8	Askold	Corvette	Karakurt-class destroyed by cruise missiles, Zalyv Shipbuilding yard, Kerch, Crimea, 04 Nov 2023
9	Novocherkask	Landing Ship (Large)	Destroyed in Feodosia harbour, southern Crimea, by air launched cruise missiles. Being loaded with munitions, 78 crew members also killed, 26 Dec 2023
10	Universal Trawling System-150	Mine-sweeper	Converted to a training ship, former T-43-class minesweeper sunk due to explosion of Novocherkassk, Feodosia harbour, 26 Dec 2023
11	Ivan Khurs	Intelligence ship	Yuri Ivanov-class, damaged by missile strike in Sevastopol harbour, 23-24 Mar 2024
12	Tsiklon	Corvette	Karakurt-class destroyed by cruise missile strike in Sevastopol harbour, 21 May 2024

Table 2 - List of Russian Warships Sunk/Damaged by Ukrainian Conventional Weapons

Ser No	Ship/ Tonnage	Type	Remarks
1	Saturn	Tug Boat	Sunk by Magura V5 sea drones in port of Chornomorsk, Crimea, 06 Jun 2024
2	Mangust-class	Patrol vessel	Sunk by Magura V5 sea drones off Crimea, 06 May 2024
3	Sergey Kotov	Patrol Ship	Project 2022160, attacked by drones and damaged 14 Sep 2023, again attacked by Magura V5 drones off Kerch Strait and sunk, 05 Mar 2024
4	Tsezar Kunikov	Landing Ship, Tank (Large) [LST (L)]	Ropucha-I-class, sunk by Magura V5 drones off Crimea, 14 Feb 2024
5	Ivanovets	Corvette	Tarantul-class, sunk by Magura V5 sea drones in Donuzlav Bay, western Crimea, 01 Feb 2024
6	Tunets-class	Patrol Boat	Project 2022160, sunk by 3 Bayraktar TB2 drones in Black Sea, 13 Sep 2023

Ser No	Ship/ Tonnage	Type	Remarks
7	Ivan Khurs	Intelligence ship	Yuri Ivanov-class, damaged by sea drones in Black Sea, 24 May 2023
8	Raptor-class	Patrol Boat	Sunk by drones in Black Sea, 13 Sep 2023
9	Admiral Makarov	Frigate	Black Sea Fleet flag ship damaged in Sevastopol harbour, air and sea launched drones, 29 Oct 2022, returned to active-duty 15 Aug 2023
10	Olenagorsky Gornyyak	LST (L)	Ropucha-class landing ship. Severely damaged by sea drones off Novorossiysk, 04 Aug 2023
11	Ivan Golubets	Mine-sweeper	Damaged by sea and air launched drones, Sevastopol harbour, 29 Oct 2022
12	5 Raptor-class	Patrol boats	3 sunk, 1 damaged, Mar and May 2022 (four by Bayraktar TB2 drones), one by anti-tank missile, off Snake Island
13	BK-16	High speed patrol boat	Sunk by Bayraktar TB2 drone, off Snake Island, May 2022
14	Serna-class	Landing craft	Sunk by Bayraktar TB2 drone, off Snake Island, 07 May 2022

Table 3 - List of Russian Warships Sunk/Damaged by Drones

The fact that Russia's control of the Black Sea has diminished is evident from several factors. First is the almost complete withdrawal of Russian Navy units almost completely from Crimea, especially from their major naval base at Sevastopol, with most of the Black Sea Fleet major units now being based at the Russian port of Novorossiysk. Secondly, the damage to major naval units and the threats of attack by drones and missiles have severely dented the Fleet's offensive capability to attack targets ashore, evidenced by the apparent cessation of sea-based attacks on Ukraine. Thirdly fact is the greatly diminished capacity of the Black Sea Fleet to provide logistics support and amphibious landing capability to land forces, especially in Crimea, which now relies on rail and road transportation, or on civilian ferries, both of which are also under regular attack.

Finally, the Ukrainian Navy's counteroffensive has severely restricted the Russian Navy's capability to enforce the exclusion zone in the western part of the Black Sea. This is evident from the fact that the number of merchant ships damaged, sunk or interdicted by Russian forces in the Black Sea has diminished from a peak of 18 ships in 2022, to five in 2023 and none in 2024. The eastward retreat of the Black Sea Fleet and the rerouting of merchant traffic bound for Ukraine along the coasts of Bulgaria and Romania have ensured that merchant traffic to Ukraine has also resumed, though it remains much lower than peacetime levels.

Drones: Game-changers in the Maritime Battlespace?

The fact that Ukraine has managed to fend off one of the most powerful navies in the world without possessing a navy worth the name has prompted many analysts to term sea drones as game changers in maritime warfare. While it is tempting to generalise, the lessons emerging from the Ukraine War regarding the use of sea drones, there is a need for restraint due to several factors. Firstly, the war is not yet over, and things could change dramatically in the maritime battlespace, as indeed they have over the past two years. Moreover, the geographical context of the Ukraine War is unique from the maritime point of view, being fought in a landlocked sea, as opposed to the open waters of the world's oceans. The Montreux Convention, which prevents warring parties in the Black Sea from reinforcing their naval forces, once the battle has been joined, makes it even more unique. However, despite these factors, it must be acknowledged that drones have undoubtedly changed the face of warfare, particularly on land, and to a lesser degree at sea. Consequently, the reasons for the success of sea drones, as well as their current limitations, are examined in subsequent paragraphs.

Sea drones owe their success to their versatility, low cost, and expendability. They come in several sizes and capabilities, ranging from small, short-range surveillance drones, used to patrol harbours to the Magura V5 sea drones, which have a warhead of 300 kg (equivalent to a heavy-weight torpedo); and the even larger Sea Baby drones used to attack both ships and infrastructure with a warhead of 800 kg (twice the payload of a Tomahawk missile). Both the Magura V5 and Sea Baby have been used to attack Russian ships and infrastructure over 800 km from Ukrainian ports.

Sea drones are easy to deploy; they do not require infrastructure such as jetties or harbours, any waterfront with a reasonable gradient will suffice to store and launch them. Drones also benefit from the fact that the vast majority are commercially manufactured and can be easily assembled on the front line. Most importantly, drones are much cheaper than their targets, the Magura V5 drone costs USD 40,000 as opposed to warships and submarines costing hundreds of millions of dollars. Finally, unlike manned machines, drones are unmanned and hence, tireless and expendable, and most importantly, they save precious lives; Ukraine is estimated to have manufactured 200 drones, of which 24 have been expended or destroyed, without the loss of a single life.

Drones also have several limitations. Their range, sensor and explosive carrying capacity, as well as their sea-keeping ability, vary directly with their size. Any increase in these capabilities requires increasing their tonnage, with concurrent adverse effects on their speed and stealth characteristics. Of course, underwater sea drones could ensure much better stealth, but they are limited by speed and their operating mechanism, and their command-and-control mechanism is also much more complicated. Guiding a drone to its target also requires accurate intelligence and up-to-date maritime domain awareness, which requires constant satellite surveillance coverage of the maritime battlespace. In the case of Ukraine, GPS and Starlink satellites are being used by operators ashore to guide the drones to their targets, intelligence on which is also being substantially supported by Western surveillance assets. However, such facilities are unlikely to be available over the open oceans to all except the most advanced militaries. Moreover, sea drones need to be tethered to an operator through a satellite communication system of adequate bandwidth, which can be jammed by the adversary. These constraints will limit the effectiveness of attacks against warships by sea drones on the high seas. The effectiveness of sea drones against well-defended harbours is also limited because traditional harbour defences, such as floating barriers and shore-based weapons can effectively thwart most such attacks, as has been seen after the deployment of barriers and other defensive measures off Sevastopol and the Kerch Bridge.

The above limitations are illustrated by the fact that all the ships attacked by sea drones (except for one missile corvette) were lightly armed and had limited sensors for the detection of small targets. All of them (again, except for the corvette) did not have high-speed capability, preventing them from outrunning the Magura V5 drones, which operate at peak speeds of over 40 knots. The tonnage of vessels sunk by conventional weapons, over 25,000 tons (Table 2), is also almost three times that sunk by sea and air drones, at 8,750 tons (Table 3), and comprises larger and better-armed ships.

Conclusion

The Ukraine War has demonstrated the immense potential that drones have in maritime warfare. While the extensive use of unmanned vehicles by the Ukrainian Navy was born out of necessity, it helped that Ukraine was already proficient in both shipbuilding and drone technologies. Their success in sinking 11 warships (including three medium-sized warships) and seriously damaging six more has been due to a combination of various factors. These have included: outstanding technical know-how and innovation in quickly assembling and constantly improving the sea drones; excellent intelligence on the positions of Russian ships; unstinting satellite surveillance and communication support from the US; and the confined sea room available to the Russian Navy, combined with poor tactics by the Black Sea Fleet.

The analysis in this article has also highlighted that despite these factors in their favour, drones have not been as effective as conventional naval weapons, such as missiles, torpedoes and guns. However, technical advancements and the use of Artificial Intelligence (AI) are already reducing of the many limitations that drones have, and as time goes on, swarms of drones armed with AI could overwhelm better-armed and larger war vessels. In summary, while sea drones are not some 'Silver Bullet' that can replace the existing arsenal of naval weapons, or indeed make warships obsolete, they represent a new and potent option for navies, which in the coming years will attain greater potency, perhaps even becoming the weapon of choice in maritime warfare.

New Criminal Laws in India

Wing Commander (Dr) UC Jha (Retd)[®]

Abstract

India has completely overhauled its criminal justice system with three new criminal laws that coming into effect on 01 Jul 2024. The Bharatiya Nyaya Sanhita has replaced the Indian Penal Code; The Bharatiya Nagrik Suraksha Sanhita has replaced the Code of Criminal Procedure, and the Bharatiya Sakshya Adhinyam has replaced the Indian Evidence Act. The criminal justice system in India after Independence has not delivered satisfactory results because of certain inherent shortcomings including substandard investigation and prosecution, large pendency of criminal cases, and delay in disposal of cases. The military legal system of India will need to be updated to align with the new criminal investigation and trial procedures. This necessitates a complete overhaul of the military law in India and bringing out a common code for the three services based on our constitutional values. This integration promotes uniformity in legal standards and practices, creating a more unified and efficient legal framework for national security operations.

Introduction

The Parliament of India has replaced the three existing laws, namely the Indian Penal Code (IPC), 1860, the Code of Criminal Procedure (CrPC), 1973, and the Indian Evidence Act (IEA), 1872 by three new progressive and modern pieces of legislation, namely the *Bharatiya Nyaya Sanhita* (BNS), 2023, *Bharatiya Nagarik Suraksha Sanhita* (BNSS), 2023 and *Bharatiya Sakshya Adhinyam*

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(BSA), 2023 respectively. The new laws aim at providing speedy justice to the citizens of the country and will strengthen the judicial and court management system. The new criminal laws have come into force from 01 Jul 2024.

The government has announced that while the British colonial rulers implemented these laws with an intent to inflict punishment on Indian subjects, the new laws aim to render justice to citizens by overhauling the punishment and procedures applicable for the investigation and prosecution of crimes. A brief discussion of new laws and their ramifications for the armed forces are as follows:

The recent overhaul of India's criminal justice system, embodied in the BNS, BNSS, and BSA, necessitates significant changes to the military justice system. These new laws, which apply universally, including in court-martial trials, require a comprehensive update of the military legal framework to align with civilian judicial reforms. This integration ensures consistency in legal standards and practices, fostering a more cohesive and effective legal environment for national security operations.

The Bharatiya Nyaya Sanhita

Consisting of 358 sections this is a streamlined version of the IPC, which originally consists of 511 sections. In the BNS, 20 new crimes have been added, while sentences have been increased for 33 crimes. Additionally, fine amounts have been increased, and mandatory minimum punishment have been increased for 83 crimes. New offences such as terrorism, mobile lynching, organised crime, gang rape, false promise of marriage, etc., have been introduced. The BNS also enhances punishment for crimes against women and children and replaces the offence of sedition with 'Acts endangering India's sovereignty, unity, and integrity'. The BNS has made sexual offences 'Gender Neutral' for the victim and the perpetrator. Both boys and girls can now be procured for sexual exploitation. The word 'Minor Girl' in IPC Section 366A has been replaced with the word 'Child' in BNS Section 96 to cover both male and female children below the age of 18 years and the offence of procurement has been made punishable.

Terrorism

In order to tackle 'Organised Crime' and 'Terrorist Acts', these crimes have been added in the BNS with deterrent punishments.¹ The BNS punishes terrorist acts that are intending or likely to threaten India's unity, integrity, sovereignty, security, or economic security, or acts intended or likely to strike terror among the people. The new law prescribes the death penalty or life imprisonment for a terrorist act resulting in death. Sections 111 and 113 of the BNS also punish membership in any organised crime syndicate or terrorist organisation, harbouring or concealing any person who has committed an organised crime or terrorist act, and possession of any property derived or obtained from the commission of an organised crime or terrorist act.

Sedition

The IPC Section 124A which dealt with the offence of sedition has been replaced by Section 152 of the BNS. The BNS does not refer to it as 'Sedition' and defines the offence as 'Acts endangering the sovereignty, unity and integrity of India'. It penalises the following:

- Exciting or attempting to excite secession, armed rebellion, or subversive activities,
- Encouraging feelings of separatist activities, or
- Endangering the sovereignty or unity, and integrity of India. These offences may involve exchange of words or signs, electronic communication, or use of financial means.

Reformative Measures for First-Time Offenders

Multiple considerations have been introduced through several sections of the BNS for first-time offenders. They are to be given reduced punishment (one-fourth and one-sixth of stipulated punishment) in plea bargaining; and first-time under-trial offender is given statutory bail after completion of one-third of the maximum punishment prescribed. For the first time, 'Community Service' has been introduced as one of the punishments under BNS Section 4.² It has been specifically provided for six petty offences. non-appearance in response to a proclamation, attempt to commit suicide to compel or restraint the exercise of lawful power of

public servant, petty theft on the return of stolen money, misconduct in public by a drunken person, and defamation, among others. It introduces the reformatory approach in the punishment scheme which is aimed towards achieving *Nyaya* (justice) in the society.

Bharatiya Nagrik Suraksha Sanhita: Replacement for the Code of Criminal Procedure

The new law is designed to ensure faster justice and address modern forms of crime. The total number of sections has been increased from 484 to 531. The need for audio and video provisions has been added at 35 places. Judgments are now required within 45 days of the trial's completion, and charges must be framed within 60 days of the first hearing. Timelines for the completion of trials and the pronouncement of judgments by courts have been provided. Trials can proceed in the absence of an accused declared a proclaimed offender, and judgments can be pronounced against such an accused.

Any person can now file a Zero First Information Report (FIR) at any police station, regardless of jurisdiction. An FIR can be lodged under Section 173 orally or by electronic means. Complainant can visit any police station to report a crime; the case must be transferred to the police station with jurisdiction within five days. An FIR can be registered even if a complaint is submitted via WhatsApp or e-mail. But the complainant will have to visit the police station within 72 hours afterwards. For certain offences against women, a female police officer is to lodge the FIR.

Investigators have to use a mobile app to record audio and video evidence while probing a case. Any search, enquiry, and arrest must be recorded and streamed Live on the Integrated Criminal Justice System portal. Videos can be saved on e-Saksh app. For cases with punishment involving jail terms exceeding 10 years, complainant and witnesses will have to give statement to judicial magistrates; earlier, this was mandatory only for rape and Protection of Children from Sexual Offences cases. Forensic experts will have to inspect crime scenes for any case punishable by a prison term of seven years or more. previously, there were no obligations on the part of police investigators to share probe updates with complainants; however, complainants must now be given regular updates on investigations, seizures, arrests, and searches.

Trial in Absentia

The BNSS has introduced new provisions for conducting trial in absentia for certain kinds of accused.³ It refers to conducting a criminal trial without the presence of the accused person in court. Under Section 355 of the BNSS, the judge or magistrate may conduct a trial of an accused in their absence if it is deemed that the personal attendance of the accused is not necessary in the interests of justice or if the accused persistently disturbs the proceedings in court. The BNSS allows trials in absentia of proclaimed offenders under specific conditions. Section 356 of the BNSS mandates the court to proceed with the trial in absentia when a person declared as a proclaimed offender has absconded to evade trial, and there is no immediate prospect of arresting him. It also specifies a mandatory waiting period of 90 days from the date of framing of the charge before commencing the trial. The BNSS states that the voluntary absence of the accused after the trial has commenced shall not prevent the continuation of the trial, including the pronouncement of the judgment, even if the accused is arrested or appears at the conclusion of the trial.

Plea Bargaining

In Section 290 of the BNSS, plea bargaining⁴ has been made time-bound and application can be made within 30 days from the date of framing of charge. Further, Section 293 of BNSS provides that where the accused is first-time offender and has not been convicted of any offence in the past, the court may sentence such an accused person to one-fourth or one-sixth of the punishment prescribed for such offence. The maximum period for which an undertrial prisoner can be detained has been prescribed in the Section 479 of BNSS. It has been provided that where a person is a first-time offender (who has never been convicted of any offence in the past), he shall be released on bond by the court; if he has undergone detention for the period extending up to one-third of the maximum period of imprisonment specified for such offence under that law. Further, it shall be the duty of the Superintendent of Jail to make an application to the Court in this regard.

Bharatiya Sakshya Adhiniyam

This has replaced the IEA in that the total provisions have been increased from 167 to 170. Technological advancements have been integrated into the new law, incorporating several modern aids, including forensic techniques, for police investigations, court trials, and closing loopholes that previously delayed justice. Technology integration includes forensic investigations for offences punishable by seven years or more, with forensic experts required to visit crime scenes and record processes. All proceedings, including trials and inquiries, are to be conducted electronically. All electronic communications, including social media and voice over internet protocol are now admissible as evidence. The BSA classifies electronic records as primary evidence, enabling investigators to use information stored in electronic devices during trials.⁵ Additional facts, to which Court shall take judicial notice include laws having extraterritorial operation, international treaties, agreement or convention with country or countries by India, or decisions made by India at international associations or other bodies; and the seals of Courts of Admiralty and Maritime Jurisdiction etc.

Impact on Military Justice System

The recent overhaul of India's criminal justice system, embodied in the BNS, BNSS, and BSA, demands significant changes to legal procedures that affect the military justice system. These new laws, which apply universally, including trials in a court-martial, necessitate a comprehensive update of the military legal framework to align with civilian judicial reforms. This integration ensures consistency in legal standards and practices, fostering a more cohesive and effective legal environment for national security operations. The incorporation of technological advancements in evidence collection and trial processes under the BSA and BNSS will modernize military procedures, enhancing transparency and efficiency in handling sensitive information and evidence critical to maintaining national security. The armed forces must incorporate provisions of 'Plea Bargaining' in the military justice system, a practice being followed in a number of militaries worldwide.

Implications for National Security

The BNS fortifies the legal arsenal against terrorism, addressing threats to the unity, integrity, sovereignty, and economic security of India. The BNS introduces robust measures to combat terrorism and organised crime, broadening the definition of terrorism and instituting severe penalties. The laws explicitly include terrorism as an offence and also cover related acts such as being part of a terrorist organisation, training for terrorism, and handling money from terrorist acts. The law encompasses acts that result in “Damage or destruction of any property in a foreign country, used for defence of India or used in connection with the functioning of the Government of India”, thereby, recognising the global threat of international terrorism. This strengthened legal framework is crucial for national security, providing a more effective legal basis to address threats to India’s sovereignty and integrity. By tackling new forms of organised crime and terrorist activities with stringent measures, these laws contribute to a more secure environment. The new law also deals strictly with acts endangering the sovereignty, unity and integrity of India under Section 152 of BNS; however, allows comments on actions of the government with a view to obtaining their alterations by lawful means.

National Security Considerations

The necessity for reforming the military legal system to align with the new criminal laws is clear. This reform is vital to ensure that military personnel are both compliant with modern legal standards and capable of effectively upholding national security. Training and adaptation to these new laws will be crucial for maintaining operational effectiveness in internal both as international armed conflicts. Furthermore, the introduction of community service as a punishment and the expansion of evidence admissibility under the new laws aim to prevent misuse and ensure justice, which in turn supports, the overarching goal of maintaining order and security. The legal protections for military personnel regarding arrests and duties performed in official capacities are essential for preserving morale and operational efficiency, ensuring that military actions remain legally justified and transparent.

Conclusion

The new laws represent a transition from the colonial legacies towards a system based on the principle of access to justice by all. They have several new provisions, synchronised with modern-day realities and contemporary technologies. It is necessary that the relevant persons in the three services are trained to make them aware of the positive and advanced changes, to equip them with the basic knowledge and understanding of various new provisions. Our military legal system is also archaic, many key elements in the military justice system are controversial from a constitutional standpoint. The government must appoint an expert committee to bring about systemic reforms in the military justice system in India. In view of the new criminal laws, there is a need to thoroughly revise the Army Act, the Air Force Act and the Navy Act; amalgamate them, and create out a new common code for the Armed Forces. It could be named as, *Bhartiya Sashastra Sena Adhinyam*.

The necessity for reforming the military legal system to align with the new criminal laws is clear. This reform is vital to ensure that military personnel are compliant with modern legal standards and capable of effectively upholding national security. The legal protections for military personnel, along with the introduction of community service as a punishment and the expansion of evidence admissibility, aim to prevent misuse and ensure justice, ultimately supporting the overarching goal of maintaining order and security.

Endnotes

¹ The BNS Section 113 outlines various acts that constitute terrorism, including the use of explosives, lethal weapons, chemicals or any hazardous substances. The scope covers acts causing death, injury, damage to property, disruption of essential supplies, and more. Punishment for attempting or committing terrorism includes: (i) death or life imprisonment and a fine, if it results in death of a person, or (ii) imprisonment between five years and life, and a fine.

² The IPC has prescribed five types of punishments: (1) Death; (2) Imprisonment for life; (3) Imprisonment—rigorous and straightforward; (4) Forfeiture of property; and (5) Fine. However, the BNS has introduced a significant change, adding a sixth form of punishment—community service—under s. 4(f). Community service as a punishment has been widely adopted in Western legal systems and has been successfully

integrated into their sentencing frameworks. These systems have demonstrated that community service can be an effective alternative to incarceration, especially for non-violent offenders. However, the law enforcement agencies and administrative bodies in India, lack clear guidelines on monitoring and enforcing community service sentences. This ambiguity extends to identifying responsible parties for overseeing and ensuring compliance with court-mandated community service.

³ *Trial in-absentia* approach is predicated on the notion that the wilful evasion of the accused constitutes a waiver of the right of their presence to constitute a fair trial. Due to the alarming infringement upon personal liberty and fundamental principles of natural justice, trial in-absentia has often been reserved for the gravest of offences across jurisdictions worldwide.

⁴ A plea bargain is an agreement in criminal law proceedings, whereby the government provides a concession to the accused in awarding a sentence in exchange for a plea of guilt.

⁵ Under the Bharatiya Sakshya Adhinyam, 2023, Section 57, the ambit of Primary Evidence has been expanded to include the following: (i) Digital electronic record created or stored simultaneously or sequentially in multiple files, each file is primary evidence. (ii) Electronic record produced from proper custody if not disputed. (iii) Video recording simultaneously stored, broadcasted and transmitted to another device. Each of its stored recordings is primary evidence. (iv) Electronic record automatically stored in a multiple storage space in a computer resource. Each automated storage is primary evidence. Explanations 4 to 7 of the BSA s. 57 refer.

Enhancing India's Soft Power: A Strategic Imperative

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Abstract

Soft power projection, much like artificial intelligence, has become one of the most important elements of Comprehensive National Power (CNP). Countries have begun investing heavily in enhancing their soft power projection to bolster their CNP. Nations such as the United States and the rest of the 'Westosphere' already have institutionalised mechanisms in place that are used with ruthless efficiency, as seen with the onset of Russia's special operation in Ukraine, to disseminate their message to the masses. At the same time, middle powers such as India have begun to recognise the benefits of having similar institutions. While India is taking steps to improve the projection of soft power, there are myriad lessons which it can learn from the already affluent in this regard. Therefore, this article is written with a view to provide a contour of the United States' use of Hollywood in influencing both local and global populations since the Second World War and China's use of its diasporas and economic heft to engineer social conditioning. Furthermore, the article concludes with certain suggestions which can be used to institutionalise the soft power projection mechanism of India.

Introduction

Over the past few years, there has been a tectonic shift in India's internal stance and its power projection towards the world. Bharat's outlook has come a long way from the days when

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the national power was solely measured through hard power instruments. For a long time, a military equipped with cutting-edge technology backed by a massive economy was all that was discussed in both the decision-making circles and the *zeitgeist* (spirit of the time). It is now understood that with such a narrow concept of a country's global footprint, India's nascent potential cannot be actualised.

Often described as 'The ability to get what you want through attraction rather than through coercion', soft power's benefits, though incremental in the short run, stack up exponentially in the longer run and extend the reach of a country into the cognitive pace of foreign populations. Coined by Harvard academic Joseph Nye, soft power refers to a the 'Ability of a country to attract others because of its culture, political values, and foreign policy'. Writing originally about the United States (US), the former Dean of Harvard Kennedy School of Government argued that McDonald's, MTV, television sitcoms and Hollywood had done more for American soft power than all government outreach programs combined.¹

At the same time, movies such as *The Forbidden Kingdom* (2008) and *Rush Hour* (1998), the various Chinatowns in all major cities of the world, and Chinese food outlets are examples of Beijing's soft power. In the same vein, the Alliance Française for the French, the Goethe Institut for Germany and the British Council for England, superficially non-profit language schools, are an exercise in the soft power of their respective nations.

The benefits of soft power are not easily evident; however, it can result in significant advancements in a particular field. Major sporting events have long been used by nations with global ambitions to signal a change in their posturing and announcing themselves to the world. Germany, in 1936, under the Nazi Party and China, in 2008, hosted the Olympics and used them as a launchpads for fulfilling their international aspirations. Particularly in the case of China, which since the late 1970s has been following the now-famous dictum of Deng Xiaoping's 'Hide Your Strength, Bide Your Time', effectively shedding its image as a silent nation and starting to assert itself in global fora. The same can be said of Nazi Germany in the late 1930s. A somewhat similar situation is observed in the Kingdom of Saudi Arabia (KSA). Following its

strong display at the 2022 FIFA World Cup, which included a victory over the eventual champions Argentina, the nation has taken great strides in setting up a base for the future of Saudi Arabian Football. Supported by the massive salaries that the top five European leagues—otherwise the bastions of club football—cannot provide, the KSA has signed some of the most recognisable faces in world football to its various clubs. As a result, the viewership for the nation's football league has increased exponentially, thereby boosting revenue.² Whether the increased interest is sustainable or not is a debate for another day, but what cannot be denied is that the oil-rich nation has created an avenue for reducing its dependency on oil and diversifying its economy.

United States

The most obvious example of American soft power is Hollywood. The largest and most financially successful conglomerate of filmmakers in the world is viewed by billions. The permeation of Hollywood into the popular culture of the world is such that its awards ceremony is an institution unto itself. Hollywood has long been used to portray the US as the ideal society and a leader in the world. Countless movies have spent their runtime in service of selling the country as the centre of the human civilisation, a bastion of liberal values and the gold standard of all human aspiration or as it is commonly referred to as the 'American Dream'.³ The penetration of Hollywood in the social fabric of people world over is such that the idioms, basic assumptions and subtext of American life have become familiar to even those who have never set foot in the nation. This speaks to the drawing power of the country, as immigration to the US occurs from all over the world, be it from Cape Town, South Africa; Tokyo, Japan; Jaipur, India; or any other place with a thriving culture of its own. It does not matter. The descendants of such immigrants tend to follow American pop culture icons. Even the speech patterns of these individuals are closer to the local vernacular than to those of their forefathers. This assimilation is done without force or compulsion but rather through persuasion, by providing a free society that has limitless potential for growth. The underlying thought is that 'Anyone can be American'. It is perhaps best elucidated by George Yeo, former Foreign Minister of Singapore, who stated the following⁴:

Americans, because of the exceptional nature of their conception, believe that it is good for everyone in the world to become American. They think that adopting American values will make you better off, and that the world will be a better place as a result. So, there is a natural missionary spirit among Americans, and indeed which is expressed from time to time in American foreign policy. For the Han Chinese, it is different. The Han Chinese are somewhat like the Jews. If you are not born one, there is no need for you to become one. Yes, learn the language, understand the habits, enjoy the food, and observe the niceties; but if one day a non-Chinese person were to say, 'Look, I will become Chinese,' everyone would feel a little awkward because if you are not born one, how can you be one?

On the other hand, apart from disseminating the 'American Dream', Washington has long been using the silver screen as an instrument of state power. The US' *zeitgeist* and political motivations from 20th Century onwards, can be gleaned by monitoring the trends in Hollywood filmmaking. During the Second World War (WW2), movies were used by their government to increase the number of volunteers for their war effort.⁵ According to Tanner Mirrlees, Associate Professor of Communication and Digital Media Studies at Ontario Tech University, the Office of War Information either outright rejected or revised 1,652 scripts that made the US citizens appear 'Oblivious' or 'Anti-War' or portrayed the country in a negative light.⁶ Following WW2, with the onset of the Space Race and the launch of the first artificial satellite by the Soviets, the original Star Trek (1966-69) television series, a show focused on space exploration, began airing and only concluded in the same year the moon landing took place. During the same period, Hollywood spent millions on promoting the US' capitalist and democratic nature as superior to that of the communist Soviet Union's. Simultaneously, Hollywood was busy establishing the political and social status quo of the Cold War; in which the Soviets were the monolithic, evil, powerful, and threatening menace.

The anti-Soviet propaganda continued well into the late the 1980s, *Rambo III* (1988), a movie set during the Cold War in Afghanistan, features the titular hero's longtime military friend, while on a training mission to help the Mujahideen, is captured by a Russian Colonel who puts the soldier through torture. Rambo then undertakes a top-secret mission to rescue his friend. The movie ends with Rambo having killed the villainous Soviet, rescued his friend and brought a fleeting peace to the beleaguered region reeling under the 'Torturous' Soviet 'Despotism'. Later in the noughties, after the 11 Sep attacks, the then President George W Bush enlisted the help of the top Hollywood studios and directors to sell the War on Terror.⁷ Even as late as 2019, the anti-Russian propaganda did not stop. A video game, *Call of Duty: Modern Warfare* (2019) was released by an American video game developer whose plot centred around the Russian forces invading a fictional neighbouring country and perpetrating countless war crimes. The story of the *Call of Duty* game is notably interesting considering the Russian mobilisation into a neighbouring Ukraine and alleged war crimes (claimed by the West, denied by Russia), a mere three years after its release. whether the plot was deliberately crafted by the American establishment to hint towards an expected invasion of Ukraine by Moscow to paint the Russians in an abhorrent light or mere happenstance, is anyone's guess. However, it is especially interesting since the former Chancellor of Germany, Angela Merkel, admitted that the Minsk Agreement, signed by Ukraine under pressure from the US-led West⁸, was merely to allow Ukrainian arms build-up following the Russian annexation of Crimea.⁹

Be it the WW2, the Cold War, the War on Terror, or the Russian Special Operation in Ukraine, the US has harnessed its entertainment industry to plant the simplest version of an idea so that it can grow naturally in the subject's mind. There is a two-fold reason for going to such extensive lengths to merely sell an idea for a war. The first, to sell the justification of the wartime expense to the voting population and, and the second, to create a narrative in front of the billions around the world of performing a humane service and keeping a moral high ground in selling the American exceptionalism and democratic values.

China

As the second most populous country¹⁰ with the second-largest economy in the world¹¹, China is a powerful international entity whose geopolitical footprint, second only to that of the US, is greatest in the world. In the recent past, the underpinning narrative about Beijing has been that it is the spiritual successor to the Soviet Union- a peer to the US, competing to be the largest power in the world. From the perspective of realpolitik, China is, unequivocally, a 'Great Power'. Possessing every meaningful instrument of Comprehensive National Power, from an armada of satellites numbering in the hundreds to an ever-growing cutting-edge nuclear arsenal, the world's largest navy (in terms of numbers) to its economic might surpassed only by 'Uncle Sam'. Above all else, it possesses a unique worldview that it shares with the US: the perception of oneself as the centre of the world's gravity. China calls itself *Zhongguo*, or the 'Middle Kingdom', as imperial China described itself, the 'Civilised' centre of the world and the link between heaven and earth.

"For any nation to qualify as a superpower, it must possess, first, a massive economy, second, a powerful military, third, political capital and, fourth, cultural (or soft) power".¹²

The Chinese approach to establishing soft power outreach is vastly different from the American approach. While Washington, on one hand, makes it a point to 'Americanise' diasporas by importing them, Beijing, on the other, ensures its outreach by the export of its culture to lands in which it wants to increase its cultural footprint. Chinese soft power relies on leveraging economic might to ensure cultural outreach through programs and diasporas. One of the primary methods that China achieves the aforementioned is by the large number of Chinese nationals living abroad. As of 2018, an estimated 10.7 million Han Chinese living outside China's territory; this number rises to more than 60 million if their descendants are included.¹³ The Chinese Communist Party (CCP) utilises these migrants as a tool of soft power. The millions who travel to distant lands take their culture and practices along, which is a goal of China's. In 2007, at the 17th National Congress of the CCP, the then President Hu Jintao stated, "The great rejuvenation of the Chinese nation will definitely be accompanied by the thriving of Chinese culture".¹⁴ His successor, Xi Jinping,

stated in 2014 that “We should increase China’s soft power, give a good Chinese narrative, and better communicate China’s message to the world”.¹⁵

For the dissemination of its culture, Beijing has undertaken the establishment of Confucius Institutes (Chinese language and culture schools). These schools, apart from providing Mandarin language courses, cooking and calligraphy classes, and celebrations for Chinese national holidays, serve a much deeper purpose of allowing only those thoughts to flourish, that toe the CCP’s line. In 2009, the North Carolina State University in the US cancelled a visit of the 14th Dalai Lama at the behest of the Confucius Institute’s director, who warned state officials that the Dalai Lama’s visit could hurt ‘Strong relationships India was developing with China’.¹⁶ The stance of the CCP was confirmed by Li Changchun, a former member of the Politburo Standing Committee, the CCP’s top leadership council, who in 2009 declared Confucius Institutes ‘An important part of China’s overseas propaganda setup’.¹⁷

Furthermore, educational exchanges act as a powerful tool in cultural propagation. China considers it important for Chinese students’ study abroad and that foreigners view the ‘Middle Kingdom’ as a desirable study destination. The China Scholarship Council provides financial aid to both these sets of students. In 2013, in Kazakhstan, China’s President Xi Jinping proposed a ten-year education plan for Shanghai Corporation Organisation members, four of which are Central Asian nations. The proposal included 30,000 government scholarships to study in China, in addition to 10,000 vacancies for Confucius Institute teachers and students.¹⁸ Additionally, approximately one-third of Kazakhs studying in China are on Chinese government scholarships.¹⁹ Beijing has effectively usurped Russia as the preferred study destination of Central Asian Students.²⁰ Furthermore, in 2023, Chinese students studying abroad numbered more than a million across different countries.²¹ Efforts are made by the CCP to ensure that these outbound students are imbued with nationalism at the lower education levels to “Organically instill the patriotic spirit into all subjects, curriculums, and standards for primary, secondary and higher education in morals, language, history, geography, sports, arts and so on”.²² According to a report published by Xinhua, a state run news agency, which has since been taken down, there

is an added element of proselytising in favour of the CCP as students are instructed thoroughly to 'Always follow the party line' and 'Clearly taught about the dangers of negativity about the history of the party, nation, revolution and reform and opening up, as well as of vilifying heroic figures'.²³

The final tool used by China to project its soft power is the use of international media. The CCP has built a sophisticated strategy to create a positive image of the country, having spent around Yuan 45.0 bn (USD 6.3 bn) since 2019²⁴ on its global media presence. According to a Bloomberg report²⁵, ominously titled 'How China is Buying its Way into Europe', Beijing has invested USD 2.8 bn alone in the media industry in a ten-year period starting in 2008. According to China Daily, a government publication of China, its advertisement revenue between 2016 and 2020 went to major publication houses such as the Wall Street Journal (USD 6.0 mn), the Washington Post (USD 4.6 mn), and the New York Times (USD 50,000). These publications are popular even outside of the US, with Indian newspapers from ranging from The Hindu to The Indian Express citing and publishing them regularly.²⁶ The massive amounts of investments effectively buy China control over the editorial policies which, in turn, results in highlighting of stories which Beijing wants told to the world and either suppressing those which it deems to be anti-China or running a counter narrative against the same.²⁷

The plan seems to be working. According to an International Federation of Journalists report²⁸, China's reception in most African nations is generally positive while Europe saw the biggest positive changes in their attitude towards China.

Recommendations

This article is written with a view to highlighting the steps taken by the US and China to further their reach in the cognitive domain. As of this writing, India's efforts to capture the hearts and minds of the world is only at a nascent stage, at a time when soft power projection is an absolute necessity. If India is to reach the status of *Vishwaguru* (world leader), an idea propagated by Prime Minister (PM) Modi, India has a tremendous amount of ground to cover. The practice of yoga has brought some positive results with the United Nations designating 21 Jun as the 'International Yoga Day' at PM Modi's proposal in 2014.²⁹ However, there is still a vast

store of Indian culture ready to be tapped into, which can bolster India's soft power.

Bharat can take a page out of China's playbook in weaponising the various diasporas. Beijing has established Chinatowns across all major cities in the world, effectively serving as entire localities where predominantly overseas Chinese reside and run businesses including, but not limited to, eateries, gift shops, etc. These areas within the city look distinctly Chinese and celebrate the Chinese New Year with pomp and circumstance.³⁰ Firecrackers, fireworks, red clothes, and decorations are used, and parades take place during the celebration of changing of the lunisolar calendar. Such events in localities like Chinatowns serve the purpose of cultural outreach and endear the foreign culture to the local population. The same can be achieved in the case of India. The Hindu New Year can be used as a cultural parallel to the Chinese New Year Festival and can be modelled after its Chinese counterpart for achieving the same purpose. The power of such celebrations is such that despite the global contestation between the US and China, at least 6 major American cities declared the Chinese New Year a public holiday in 2024.³¹ For this purpose, the Indian Government can setup centres whose *raison d' être* (reason for being) would be the propagation of India's soft power in major cities around the world. The San Francisco Chinese Chamber of Commerce is a great example of such. The body is responsible for the organising events such as the Chinese New Year Festival. Though not established by the CCP or its predecessor, it can serve as a model for use of non-governmental bodies, or government affiliates which perform the non-core functions of the Government of India.

Further, the US can also be used as an example. Former PM Manmohan Singh stated in the past that Bollywood can be an important tool in diplomacy.³² This was a paradigm shift from the days where it was only seen as a means of providing entertainment, though nothing came out of PM Singh's quote. However, as of now, a new film city is under construction in Uttar Pradesh³³, signalling a change in the government's stance. Clearly, soft power is quickly becoming an important factor in India's power projection calculus. Moreover, the United Kingdom, (British Broadcasting Corporation [BBC]) and Qatar (Al-Jazeera), have fully functioning and vibrant state-owned media houses which act as instruments of state power by disseminating news that provides their respective

countries' perspective in the drama of international politics. The BBC also does the same through entertainment as well. In contrast, India's state-owned media house, Doordarshan (DD), though fully functional with a massive amount of viewership within India³⁴, it has little to no global footprint to the point that scarcely any data is available online on internet. It is merely used by overseas channels for its feed of events like the Republic Day Parade³⁵ and the G20 summit.³⁶ It would not come as a surprise if individuals outside of the country have never heard of the production house. This needs to be addressed. In 2021, an International DD channel was proposed for providing 'India's Point of View'.³⁷ However, no new developments are available in the public domain as of this writing (Apr 2024). DD can do for India what the BBC and Al-Jazeera have done for their respective countries, provided the right economic and intellectual thought is invested in it.

Conclusion

It is of utmost importance that India's soft power projection be brought up to date. The dream of achieving *Vishwaguru* status hinges upon economic, military, political, and soft power. However, in the present context, it is only the first three that have institutionalised governmental support behind them. The fourth, despite limited outreach by the incumbent government, has little to no self-sustaining mechanism in place. It is the contestation of this author, if the same is to be achieved, those in positions of power, must understand that in the case of soft power, the government can only do so much and, hence, must focus on setting up an ecosystem for cultural or soft power propagation and allow private players to do the heavy lifting with oversight by the regime in charge, à la the US.

Soft power is an inalienable element of state power, especially in this era of 5th Generation Warfare, where social engineering and misinformation take centre stage. Therefore, it is imperative for the government to not only make up lost ground but to do so quickly.

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Defence Industrialisation in Developing Countries: An Analysis of India

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Abstract

All nations strive to achieve self-sufficiency in the development and production of military hardware to attain strategic independence and enhance their standing within the community of nations. While India is experiencing economic growth and exercising considerable diplomatic influence, it remains the third-largest importer of military equipment, a factor that could hinder its aspirations to become a major global power. Despite numerous initiatives such as 'Make in India', self-reliance in defence production remains an elusive goal. This study examines the shortcomings in India's defence production and proposes a roadmap to achieve self-reliance in defence manufacturing by adopting industry best practices aligned with strategic concerns and desired defence policies. The article offers recommendations to assist developing countries, including India, in accelerating their efforts to achieve genuine self-sufficiency in defence production.

Introduction

The state is responsible for maintaining national security, and to achieve that, it needs a strong military, which can only be sustained if the state develops and manufactures the weapons and equipment it needs.¹ In addition to the security concerns, developing nations' pursuits for self-reliance are also motivated by

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power, wealth and prestige.² Power to exert control over other countries, wealth resulting from exports, helping technology spread to other industries, and prestige due to a confluence of circumstances, namely improving diplomatic and economic connections and technical advancements. A nation cannot be heavily reliant on foreign armament supplies if it hopes to be regarded as one of the great nations, as this not only reduces its military vulnerabilities also undermines its national power by curtailing its freedom of action.³

However, for the developing countries, the defence industry presents a formidable challenge; it requires higher than average technological competence and a steep learning curve,⁴ which often acts as a significant barrier to entry.⁵ Defence products are complex systems unlike mass-produced goods, requiring mastery of production capabilities, system design, project management, system engineering and integration.⁶ Regardless of the challenges faced, developing countries continue their efforts and build capabilities with support of foreign partners and indigenous breakthroughs.⁷

India's pursuit of achieving self-reliance in arms development and production has been a long-cherished dream since its independence. It invested heavily in the creation of a Defence Industrial Base (DIB) comprising a mix of Defence Public Sector Undertakings (DPSUs), Ordnance Factories and the Defence Research and Development Organisation.⁸ India continues to focus on developing its DIB by supporting a number of long-term weapons development programs⁹, irrespective of the fact that many such earlier attempts lacked the quality when compared to similar products available in international markets.¹⁰ To further self-reliance agenda, a slew of measures has been taken by the government, which include amongst many, increased participation of the Indian private sector, small and medium enterprises, and including tapping into the start-up ecosystem.

Even after continued focus, support and investment, the DPSUs and the private companies have not been able to successfully provide the arms needed by the Indian defence forces, severely impacting the self-reliance goals of the government.¹¹ Faced with this reality, India has been forced to follow a middle path by continuing direct imports of high-technology advanced weapons with simultaneous sourcing of low-technology and mass-

produced products via domestic production, supplemented by licensed production. The indigenous component is primarily focussed on the production of spares, upgrades and life extensions, while direct imports of main equipment and associated technologies are used to fill critical gaps, along with projects wherein indigenous programs have failed.¹² India remains the largest importer of major arms between 2018 and 2022, accounting for 11.0 per cent of the global market (Figure 1) with its arms exports share being less than 1.0 per cent (Figure 2).

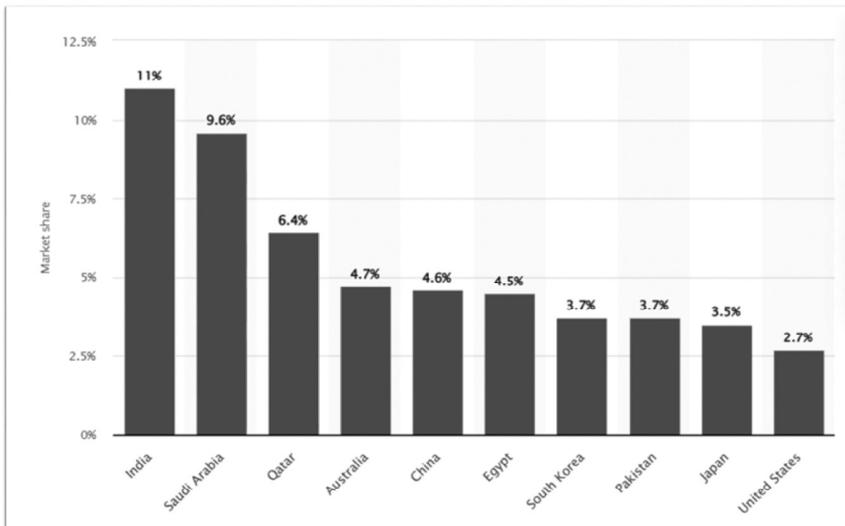


Figure 1: Market share in the import of major arms between 2018 and 2022

Source: Statista, 2023

Indian Policy Domain

The official policy domain on the subject in India is strewn with committee papers, directives, annual reports, and answers to parliamentary questions. The degree of information contained in each varies depending on the context, reference and relevance. The Defence Procurement Procedures (DPP)/Defence Acquisition Procedures (DAP) lay out the guidelines for capital acquisitions for the armed forces. Figure 3 provides an overview of the major reports and policy documents along with the key recommendations from 1991 to 2023, which have influenced shaping of the Indian DIB.

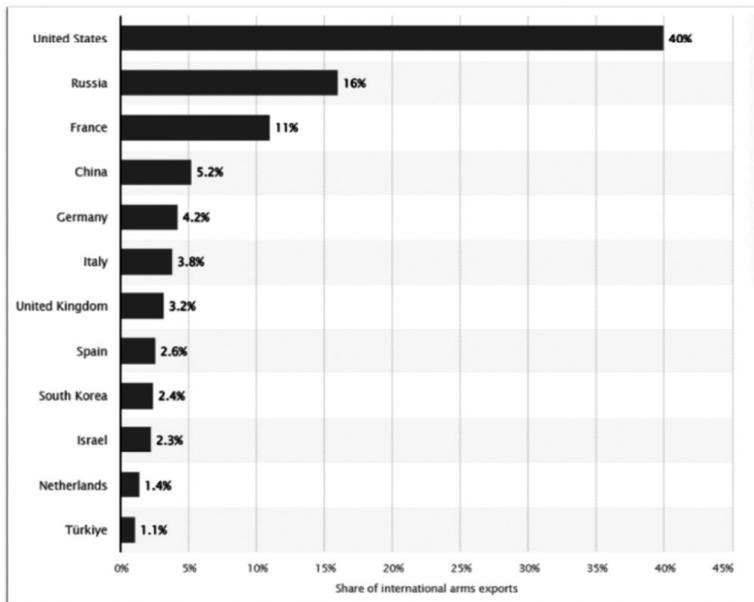


Figure 2: Market share of the leading exporters of major weapons between 2018 and 2022

Source: Statista 2023

<p>Industrial Policy 1991'</p>	<ul style="list-style-type: none"> ● Self-reliance goal ● Investment I R&D ● Licence for defence industries ● FDI allowed ● Technology and foreign consultant allowed ● Made a mention of private sector in defence sector for better competition, but preserve the sector for DPSUs
<p>Group of Ministers Report 2000/01</p>	<ul style="list-style-type: none"> ● Defence management needs to be efficient, resilient and responsive ● Dysfunction amongst DPSU, DRDO and users ● No synergy between academic research and government ● Government policy making happens in vacuum ● Recommended-level playing field to private sector, push for defence exports and technology assessments within the country
<p>Kargil Committee Report 2005</p>	<ul style="list-style-type: none"> ● Encourage private sector in defence manufacturing ● Use defence offsets to get technology and investment in the sector ● Synergy between DRDO, DPSUs and OFB for hi-tech capability ● Armed forces to form a 15-year acquisition plan to be shared with industry ● Private sector to be treated at par with DPSUs ● Participation of SMEs in defence manufacturing to be increased ● Defence R&D to be done by both DRDO and private industry ● Defence offsets to be utilised

<p>Sisodia Committee Report 2007</p>	<ul style="list-style-type: none"> ● Domestic defence industry should be involved from the beginning to be able to map what capability industry has and what needs to Jbe acquired from abroad ● Cost-benefit analysis to be undertaken for all indigenous development projects ● Industry should be involved in Requirement-Formulation ● Department of Defence production to also look after private defence companies in addition to DPSUs ● Defence industrialisation Policy to be formulated ● Strategy for defence exports
<p>Defence Procurement Procedures</p>	<p>DPP 2002 DPP 2005 DPP 2006 DPP 2008 DPP 2011 DPP 2013 DPP 2016 DAP 2020 DAP 2020 (Update 2021, 2023, 2024)</p>
<p>Miscellaneous Policies</p>	<p>FDI limit 74 per cent under automatic route and 100 per cent with government approval Security Instruction for Licenced Defence Companies Defence Export promotion Policy – Munition list and dual use products Use of government test facilities by private defence companies allowed Innovation for defence excellence. Start-up challenge Policy for Indigenisation and Spares and Components used in defence platforms Positive lists for indigenisation</p>

Figure 3

Innovation Ecosystem

For a better knowledge of any country’s innovation processes and invention ecosystem, patent analysis has been widely employed.¹³ Data from patents shows funding for research and development and, most crucially, forecasts future technological advancement.¹⁴ In order to achieve this, the study looked at two patent databases: The World Intellectual Property Organisation (WIPO) and the Organisation for Economic Co-operation and Development (OECD). The former has been used to examine the patents filed in technology domain. To better visualise the statistics and compare India’s situation with established and emerging nations, China and US’s data have been presented alongside those of India (Figure 4a). India has the lowest number of patent files overall (Figure 4a) and in emerging technologies (Figure 4c), from 2000 to 2021.

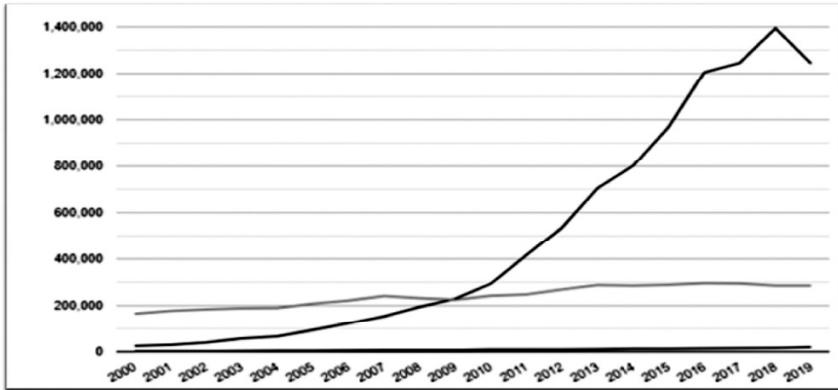


Figure 4a: Total Number of Patents Filed by India, China and US

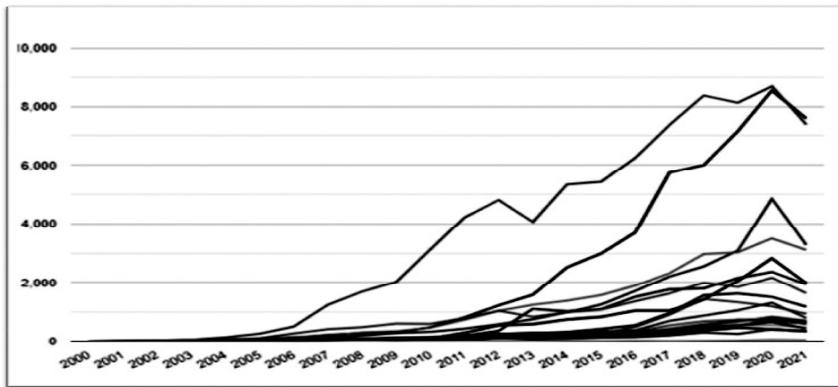


Figure 4b: Total Number of Patents Filed by China in Emerging Technologies from Year 2000 to 2019

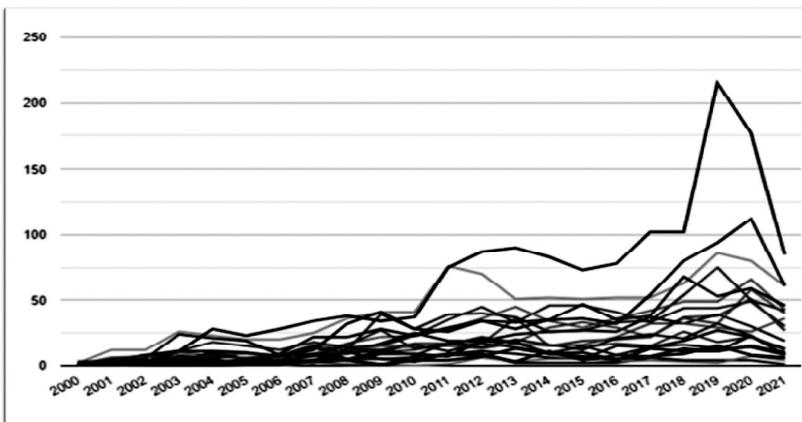


Figure 4c: Total Number of Patents Filed by India in Emerging Technologies from 2000 to 2019

Source¹⁵

Even though they are a politically sensible strategy, offsets fall short of expectations. Data and economic theory both contradict the idea that offset agreements boost the economies of the importing nations.¹⁷ The benefits of offsets as a component of a developing country's acquisition and industrial policy have also been analysed by many researchers, wherein, more or less it has been generally concluded that, while raising the price of purchase, offsets have not been shown to be advantageous.¹⁸ The expense of the defence equipment supplier meeting its offset commitments will be passed on to the customer in the form of increased costs. On the other hand, the military industries of buying nations will become offset reliant and, if the contract expires, find themselves unable to handle new prospects and a competitive market.¹⁹ Due to the fact that offsets cannot, on their own, overcome structural shortcomings and human resource limitations of the receiving nation, they have failed producers in their attempts to rise to the level of system-wide self-sufficiency and have failed to build a single global military firm.²⁰

Defence offset experience in India has not been positive. The Standing Committee on Defence of Parliament noted that, after reviewing offsets since 2005, 56 offset contracts totalling around USD 13.03 bn were signed between 2008 and 2027. However, only USD 88 mn of these had been authenticated as of 2017, but by 2021, that number had risen to USD 1,928 mn. Only USD 1,928 mn of the entire USD 3,569 mn in offsets that overseas suppliers claimed to have discharged have been approved by the audit. The early findings of the Controller and Auditors General of India's study on the 'Management of Defence Offsets' point to a terrible state of affairs in terms of offset conceptualisation and execution. It emphasises the policy's incapacity to obtain cutting-edge military technology or, at the very least, production capabilities. The research highlights the Ministry of Defence's inefficiencies, excessive red tape, and lack of qualified employees, while highlighting the fact that, there has been no technology transfer or investment in Research and Development (R&D).²¹

Foreign Direct Investment (FDI)

The term FDI refers to cross-border investments where a resident of one nation buys stock in a firm that is situated in a different country.²² In addition to supplying desperately needed finance, FDI also permits the transfer of beneficial technology and know-how, which boosts the local economy.²³ FDI was not authorised in

the defence industry until 2001, after which 26.0 per cent of it was granted via an automatic process.²⁴ The primary motivation for allowing FDI in the defence industry was that it would entice international suppliers to import technologies, enhancing domestic defence production.²⁵ The FDI ceiling has continuously increased since 2001 and is now 74.0 per cent via the automatic method and 100.0 per cent with government permission.²⁶

Increase of the FDI limit by India has not had the desired effect, as its inflow in defence sector remains almost negligible when compared to other sectors. Figure 6 provides the cumulative and year-wise FDI in the defence sector from year 2005 to 2020. Even after raising the cap to 74.0 per cent, the abysmally low FDI has contradicted the reasons offered by the Kelkar committee and even industry organisations, who anticipated fast improvement.²⁷

<i>Year (December)</i>	<i>Cumulative from year</i>	<i>\$ Millions</i>	<i>FDI in the year</i>	<i>Remarks</i>
2005	1991	0	0	FDI limit 26%
2006	1991	0.05	0.05	
2007	2000	0.05	0	
2008	2000	0.15	0.1	
2009	2000	0.15	0	
2010	2000	0.05	-0.1	
2011	2000	3.72	3.67	
2012	2000	4.12	0.4	
2013	2000	4.94	0.82	
2014	2000	4.94	0	
2015	2000	5.02	0.08	
2016	2000	5.12	0.1	FDI limit increased to 49%
2017	2000	5.12	0	
2018	2000	7.26	2.14	
2019	2000	8.82	1.56	
2020	2000	10.15	1.33	FDI limit increased to 74%
2021	2000	10.15	0	
Total			10.15	

Figure 6: FDI inflow Defence Sector Source²⁸

Defence Industrial Policy

India does not have a Defence Industrial Policy (DIP), and the policy guidelines are interwoven in the defence acquisition procedures. Even after repeated recommendations by various

committees including the Sisodia Committee²⁹, Government of India has not promulgated a separate DIP. While India strives to have a credible DIB, it must be built around a policy which considers a wide range of factors, including size, ownership, structure, and most significantly, a R&D foundation. Any defence industrial policy must be guided by industrial base capabilities, military requirements, and best value for taxpayers. The goal is to create a sustainable environment that consistently meets stated security objectives.³⁰ The defence industrial policy has to be formulated in the context of strengthening military capabilities versus supporting international competitiveness in the face of liberalising markets.³¹

Figure 7a and 7b demonstrate how different DPPs have affected India's export and import of weapons as well as the overall number of military licences given to Indian firms. The analysis indicates that there has not been much of an impact on the ground from frequent modifications to the DPP and its related industrial policies. The defence exports have remained very low, defence imports have remained very high and the number of defence industrial licenses issued have not shown any significant increase. Furthermore, only 30.0 per cent of companies which have received license have commenced production. Also, measuring impact in terms of offsets, of the total of USD 13.03 bn offsets signed since 2008 onwards, only 14.7 per cent (USD 1.928 bn) have been verified.

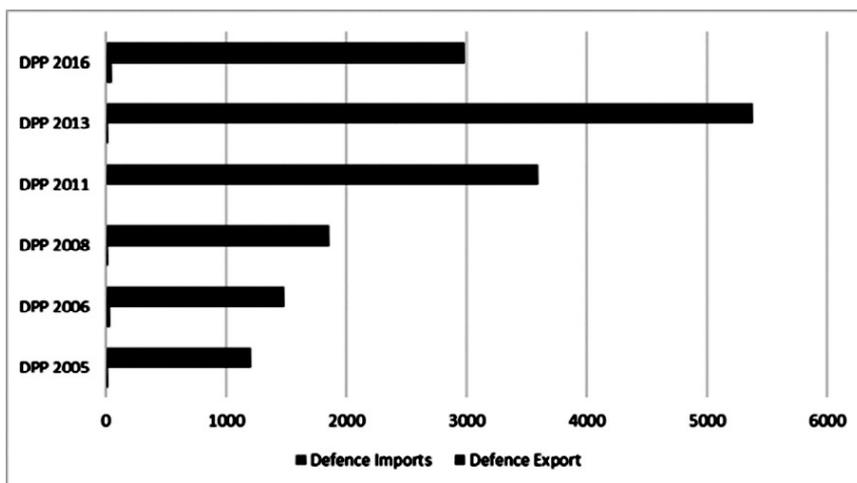


Figure 7a: Defence Exports and Imports (in \$ millions) issued from 2001 to 2018.

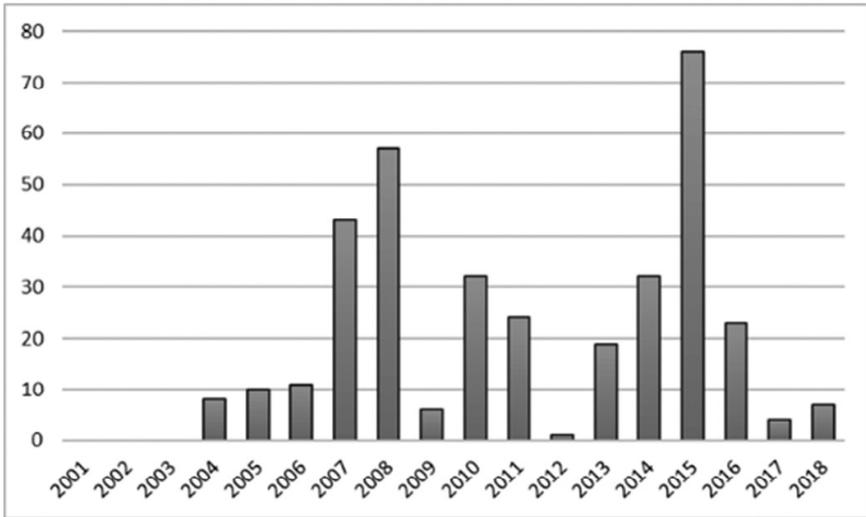


Figure 7b: Total defence Industrial licenses

Source – Gol DPIIT website³²;

Total licenses issued till 2021 are 539 to 333 companies

(Source - Rajya Sabha un-starred question no. 669 answered on 26 Jul 2021)

Analysis

It is amply clear that India’s quest to create a credible DIB by India has not had the desired result. The majority of India’s efforts at indigenisation are driven by foreign acquisition. Additionally, a severely distorted, uneven playground has been created as a result of the acquisition policy’s recurrent revisions (once every two years), which were implemented with practically no impact assessment studies. Considering procurement timelines of at least five years for any major procurement, this translates to a minimum of two DPPs per acquisition. Maintaining continuity of policy between inception to acquisition is important as it displays coherence of purpose, process and method³³, thereby, reducing uncertainty, costs and risks for both foreign Original Equipment Manufacturers (OEMs) and local industry.

Additionally, large high-ticket purchases are being made through Inter-Government Agreements, which bypasses the strict requirements of local involvement and indigenisation content in the DAP that any Indian business or its foreign partner must

follow. The fact that most of these purchases, involving Government-to-Government contracts, are allocated to the DPSUs, further demoralises local businesses, like the recently concluded contract for local production of AK-203 rifles from Russia, being manufactured via the Ordnance Factory. As a result, the DPSUs continue to dominate the Indian defence manufacturing sector, making it difficult for any indigenous companies to compete. A healthy, impartial defence manufacturing ecosystem is a crucial part of the nation's DIB, 'For' the state and not 'Of' the state.³⁴

The acquisition policy outlines the steps for what to purchase, how to acquire it, and whom to buy it from, but it completely ignores the cost-benefit analysis of such choices. It is difficult to establish defence industrial autarky, especially when considering the financial burden it places on the country. An investment in defence results in a reduction of funds available for welfare, health, and education, each of which directly impacts voting behaviour, particularly within a democratic system. India's aspiration for defence manufacturing self-sufficiency is unique, as it disregards economic factors. The procurement categorisation decisions (Buy, Buy and Make or Make) are based on indigenous capability development rather than financial logic (short and long term). It is necessary to re-evaluate the defence industrialisation process with a more pragmatic and selective approach. All defence-related choices should be managed effectively, with a cost-benefit analysis taking into account both the short- and long-term effects, and through the lens of affordability.³⁵

Although FDI is a crucial instrument for integrating the economies of different countries, it is driven by the need for profits for the investment company. Any company engaging in FDI would be in competition with local companies; thus, unless the investing company is given an edge over local competitors, it will not participate. Furthermore, in India's FDI policy, there is a difference in objectives between the government and foreign manufacturers regarding technology transfer and support for local industry. While technology acquisition is one of the key goals of India's FDI strategy, OEMs wish to preserve this area, as the result of costly R&D, technology grants the OEM exclusivity and control, which are lost, if it is sold or parted with.³⁶ Further, the 'Make in India' strategy and the new Defence Acquisition Procedures (DAP)³⁷ give priority to local acquisition. This further, discourages

international OEMs from investing in India as a result of this excessively proclaimed favouritism towards local industry, which raises the risks associated with their investment.

A nation's pursuit of achieving self-sufficiency in the defence manufacturing industry must be supported by a well-defined DIP. When examined in isolation, procurement decisions may seem advantageous for a specific acquisition; however, only when they are considered within the context of a larger DIP framework, can their implications and chances of success for the nation's goal of achieving autarky be evaluated, along with any justifications for deviating from the best course, if applicable.³⁸

India's attempt to employ offsets has failed; yet, they have continued to rule India's acquisition landscape since 2005. The refusal to recognise the issue and conduct an effect study of the policy has further denied users of an evidence-based solution that might have modified the policy in accordance with the changing dynamics and demands of the nation.³⁹ India's aspirations to become self-sufficient are being hampered by the MoD's unwillingness to conduct an offset audit and its continued practise of restricting data access to academics. India's offset policy undoubtedly requires reform, but without comprehensive data and rigorous analysis, achieving this will be challenging.

Conclusion

Developing nations aspiring to establish a reliable DIB must carefully balance their immediate demands with current industrial capabilities, future needs, and available funding, considering all these factors over the long term. Short-term, poorly conceived actions and policies, implemented without qualitative data and analysis, will not only result in financial losses but also extend the timeline for achieving genuine self-sufficiency in the defence manufacturing industry. It is essential for developing nations to formulate a coordinated strategy that integrates cross-domain capabilities with policy continuity. Achieving self-reliance in defence manufacturing carries an economic cost, making affordability and the efficient management of available resources critical. Any national strategy aimed at promoting defence indigenisation must be rooted in a robust policy framework that fosters close collaboration with the private sector to build an ecosystem of innovation and sustainability.

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Ammunition Management in Modern Warfare: Analysing Recent Conflicts and Strategic Implications

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Abstract

In the contemporary world scenario, one of the most important determinants of military success is the management of ammunition. This article explores the dynamics of ammunition by comprehending recent conflicts and analysing their strategic implications. It focuses on the complexities of ammunition management especially in modern warfare management and during the Russia-Ukraine and Israel-Hamas conflicts emphasising the importance of ammunition stockpiles, self-reliance or 'Atmanirbharta', exports, and research and development initiatives. The article aims to identify key lessons for nations to enhance their ammunition management practices. Additionally, it discusses the role of firearms in shaping strategic decision-making, defence policies, international agreements, and arms trade regulations. Overall, the article contributes to a deeper understanding of modern warfare trends and the challenges presented by an increasingly complex security environment.

Introduction

In the ever-changing landscape of contemporary warfare, effective ammunition management plays a crucial role that can significantly impact the outcome of armed conflicts. Given the growing complexity of battles, characterised by asymmetric warfare and

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hybrid tactics, it is crucial to emphasise the strategic significance of efficient ammunition logistics. To ensure operational success, a nation must possess the capacity to supply, maintain and manage ammunition as it would also support the strategic autonomy of nations engaged in protracted conflicts especially with the introduction of advanced weapons and intensified engagements that demand swift logistical responses.

The management of ammunition includes its procurement, storage, distribution, and utilisation. It plays an important role in shaping the capabilities of the defence forces and also shaping the outcomes of conflict.¹ For instance, the ongoing conflict in the eastern regions of Ukraine has underscored the pertinence of maintaining appropriate stockpiles to sustain protracted engagements and asymmetric threats.² Similarly, in Israel, where the country faces continuous asymmetric security challenges, efficacious management of ammunition resources is pertinent to maintain a deterrence against the adversary nations and at the same time safeguard its national interest too.³ The disruptions in ammunition supply chains have led to critical setbacks in the battlefield especially as a result of relying heavily on external suppliers for their weapon and ammunition requirements.⁴ Another important concern is the strategic placement of the ammunition stockpiles and its security aspects, since adversaries generally tend to target these assets to cripple the operational capabilities of the opponent.^{5,6} Munitions management is further complicated by the need to tailor supplies to specific geographic and climatic conditions. In regions like India, where military operations span deserts, plains, forests, hills, high mountains, and glaciers, the diversity in environmental conditions demands a versatile approach to ammunition logistics. Moreover, the type of conflict, whether short and intense, static or mobile, or a prolonged war of attrition, further influences the types and quantities of munitions required. Effective management strategies must, therefore, be adaptable to these variables, ensuring that forces are adequately supplied under all conditions.

The complexity of munitions in modern warfare is underscored by the diverse range of ammunition types required across different combat scenarios. This includes standard infantry ammunition and a wide array of artillery shells, rockets, anti-tank and anti-personnel munitions, guided missiles, Man Portable Air Defence Systems

(MANPADS), and specialised munitions such as precision-guided munitions. These diverse requirements highlight the intricate challenges in managing munitions effectively to maintain the fighting capacity of military formations across varied geographic and operational contexts. This article argues that effective ammunition management is essential for operational success on the battleground and in maintaining strategic autonomy in modern-day conflicts. By comprehensively analysing recent conflicts, this article aims to emphasise the significance of ammunition logistics and its implications for contemporary warfare. It also aims to offer insights into developing constructive and resilient defence strategies.

Conceptual framework and terminologies

In military contexts, logistics is the 'Science of planning and carrying out the movement and maintenance of forces, which directly influences combat readiness and operational success'.⁷ Therefore, it is a critical component of military supply chain management as it includes detailed coordination of complex operations which involve personnel to manage the ammunition, facilities to store it and so on.

While military operations and warfare have existed for a long time, modern warfare is different and more dangerous due to its reliance on advanced technologies such as cyberspace and Artificial Intelligence (AI). Consequently, the management of ammunition has become increasingly complex and tactical.⁸ Another important characteristic of modern warfare is self-reliance or *atmanirbharta*. This refers to the capacity of a nation to produce defence weapons and resources without any external support. It is extremely pertinent for maintaining the sovereignty and security of a nation because being self-reliant in ammunition manufacturing means less dependence on other nations on matters of national security, which in other words means strategic autonomy in a hostile neighbourhood for a country like India.⁹ Finally, the Research and Development (R&D) in military technology should focus on developing new technologies, improving existing munitions and addressing operational requirements in case of any emerging threats.¹⁰ The integration of cyber capabilities and AI into ammunition management offers significant advancements in efficiency and accuracy. AI-driven systems can optimise the

logistics of ammunition supply chains by predicting demand, automating inventory management, and streamlining distribution processes. Moreover, cyber capabilities enable enhanced real-time data collection and analysis, providing military forces with actionable insights to make informed decisions on the battlefield. This ensures that the right type and quantity of ammunition are available precisely when and where they are needed, thereby reducing waste and enhancing combat readiness.

Importance of Ammunition Stockpiles

The critical importance of ammunition stockpiles in military history is emphasised, as the availability or scarcity of ammunition has been a significant factor in influencing the outcome of conflicts. For instance, in the Battle of Bulge during World War II ammunition stockpiles turned out to be extremely critical since the Germans were not able to sustain their offensive due to the shortages in ammunition when the forces advanced into Ardennes.¹¹ Similarly, the Israeli forces faced critical shortages on the Golan Heights front during the Yom Kippur War in 1973, which almost led to a calamitous defeat. During this war, the tide only turned towards Israel's favour after the emergency resupply operations were undertaken by the United States (US).¹² These instances draw attention to the strategic value of maintaining robust ammunition stockpiles, which make certain that military operations can be conducted for protracted periods, especially in conditions where the area is either cut off or under siege. Additionally, adequate stockpiles enable greater flexibility and responsiveness in unexpected situations or sudden escalations in intense conflicts.¹³ The logistical lines are first to be targeted when any conflict escalates in modern warfare, and hence, ammunition reserves are more crucial than ever.¹⁴ An example of this is how Ukraine is sustaining its military operations against Russia to this day through its stockpiles. Although, the Ukrainian forces had initially faced shortages, but, because of international support it was able to improve its combat effectiveness and enhance its ammunition reserves.^{15, 16}

The rapid depletion of ammunition reserves even impacted the defensive capabilities of Armenian forces during the 2020 Nagorno-Karabakh conflict, especially in comparison to their Azerbaijani counterparts, who maintained adequate and well-

managed stockpile reserves.¹⁷ Notably, the strategic management of ammunition stockpiles involves more than simply hoarding ammunition; it encompasses complex considerations related to security, safety, and sustainability. It is for this very reason that North Atlantic Treaty Organisation exercises regularly include logistics simulations to ensure better coordination amongst member nations in joint operations especially with Europe seeing the return of high-intensity conflict.¹⁸

Role of Research and Development in Ammunition Production

R&D in ammunition manufacturing is crucial, as it drives technological innovation and impacts the efficiency and strategic capabilities of a nation's military forces. The development and advancements in ammunition technology does not only impact the performance of ammunition but also its safety and reliability in diverse warfare scenarios. Some recent advancements include the development of guided munitions, which aim to enhance attack precision while simultaneously reducing collateral damage.^{19, 20} The production of ammunition which can be programmed to detonate at specific times and distances dramatically alters modern warfare scenarios as the military forces can engage targets with extraordinary accuracy and minimal risk to the civilian populations.²¹ To further improve the effectiveness of R&D in ammunition production, a more integrated approach between centralised and decentralised models should be considered. Centralised R&D can streamline the innovation process by consolidating resources and expertise, while decentralised R&D, located closer to production facilities, can foster rapid prototyping and iterative testing. Additionally, extensive field testing and direct feedback from frontline troops are crucial in refining ammunition technologies to ensure they meet the operational demands of modern warfare. This feedback loop is essential for adapting to the dynamic requirements of combat situations, ensuring that newly developed munitions are both effective and reliable.

Additionally, advances in ecologically sustainable ammunition minimise hazardous residues on the battlefield, representing a positive step towards addressing environmental and health concerns, and potentially reducing the long-term impact of military engagement on the environment.^{22, 23} R&D in ammunition manufacturing also enhances resource efficacy through innovations

that extend the shelf life and stability of munitions, resulting in significant cost savings and operational advantages. Such efforts should focus on developing adaptive systems that can respond to the changing demands of the battlefield. By emphasising modularity and interoperability in ammunition design, military forces can maintain flexibility in their operations. Additionally, integrating user feedback from combat operations into the R&D process can significantly enhance the applicability and effectiveness of new technologies. This user-centred approach ensures that innovations not only meet theoretical specifications but also perform optimally in real-world scenarios.

Self-Reliance in Ammunition Production

Ensuring the capacity and capability for any nation to produce ammunition independently is a critical element of national security. The rationale behind *atmanirbharta*, as it is referred to in India, is to reduce dependence on external powers for a nation's ammunition requirements, particularly as all countries today are influenced by political and economic instability. Nations with substantial ammunition manufacturing capabilities are better positioned to handle escalated conflicts without being adversely affected by potential interruptions in supply chains.^{24, 25}

For instance, the US maintains one of the most comprehensive domestic ammunition production capabilities, which not only supports the country's military operations worldwide but also serves as a buffer against vulnerabilities present in international supply chains. It is primarily because of this strategic autonomy, self-sufficiency and operational preparedness that the US can execute its military operations in any corner of the world without having to rely on external sources.²⁶ On the other hand, smaller nations often face difficulties due to exorbitant expenses. India realised the strategic disadvantage of relying on external powers to secure its interests during the Kargil War in 1999. Therefore, India has been proactively implementing measures that could strengthen its domestic defence production capabilities. As an example, the 'Make in India' initiative by the Indian government entails substantial investments in the domestic military manufacturing capabilities to achieve greater self-reliance and reduce imports by promoting innovation and production.²⁷

This analysis reveals that when a country is self-reliant, especially in the defence sector, it not only strengthens national security but also enhances the nation's capacity to carry out military operations whenever necessary, without being constrained by the ever-changing dynamics of the supply chain. For a country like India which has a hostile neighbourhood, self-reliance is the need of the hour primarily because of conflicts with both Pakistan and China.

Case Study Analysis

The case studies of the Russia-Ukraine and Israel-Hamas conflicts have been examined, highlighting the diverse strategies employed for ammunition management in both situations. These case studies aim to understand the conflicts by considering three important factors: ammunition stockpiles, investment in R&D, and self-reliance.

The Russia-Ukraine Conflict

- The Russia-Ukraine conflict underscores the importance of robust and effective stockpile management, proficient administration of imports and exports, and a proactive approach to self-reliance driven by domestic munitions production. Initially, Ukraine faced challenges due to insufficient reserves of outdated Soviet-era weapons. However, the prolonged duration and intensity of the conflict compelled Ukraine to swiftly restore and expand its existing ammunition stockpiles.²⁸ Various reports suggest that there has been a significant rise in domestic production and modernisation efforts in Ukraine to replenish its arsenals. These efforts bring out the direct implications of stockpile preparedness on the combat capabilities of a nation. The Russia-Ukraine conflict and its geopolitical consequences led to enhanced support from the West, wherein the NATO partners are providing a range of weapons to Ukraine to sustain this war. This foreign assistance has been crucial in this conflict since it has led Ukraine to push Russia towards a protracted conflict. This support has compensated for immediate ammunition shortages, consequently, influencing the dynamics of war and emphasising the importance of international aid in altering the geopolitical landscape.²⁹ Since this conflict is prolonged, therefore, Ukraine expedited its

defence manufacturing capabilities by working on achieving self-sufficiency in critical ammunitions. This change did not only intend to mitigate immediate shortages, but also to establish a long-term buffer in case of possible future outages.³⁰

- Russia's efforts in preparation for the war were characterised by amassing significant amounts of military equipment along the Ukraine border and this buildup helped Russia to launch a large-scale and sustained offense as the conflict began. Russia's strategically deployed stockpiles which encompassed artillery, tanks, and missiles, were pertinent for their long-term plan.³¹ Conversely, Ukraine had smaller stockpile reserves as a result of which it experienced early shortages. This drawback was tackled with the substantial assistance provided by Western nations, particularly in the form of anti-tank missiles such as the Javelins and MANPADS. This support strengthened Ukrainian defences and enabled them to successfully respond to the Russian offence.^{32, 33}

- With respect to the innovation in military technology and strategies, both the nations demonstrate versatility. For instance, Ukraine successfully employed cost-effective technology such as the Bayraktar TB2 Drone which was developed in Turkey to strike Russian convoys and fortifications successfully.³⁴ On the other hand, Russia has shown its ingenuity primarily through electronic warfare capabilities and strategic utilisation of private military corporations such as the Wagner group.³⁵ These groups tend to work semi-independently and with a certain degree of autonomy, which provides Russia an opportunity to deny its involvement under any circumstances. Since this conflict has now been prolonged, the pertinence of self-reliance in domestic production has become more apparent. Russia has managed to sustain its military operations despite international sanctions limiting its access to foreign technology and weapons and this has been because of its well-established military-industrial complex. Although, Ukraine has primarily been dependent on external support to sustain its position in this conflict but now has ramped up its domestic production, for example, Bohdana Self-Propelled Howitzers.³⁶ Ukraine's defence industry has expanded its output of unmanned aerial

vehicles, armoured vehicles, and advanced rocket systems to reduce its dependence on foreign assistance and bolster its national defence capabilities.

- To conclude, it can be stated that this conflict highlights the crucial significance of maintaining effective military preparedness in the form well well-managed stockpile reserves, ongoing technological advancement and a self-reliant and sustainable defence production base.

The Israel-Hamas Conflict.

- The recurrent escalations between Israel and Gaza launched on 07 Oct 2023 emphasise the role of advanced R&D and self-reliance in ammunition strategies for both nations, especially within the framework of advanced asymmetric warfare. Israel's emphasis on R&D has led to the development of advanced technologies such as precision-guided munitions and the Iron Dome missile defence system. It is Israel's investment in these innovations that has enabled it to carry out exceptionally efficient defensive and offensive manoeuvres with high precision and minimal collateral damage.³⁷ This has helped Israel not only facilitate the quick deployment of forces in times of conflict but also ensure that its defence does not rely on international supply chains.³⁸ Israel's operational preparedness which mitigates risks are illustrated by its strategic deployment of ammunitions which have been modified to suit any situation.³⁹ It is this capacity to adjust tactically that is essential in asymmetric warfare.

- Hamas had strategically amassed extensive stockpiles of rockets and ammunition either by smuggling them into Gaza or manufacturing them locally using smuggled products even before the initiation of the conflict. According to a report by Wion, Hamas set up a secret supply chain through an intricate tunnel system with Iran and Syria.⁴⁰ In contrast to this, Israel's strategy to ensure security is to maintain an efficient stockpile of advanced munitions which includes maintaining a sufficient stock of interceptors for the Iron Dome system, which is essential for neutralising threats from rockets launched from Gaza. This strategy is supported by its robust defence industry and substantial military assistance from its allies, especially the US.⁴¹

- The lessons from the Ukraine war and the Israel-Hamas conflict emphasise the importance of precision-guided munitions, drone operations, and specialised equipment in modern warfare. Precision-guided munitions, in particular, have become indispensable in reducing collateral damage and increasing the effectiveness of strikes in urban and asymmetric warfare scenarios. The integration of drone technology and other specialised equipment into conventional and asymmetric warfare strategies further enhances operational effectiveness, providing military forces with versatile tools that can adapt to the evolving nature of conflict. These innovations must be supported by robust R&D and production capacities to maintain a strategic advantage on the battlefield.

The case studies demonstrate how ammunition management can dictate the pace and outcome of conflicts. In Ukraine, the rapid enhancement of ammunition stockpiles and production capabilities, supported significantly by western allies, has had profound strategic implications. It not only bolstered Ukraine's defense against aggression but also reinforced ties with NATO countries, demonstrating how logistical support can function as a tool of diplomatic leverage and solidarity in international politics.⁴² Similarly, Israel's advanced R&D in ammunition technology and its strategic deployment have ensured its military superiority and enabled it to maintain a technological edge, which is important for its national security policy and for maintaining a deterrent posture in a volatile region.⁴³

Conclusion

An analysis of ammunition management in contemporary warfare highlights its significance in formulating military strategy and shaping defence policies. Through this analysis, several key findings emerge.

First and foremost, effective ammunition management is integral to military preparedness and operational effectiveness. The availability, distribution, and maintenance of ammunition have a direct influence on the capacity of a nation to execute missions and promptly reach threats. It also contributes to maintaining strategic stability and deterring potential threats as countries with

substantial ammunition reserves and effective logistical systems demonstrate might and durability which dissuades prospective enemies from attacking.

Secondly, major powers that produce their military equipment, like the US and Russia, wield considerable influence over countries that are primarily dependent on the import of ammunition for their national security. This influence gives them a way to exert political pressures and even forge strategies which could be advantageous for them.

Furthermore, the capacity of a few nations to independently manage logistics also tends to have implications on global standards and regulations. These implications suggest that ammunition management is not just limited to operational considerations, but it also affects broader defence policies and geopolitical landscape. Therefore, nations must evaluate and analyse their ammunition management strategies in the context of their foreign policy strategies considering that efficient ammunition management dictates not only their operational efficiency but also their strategic position globally.

Finally, modern warfare is faced with numerous challenges, particularly as the conflicts around the world get more complex with the advancement of technology. The primary challenge is the increasing sophistication of warfare technologies which demand rare material and comprehensive manufacturing processes.⁴⁴ With the increasing dependence on technology, the processes of producing and maintaining advanced weapons and munitions affect the existing supply chains which are already affected by regional geopolitical tensions.

As conflicts become more technology-driven, the logistics of sourcing, producing, and maintaining advanced munitions strains existing supply chains. Moreover, geopolitical tensions often restrict access to necessary materials or disrupt logistics routes, complicating the global supply chain dynamics. Another important concern is the ecological consequence of ammunition manufacturing.^{45, 46} The need for ecologically sustainable weapons is driving the nations to invest in R&D to abide by international environmental standards. This has led to innovations such as biodegradable training ammunition and non-toxic primer formulations which not only address environmental concerns but

also reduce the health risks to military personnel and local populations.⁴⁷

The future of ammunition management will most likely witness the continued incorporation of AI and machine learning in military technologies. Additionally, the nations are likely to invest in maintaining stockpile reserves and streamlining supply chains so that their defence industry is adapted to the changing conditions on the battlefield.

To conclude, ammunition management is an important determinant and a cornerstone of modern military strategy as its implications are seen beyond just the battlefield and also play a role in shaping a wider security policy and strategic positioning of a nation.

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The Dragon's Shadow: Understanding China's Impact on India's Approach to Tibet

Dr Beena®

Abstract

Exploring the complex relationship between China's stance on Tibet and India's strategic decisions in the area, 'Unveiling China's Influence: Analysing its Impact on India's Tibet Policy', investigates the nuanced dynamics at play. This abstract elucidates how China's assertive stance on Tibet reverberates within India's corridors of power, shaping its diplomatic manoeuvring and security considerations. As China consolidates its influence over Tibet through infrastructure development, military presence, and cultural assimilation efforts, India is compelled to reassess its approach towards its Himalayan neighbour. Through a critical analysis of China's impact on India's Tibet policy, this abstract argues that Beijing's actions not only challenge India's territorial integrity but also influence its broader regional and global aspirations.

Introduction

In the geopolitical arena of South Asia, the shadow cast by China's assertive policies extends far beyond its borders, profoundly influencing India's approach to the sensitive issue of Tibet. This article aims to dissect the intricate interplay between China's actions regarding Tibet and India's strategic calculus in the region. By delving into the multifaceted dimensions of this relationship, we seek to unravel the complexities that underpin Sino-Indian dynamics and their implications for regional stability.

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China's Assertive Policies

China's approach towards Tibet reflects a multifaceted strategy encompassing political, economic, and cultural dimensions aimed at solidifying its control over the region. The integration of Tibetan culture into the rapidly advancing Chinese economy and the implementation of the Great Western Development (GWD) policy aim to encourage greater migration from inner China to the Tibet Autonomous Region (TAR). Since the 1950s, the historical relationship between Tibet and China, evolving into the current TAR within the People's Republic of China (PRC), has led to the formulation of specific administrative policies by the central government. With the adoption of a new national strategy in 2000 for the development of its western regions, China envisions a transformative makeover for these areas, particularly the TAR. The effects of the GWD policy, known as *Xibu da kaifa*, are expected to be profound in the TAR, given its inclusion in this initiative. While the central government acknowledges the TAR as one among several provincial-level components of this strategy, it has also recalibrated its Tibet policy in alignment with the national project, recognising the unique characteristics and challenges of the TAR. Unlike other autonomous regions included in the GWD, the TAR stands out for its cultural and ethnic homogeneity, with a dominant non-Han culture and nationality shaping the region's identity. Before the influx of Han Chinese settlers in Tibet beginning in 1950, Tibetan culture encapsulated the essence of the region, characterised by its ethnic and cultural diversity.¹ China's policies actively promote the migration of Han Chinese settlers into Tibet, altering the demographic composition of the region and diluting Tibetan cultural identity. This demographic engineering, coupled with measures to suppress Tibetan cultural expressions and religious practices, presents a significant challenge to India's longstanding support for Tibetan autonomy and the preservation of Tibetan heritage.² These efforts underscore China's determined bid to consolidate its control over Tibet while simultaneously eroding India's influence in the region. Additionally, Mandarin Chinese is increasingly emphasised in education, while Tibetan language instruction is marginalised.

China's ambitious infrastructural plan aims to construct 4,000 kms of railway lines by 2025 and establish 59 new airports and 300 helipads by 2035 across the TAR.³ An exemplary illustration

of China's endeavors is the extensive infrastructure development initiatives, notably highlighted by the Qinghai-Tibet Railway. This railway stands as a vital lifeline connecting Tibet with mainland China.⁴ This plan, reported by the Tibet Right Collective, serves a dual purpose: facilitating rapid military deployment and advancing Beijing's strategy of cultural assimilation in Tibet. The swift development of infrastructure in Tibet aligns with the PRC broader goals, as noted by the Tibet Policy Institute. China intends for this strategy to quash dissent and weaken Tibetan resistance, both within and outside Tibet. Urban centers like Lhasa are witnessing increased intermarriage between Tibetans and Chinese due to the influx of migrant workers and rapid urbanisation. The Chinese government, citing unprecedented investment since the 1990s, emphasises infrastructure development in Tibet, including connectivity, hydropower, urbanisation, and mining, among others. However, these investments primarily serve as a means for China to reinforce its control over the unlawfully occupied region.⁵

China maintains a tight grip on political dissent in Tibet through strict censorship, surveillance, and the suppression of any form of opposition to the Chinese Communist Party's (CCP) rule. Tibetan activists, monks, and intellectuals who advocate for Tibetan autonomy or criticise Chinese policies often face harassment, imprisonment, or enforced disappearance. According to the 2023 Country Reports on Human Rights Practices by the United States (US) Department of State, in the section covering China, including Hong Kong, Macau, and Tibet, there was documentation regarding the disappearance of Tibetan monk and writer Rongwo Gangkar. Reports suggest that Rongwo Gangkar went missing in 2021 after he allegedly spoke about the Dalai Lama during an informal gathering in Qinghai. These claims were brought forward by the non-governmental organisation Free Tibet in Jan of the same year.⁶

In recent years, China has significantly intensified its exploitation of Tibet's natural resources, leaving Tibetans powerless to protect their land while witnessing economic gains diverted away from their nation. This expansion of mining and extraction, supported by Chinese government funding, poses dual threats to both people and the environment. Historically devoid of industrialisation, pre-Chinese occupation, Tibet now faces displacement of millions of Tibetan nomads to urban areas,

facilitating resource extraction and abandonment of traditional agricultural practices, crucial for environmental preservation.⁷ China's status as the leading global energy consumer drives the relocation of mining to Tibet, exacerbating environmental crises such as water scarcity, agricultural encroachment, and nature reserve disruptions.⁸ Additionally, Tibet holds significant copper reserves vital for industries in central Chinese cities, yet mining activities like those in Shetongmon risk contaminating vital rivers. Illicit gold mining further plagues Tibet, disregarding environmental concerns and provoking Tibetan protests met with police force.

Moreover, the issue of water resource management in Tibet is a significant geopolitical and environmental concern. The use or misuse of Tibet's water resources remains a critical issue with significant geopolitical and environmental implications. Tibet, often referred to as the 'Water Tower of Asia', is the source of several major rivers that flow into neighboring countries, including India, Nepal, and Bangladesh. China's extensive dam-building and water diversion projects in Tibet have raised concerns among downstream nations about reduced water flow and ecological impact, such as the Brahmaputra (Yarlung Tsangpo in Tibet), which flows into India and Bangladesh.⁹ These projects have raised fears about potential water shortages, reduced river flow, and environmental degradation downstream. For instance, the construction of the Zangmu Dam on the Brahmaputra has been a point of contention between China and India.¹⁰ A recent development highlighting these concerns is China's reported initiative to transport fresh water from Tibet to the Maldives. This initiative, aimed at addressing the freshwater scarcity in the Maldives, has sparked controversy as it appears to prioritize external needs over the local Tibetan population's water security.¹¹ Critics argue that such projects could exacerbate water shortages in Tibetan regions already facing environmental stress. The extraction and diversion of water from Tibetan rivers can lead to significant ecological and social consequences for local communities. Reduced water availability can affect agriculture, drinking water supply, and the overall sustainability of the region. Moreover, the environmental stress caused by large-scale water projects can lead to long-term ecological imbalances, affecting biodiversity and natural habitats.

Along with this, the allegation that China is developing a 'River in the sky' or *Tianhe* to divert moisture from monsoon clouds to Tibet, thereby, affecting India, is a topic of significant debate. While there are claims about China's weather modification programs, such as cloud seeding to enhance rainfall, concrete evidence supporting this specific allegation remains scarce. China has a long history of using cloud seeding technology to influence weather patterns, particularly for agricultural benefits and events like the 2008 Beijing Olympics.¹² In recent years (Dec 2020), China announced an ambitious plan to expand its weather modification program to cover 5.5 million sq kms by 2025, including parts of Tibet.¹³ These developments have raised concerns among neighboring countries, including India, about potential impacts on regional weather patterns and water resources.

However, the notion of creating a river in the sky to systematically steal monsoon moisture and significantly alter its natural flow into India lacks substantiated scientific evidence. The monsoon system is a complex climatic phenomenon influenced by various global and regional factors, making it improbable for any single intervention to have such a drastic impact.¹⁴ Additionally, such large-scale weather manipulation would require an unprecedented level of technological advancement and coordination, which currently seems beyond the reach of existing capabilities. Therefore, while China's weather modification efforts are real and expanding, the specific allegation of diverting monsoon moisture to Tibet remains unverified and speculative. Further scientific investigation and international transparency are necessary to assess the true extent and implications of such activities.

Tibetans predominantly practice Tibetan Buddhism, which holds significant cultural and spiritual importance. However, China enforces stringent regulations on religious activities, including the appointment of pro-China officials within monasteries, restrictions on religious gatherings, and campaigns to promote loyalty to the Chinese state over religious allegiances. The Chinese government's interference in the selection of Tibetan Buddhist leaders, including the reincarnation of the Dalai Lama, is particularly contentious. The CCP has initiated the implementation of 'Order No.19', known as the 'Administrative Measures for Religious Activity Venues', effective from 01 Sep 2023. This move aims to tighten control over religious institutions in China and occupied regions like Tibet,

East Turkestan (Xinjiang), and Southern Mongolia (Inner Mongolia). The implementation of Order No.19 tightens control over religious institutions in Tibet, aligning with China's broader efforts to suppress religious freedom.¹⁵ This poses implications for India as it underscores China's assertive policies in Tibet, affecting regional stability and relations.

These assertive policies underscore China's determination to maintain political control and Sinicize the Tibetan society, despite ongoing resistance and international criticism.

India's Strategic Calculus

India's response to China's actions in Tibet involves a delicate diplomatic dance, striving to uphold its territorial integrity while mitigating the risk of direct confrontation. The unresolved border dispute between India and China, particularly in regions like Arunachal Pradesh and Ladakh, continues to be a focal point of contention.¹⁶ Arunachal Pradesh, also known as South Tibet, is a key flashpoint in the India-China border dispute. China claims the entire state as its own territory, despite it being administered by India. This territorial claim is rooted in China's historical assertions of suzerainty over Tibet, with Arunachal Pradesh forming part of what China perceives as its traditional sphere of influence.¹⁷ In a recent development, China reiterated its claim over Arunachal Pradesh, asserting it as part of its territory, despite India's dismissal of such claims as 'Absurd' and 'Ludicrous'. Chinese Foreign Ministry spokesman Lin Jian restated China's position on 25 Mar, in response to remarks made by Indian External Affairs Minister S Jaishankar. He, addressing the issue during a lecture at the Institute of South Asian Studies of the National University of Singapore, labelled China's claims on Arunachal Pradesh as ludicrous and affirmed the region as an integral part of India.¹⁸ Despite these incidents, India is trying to enhance infrastructure development in Arunachal Pradesh, which is aimed at strengthening its defensive capabilities and asserting its sovereignty. These initiatives demonstrate India's determination to protect its territorial integrity and deter any aggressive moves by China.¹⁹

The Line of Actual Control (LAC), the *de-facto* border between India and China, is another contentious area where Tibet plays a significant role. The LAC is not precisely demarcated, leading to frequent incursions and disputes over territorial control. China's

infrastructure development projects in Tibet, such as roads and military installations, have raised concerns in India about China's strategic intentions and its ability to project power along the border.²⁰ Recent clashes along the LAC, notably the Galwan Valley incident in Jun 2020, have heightened tensions and underscored the potential for escalation.²¹ The clash, which resulted in casualties on both sides, occurred in the context of heightened tensions and military build-up in the region. While the immediate trigger for the incident was a dispute over the construction of infrastructure by both sides near the LAC, underlying territorial and strategic considerations, including China's claims over Tibet, contributed to the escalation.²² These incidents serve as stark reminders of the complex dynamics shaping India-China relations, with Tibet often at the heart of territorial disputes and geopolitical manoeuvring.

Moreover, India's decision to host the 14th Dalai Lama and the Tibetan government in exile presents a complex diplomatic challenge with significant strategic implications in the region. The Dalai Lama, revered as the spiritual leader of Tibetan Buddhism and a symbol of Tibetan autonomy, fled to India in 1959 following a failed uprising against Chinese rule in Tibet. Since then, India has provided sanctuary to the Tibetan spiritual leader and his government-in-exile, granting them political asylum and allowing them to operate from Dharamshala in the northern state of Himachal Pradesh.²³ India's support for the Dalai Lama and the Tibetan government in exile is grounded in its commitment to humanitarian values and the preservation of Tibetan culture. By providing refuge to the Tibetan diaspora, India upholds principles of religious freedom and cultural diversity, aligning with its democratic ethos and tradition of sheltering persecuted communities.²⁴ Also, India's hosting of the Dalai Lama serves as a symbolic gesture of defiance against China's claims of sovereignty over Tibet. China considers Tibet an integral part of its territory and views any support for Tibetan autonomy or the Dalai Lama as interference in its internal affairs. India's refusal to adhere to Beijing's demands to restrict the activities of the Dalai Lama and the Tibetan government-in-exile reflects its commitment to upholding the principles of sovereignty and non-interference in internal affairs.²⁵ During a significant event marking the 35th birth anniversary of Panchen Lama Gedhun Choekyi Nyima, the Tibetan government-in-exile urged India and other democratic nations to

exert pressure on Beijing regarding the disappearance of the Panchen Lama nearly 29 years ago. The call includes demands for Beijing to disclose the whereabouts of Choekyi Nyima and to permit an independent fact-finding commission to investigate his disappearance. The Panchen Lama disappeared merely three days after being recognised by the Dalai Lama as the reincarnated Panchen Lama.²⁶ However, India's support for the Tibetan cause also carries strategic risks and complications in its relationship with China. Beijing perceives India's hosting of the Dalai Lama as a provocative act and a challenge to its authority, leading to periodic diplomatic tensions and pressure on India to limit its engagement with the Tibetan leadership.²⁷ This gesture has irked Beijing and contributed to the simmering tensions between the two countries, with China viewing India's support for the Tibetan cause as interference in its internal affairs.²⁸

Furthermore, India should prioritise bolstering its diplomatic outreach to garner international support against China's assertive policies in Tibet. Engaging with key global players such as the US, the European Union, and Japan to form a unified front can help counterbalance China's influence.²⁹ Additionally, enhancing economic and infrastructural ties with neighbouring countries can create a more resilient regional bloc. For instance, the 'Act East' policy should be leveraged to strengthen ties with Association of Southeast Asian Nations countries, thus, diluting China's dominance in the region.³⁰

India's approach to Tibet is intricately tied to broader geopolitical considerations, particularly its strategic partnership with the US and its efforts to counter China's expanding influence in the Indo-Pacific region. The growing strategic alignment between India and the US, as evidenced by their deepening defence cooperation and shared concerns about China's assertive behaviour, has shaped India's approach to regional dynamics.³¹ The 2021 Quadrilateral Security Dialogue (QUAD) Leaders' Summit, which brought together the leaders of the US, India, Japan, and Australia, underscored their commitment to promoting a free and open Indo-Pacific and addressing common security challenges. This partnership has implications for India's approach to Tibet, as it seeks to balance its relationship with China while aligning with like-minded countries to maintain regional stability.³²

India's participation in various QUAD meetings and exercises, such as the Malabar Naval Exercise, reflects its commitment to countering China's influence in the Indo-Pacific region. These engagements serve as platforms for enhancing cooperation on security issues and promoting a rules-based order in the region.³³ India views China's increasing presence in South Asia, particularly through initiatives like the Belt and Road Initiative (BRI), with skepticism and seeks to balance Beijing's influence by strengthening partnerships with like-minded countries, including Japan, Australia, and the US along with their neighbours South Asian countries like Pakistan, Sri Lanka, and Nepal.³⁴ India perceives the BRI as a means for China to extend its influence in the Indian Ocean region and encircle India with strategic assets and infrastructure projects.³⁵ Moreover, the China-Pakistan Economic Corridor (CPEC), a flagship component of the BRI, passes through territory claimed by India, further exacerbating India's security concerns and prompting it to adopt a cautious approach to China's regional initiatives.³⁶ India's response has included strengthening ties with other regional powers, enhancing defence cooperation, and bolstering infrastructure development in its border regions. This proactive stance is driven by concerns about China's growing assertiveness and its implications for India's security and regional stability. India's challenge lies in safeguarding its strategic interests while navigating the complexities of its relationship with Tibet. On one hand, India seeks to preserve its historical and cultural ties with Tibet, support Tibetan autonomy, and uphold humanitarian values. On the other hand, it must manage its delicate relationship with China and avoid actions that could escalate tensions or jeopardise broader geopolitical objectives.³⁷ This intricate web of diplomatic manoeuvring underscores the nuanced nature of India's response to China's actions in Tibet and its broader implications for regional stability and security.

To make India's strategic calculus, more engaging and actionable, incorporating a set of strategic recommendations for India and the international community is crucial. On the domestic front, India must accelerate its infrastructure development along the Himalayan border to improve military readiness and local resilience.³⁸ Projects akin to the Border Roads Organisation's initiatives are vital for maintaining strategic advantages. Globally,

it is imperative to advocate for human rights and cultural preservation in Tibet through international forums such as the United Nations (UN). Collaborating with global NGOs and leveraging platforms like the UN Human Rights Council can amplify the issue of Tibet on the world stage, drawing attention to China's policies of cultural assimilation and repression.³⁹ Finally, India should foster stronger cultural and educational exchanges with the Tibetan diaspora, ensuring their voices and cultural heritage are preserved and promoted. Such efforts can help maintain the cultural fabric of Tibet, while also positioning India as a champion of human rights and cultural preservation. By implementing these recommendations, India can not only safeguard its national interests but also contribute to a more balanced and equitable global order.

Implications for Regional Stability

The evolving dynamics between China and India regarding Tibet have significant implications for regional stability and security, extending far beyond their borders. Tensions along the LAC have escalated in recent years, leading to military standoffs such as those in Doklam in 2017 and the Galwan Valley clash in 2020. These incidents highlight the precarious nature of the bilateral relationship between India and China, with unresolved border disputes exacerbating mistrust and heightening the risk of armed conflict.⁴⁰ The Indo-China border disputes, particularly in regions like Arunachal Pradesh and along the LAC, serve as potential flashpoints for conflict, posing a threat to regional stability. The lack of clear demarcation and differing interpretations of the border by both sides increase the likelihood of misunderstandings, miscalculations, and inadvertent escalation.⁴¹ Moreover, the militarisation of the border areas, coupled with the deployment of troops and advanced weaponry by both India and China, raises concerns about the potential for a military confrontation with broader implications for regional security.⁴² The strategic importance of the Himalayan region, as well as its proximity to other South Asian countries, further underscores the need for peaceful resolution of border disputes to prevent destabilisation of the region.⁴³ Furthermore, the evolving dynamics between China and India have implications for other countries in the region, as well as for global powers with strategic interests in Asia. The deepening rivalry between India and China, fueled by territorial disputes and geopolitical competition, has the potential to draw neighbouring

countries into the fray and disrupt the delicate balance of power in the region.⁴⁴

The implications of China's BRI for regional stability are multifaceted, particularly in areas bordering Tibet, and have significant ramifications for India's security interests. The BRI, as a cornerstone of China's foreign policy, aims to enhance connectivity and promote economic development across Asia and beyond. However, in the context of South Asia, the BRI has raised concerns about China's expanding influence and its potential impact on regional stability.⁴⁵ One of the key components of the BRI is the CPEC, a flagship infrastructure project that involves the construction of roads, railways, and energy pipelines linking China's western province of Xinjiang to the Pakistani port of Gwadar. The CPEC passes through territory claimed by India, including parts of the disputed region of Kashmir, thereby, exacerbating tensions between India and Pakistan and adding another layer of complexity to the Indo-China relationship.⁴⁶ Moreover, China's infrastructure projects and economic investments in South Asia, including in areas bordering Tibet, have raised concerns about the potential for Beijing to wield economic influence to advance its strategic interests. China's growing presence in regions like Nepal, Sri Lanka, and Bangladesh through projects under the BRI has led to debates about the implications for regional stability and the balance of power in South Asia.⁴⁷ For India, the BRI poses both opportunities and challenges. While India recognises the potential benefits of improved connectivity and economic cooperation, it remains wary of China's strategic intentions and the implications for its security interests. The CPEC is viewed by India as a violation of its sovereignty and territorial integrity, further complicating efforts to resolve longstanding disputes with China.⁴⁸

As a result, India finds itself navigating a delicate balancing act, striving to safeguard its interests while managing the complexities of its relationship with Tibet. The strategic significance of Tibet as a buffer zone between India and China, coupled with its cultural and historical ties to India, adds layers of complexity to the equation. India's response to China's actions in Tibet will not only shape the trajectory of bilateral relations but also influence broader regional dynamics and the balance of power in South Asia.

Conclusion

The multifaceted dimensions of China's policies towards Tibet cast a profound shadow over India's approach to the region. From aggressive infrastructure development projects to stringent control measures over religious institutions, China's actions in Tibet resonate far beyond its borders, shaping India's strategic calculus and regional dynamics. The intricate interplay between China's assertive policies and India's response underscores the necessity for a nuanced understanding of China's impact on India's approach to Tibet. As China continues to assert its dominance in the region, India faces the challenge of safeguarding its interests while navigating complex geopolitical realities. Therefore, comprehending 'The Dragon's Shadow' is imperative for India to formulate informed policies and strategies concerning Tibet, ensuring regional stability and safeguarding its own interests in the face of China's expanding influence.

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The Elephant's Trumpet for Taming the Dragon (Part II)

Air Commodore Shirish Dhakate®

Be extremely subtle even to the point of formlessness

- Sun Tzu

Abstract

This article delves into the complexities of China's strategic culture and military stratagem, exploring their implications for India and the broader Indo-Pacific region. Through a nuanced analysis of China's historical and cultural roots, the article examines the country's approach to warfare, diplomacy, and economic development. It highlights the importance of understanding China's strategic culture, which is shaped by its ancient philosophical traditions, including Sun Tzu's Art of War. It also explores the implications of China's rise for India, including the need for India to develop a more assertive and pragmatic approach to dealing with China. It concludes by outlining key elements of India's China policy, including the need for patience, strategic communication, and economic growth.

Introduction

Having seen the historical developments in Part-I of this article, this part focusses on the present-day China and its future trajectory. The re-organisation of the Central Military Commission (CMC), the various arms of the People's Liberation Army (PLA) and formation of the PLA Strategic Support Force have significant implications for its neighbours. It is instructive to note that most major powers have devoted study centres and think tanks solely

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for the study of China. It may be critical to assess and dissect the Chinese military leadership's psychological and cultural thought process, evolving from their historical stratagem. Response to any provocation or dialogues needs to be well tailored, keeping in mind the age-old Chinese techniques of manipulation and deft diplomacy couched in subterfuge.

Modern Threads

Adaptability and Flexibility: Cornerstones of Chinese Military Stratagem.

- The weft and warp of Chinese military stratagem are woven with threads of adaptability and flexibility. This is evident in the PLA's doctrine of 'Active Defence', which emphasises a proactive and adaptive posture. Unlike the traditional western concept of defence, the Chinese approach involves seizing the initiative and adapting to evolving circumstances.
- The concept of '*Shashoujian*'¹ or the 'Assassin's Mace', has been adopted to represent a strategic innovation that incorporates asymmetrical warfare and technological surprise. This embodies the notion of using unexpected and unconventional means to achieve military objectives, showcasing the PLA's commitment to strategic creativity.

Military Culture.

- The PLA has undergone significant modernisation in recent decades. For the CMC, Operation Desert Storm with its Revolution in Military Affairs (RMA) and the effective air campaign that made land operations a minor operation, was the epitome of warfare. The CMC put into motion various processes to unravel the RMA within its own ranks and move towards 'Informatised Warfare'. The evolution of its military culture reflects China's ambitions on the global stage. Xi Jinping's vision of a 'World-class' military by 2049, the centenary of the People's Republic of China, underscores the nation's commitment to enhancing its military capabilities.
- The PLA's military culture emphasises the 'Three Warfares strategy: psychological warfare, media warfare, and legal warfare'. These tactics are an official political/information non-kinetic warfare strategy of the PLA, revised in the 'Political

Work Guidelines of the PLA' in 2003², employed not only in times of conflict but also during peacetime to shape perceptions and gain strategic advantages. China's military doctrines, such as 'Integrated Joint Operations' and active defence, underline the stress on modern warfare, incorporating cyber capabilities, space assets, and advanced technology.

- The Himalayan region serves as a strategic theatre for both China and India. The Doklam standoff in 2017 and the Galwan Valley clash in 2020 highlighted the potential for military escalation in the disputed border areas.
- In the 21st Century, China seems to show an aversion to taking risks, especially in terms of fatalities during conflicts and were supposedly averse to body bags, it is believed. But this may be just a ruse, since Chinese people have been known to be able to take pain and suffering in their stride like the sufferings during the Great Leap Forward. The race to stay ahead in 4G, information, and cyber warfare is an attempt to achieve supremacy and fight a war without physical conflict, in line with Sun Tzu's strategy, but when push comes to shove, the Chinese are likely to exert their will; even at the cost of fatalities.
- The Chinese short term is about 10 to 20 years, while in the medium term, they look at 20 to 50 years and in the long term, beyond 50 years. They do not feel time pressures and practice infinite patience. Mao famously quoted Sun Tzu, "Do not take matters on this world so rapidly. Why is there need to be in such great haste".³

Information Warfare and Psychological Operations: Modern Weaving on Ancient Fabric.

- In the contemporary landscape, the PLA's emphasis on information warfare and psychological operations represents a modern thread in the ancient fabric of Chinese military stratagem. The concept of the 'Three Warfares'—psychological warfare, media warfare, and legal warfare—exemplifies the integration of ancient principles with modern technologies.

- The use of disinformation, strategic narratives, and cyber capabilities reflects China's understanding of the significance of shaping perceptions in the information age. This sophisticated approach to non-kinetic warfare aligns with Sun Tzu's emphasis on subduing the enemy without direct confrontation.

The Dragon's Reach: Geostrategic Implications.

- As the dragon awakens, the geopolitical implications of Chinese strategic culture and military stratagem extend beyond its borders. The Belt and Road Initiative (BRI), often dubbed as China's 'Silk Road', showcases a grand strategic vision rooted in ancient concepts of connectivity and economic influence. China's colossal infrastructure investments, amounting to a total of USD 67.8 bn in 2022, are likely to touch USD 1.0 tn shortly.⁴ This is envisioned to usher in a new era of trade and growth for economies in Asia and beyond. But skeptics worry that China is laying a debt trap for borrowing governments.⁵
- China's assertiveness in the South China Sea (SCS), where it has constructed artificial islands and strengthened its military presence, echoes historical notions of controlling key points for strategic advantage. China's sweeping claims of sovereignty over the sea and the sea's estimated 11 billion barrels of untapped oil and 190 trillion cu ft of natural gas; have antagonised competing claimants: Brunei, Indonesia, Malaysia, Philippines, Taiwan and Vietnam.⁶ The geopolitical chessboard reflects China's aspiration to secure its maritime routes and establish itself as a dominant regional power. It also reinforces the concept of *wei qi* (encirclement).
- The future of each of our nations—and indeed the world—depends on a free and open Indo-Pacific enduring and flourishing in the decades ahead. Like Japan, we believe that a successful Indo-Pacific vision must advance freedom and openness while offering autonomy and options. We support a strong India as a partner in this positive regional vision.⁷ The US wants India to play an active role in the SCS, given its proximity to the area as well as the historic animosity with the dragon. The Quadrilateral Security Dialogue (QUAD) is an attempt to play *wei qi* with the Chinese, by encircling

them from south west, east and north east. China's west as of now is secure with the Central Asian Republics playing the Chinese flute and the Russians in the Chinese *Hebao* (protective umbrella).

- The Chinese Police Stations in various countries across the world, including the American and European continents, under the garb of 'Overseas Service Stations' are raising concerns about extra-legal offices being tools of hard power and coercion for the empire. These unofficial Police Stations or Public Security Bureaus are used to spread Chinese philosophy, intimidate dissidents and pressure them to return to China. In the African continent, China has active military presence through alliances and Military Assistance Programs in many countries. Some estimates predict the number of Chinese nationals in the continent to be close to one million (including nearly 10,000-12,000 military personnel).

Diplomacy and the Silk Road: Soft Power Unfurled.

- The Chinese emphasis on soft power, intricately woven into the Silk Road of ancient times, has reemerged as a prominent feature of its contemporary diplomatic efforts. The Confucius Institutes, serving as cultural ambassadors, project China's soft power globally, fostering an environment conducive to its strategic objectives.
- The use of economic tools as diplomatic leverage, typified by concerns over debt-trap diplomacy related to the BRI, illustrates the strategic interplay between ancient cultural values and modern geopolitical manoeuvres. The Silk Road, once a conduit for goods and ideas, has been transformed into a symbol of China's diplomatic outreach and economic prowess. It has also enmeshed the economies of its participants with the Chinese economy, with the concomitant pitfalls.

The Dragon and the Elephant: Sino-Indian Relations.

- In the complex montage of international relations, the interaction between the Dragon and the Elephant (China and India) is a critical component that could unravel into a mess, if the associations are delinked. China's strategic historical thought process and military culture exert a profound impact

on its relations with India. China has an interminable and steadfast patient approach to what they perceive as recalcitrant neighbours, especially ones which could be their nemesis, if they are dealt with haste.

- China's strategic culture plays a pivotal role in shaping its approach to Sino-Indian relations. The ancient precepts of strategic culture intertwine with contemporary geopolitics, creating a dynamic that oscillates between collaboration and contention.

- The enhancement of border infrastructure, military modernisation, and efforts to strengthen coalitions and friendships in the Indo-Pacific region reflect India's evolving strategy. India's response involves a combination of military preparedness, diplomatic manoeuvring and regional partnerships. As China expands its influence in South Asia and the Indian Ocean Region, India has sought to diversify its partnerships. Engaging with like-minded countries under frameworks like the QUAD, has become a vital element of India's strategy. This collaborative approach is aimed at balancing China's growing influence and fostering a rules-based international order. However, these same actions have intensified the rivalry between the two giants.

- "For the foreseeable future, Beijing desires to keep New Delhi contained in a geostrategic South Asian box with the lid on tight, while China conducts business-as-usual diplomacy and commerce with India. Chinese leaders perceive India as an oversized middle power with great power pretensions. While neither side wants escalation, their actions risk exacerbating a classic security dilemma, leading to costly, high-stakes competition".⁸

- India on the other hand is a peace-loving country which does not desire confrontation with China. As both nations strive for regional influence and global standing, understanding the interplay of China's strategic weave becomes imperative for India to navigate the complex patterns of Sino-Indian relations. A more assertive India, resultant of its growing economic footprint and global standing, tempered with cautious and pragmatic interaction with the Chinese, is the need of the hour.

Balancing Act: Navigating the Future.

- As China strides confidently into the 21st Century, the deep shades of its strategic culture and bold colours of its military stratagem continue to shape its trajectory. The balancing act between tradition and modernity, flexibility and assertiveness, defines China's approach to global affairs.
- Understanding the depth of Chinese strategic culture is not a mere intellectual exercise but a prerequisite for navigating the complexities of a world where the dragon's influence is expanding every passing year. As the geopolitical imperatives influence the future, the nuances of Chinese strategy, rooted in millennia of wisdom, will undoubtedly continue to shape the course of international relations. The world watches as the dragon flaps its wings and the *jifu* (dragon's robe) unfolds, revealing the heat of the fire in the dragon's belly, the depth of China's strategic culture and the cold conduct of the military stratagem on the global stage.

Key Elements of India's China Policy

Having fathomed the depths of the Chinese strategic ethos and developed a historical long-term perspective of the Sino-Indian dynamics, it is imperative that the geopolitical waltz of Indian policies towards China is orchestrated, keeping in mind the Chinese strategic culture to bring about a possible rapprochement and thaw in relations by resolving outstanding issues; if not, then try and contain the Chinese, through deft manipulation and statecraft using age-old strategic tools. The CCP is manifested with a different sense of morality, something that is not aligned to the generic world.

Some of the facets of Indian strategy that may have a significant import for safeguarding own sensitivities and contain the dragon are listed below:

- Avoid riling the dragon on issues of minor consequences; it is better to lose small battles and save energies for the bigger ones. Keep negotiating calmly, adopt a *modus vivendi* to avoid confrontation and escalation which could be deleterious in the long run.

- Continue the dialogue process, even in the face of provocations and conflicts. 'Be like the duck, calm on the surface while paddling furiously underneath the surface'.
- Not playing to the media generated hysteria and reacting to minor incidents would require imperturbable minds, through steady and consistent cultivation at the highest levels of decision making.
- Utilise all instruments to absorb and adopt the Chinese way of dealing and dialogue process to beat them at their own game. In the case of the Chinese, remember 'Facts and Truth do not always go together'. The Chinese negotiators set and prosecute the agenda by discursive dialogues to lead the opponents astray.
- Subtle and covert actions are the key to success while direct confrontation is fraught with risks of conflict. Undermining the CCP by a discrete Information Warfare (IW) campaign showcasing the failure of the communist ideology; in fact, the Chinese society has the greatest wealth disparities and is a capitalistic model in the garb of communism.
- The Chinese think in terms of decades and centuries, while the Indian mind is thirsty for quick satiation. During a meeting with Kissinger in 1971, Mao had said that "Beijing would not foreclose options over Taiwan and indeed expected to have to use force someday, but second, for the time being at least, Mao was putting off this day. Indeed, he spoke of being willing to wait for 100 years".⁹ When dealing with the Chinese, the greatest virtue is that of patience.
- India needs to use the world to posit and reinforce its own claims. There is a need to orchestrate and precipitate the abandonment of the Chinese claim on Arunachal Pradesh in concert with other world powers. The sliver of opportunity is likely to remain only in the coming decade. Create world class infrastructure in Arunachal Pradesh and make it a tourist haven. It is important to develop the state into a modern state, subsidise travel and suffuse it with social media propaganda to show that it is an integral part of India. When foreign travellers/tourists visit the state, share photos on their social media handles, it will reinforce the concept that it is an

integral part of India. Enhanced settlement of Indians from other regions, would add to the sense of integration.

- Economic growth is the single most important driver for geopolitical clout and military capabilities. India must avoid conflict as far as possible to focus on economic activities and maintain a high growth trajectory. This trajectory needs to be enhanced to an even higher one to catch up with Chinese levels.
- To deter conflict, alliances with nations which share common interests such as, US, Australia and China's neighbours need to be strengthened to ensure a unified deterrence. Alliances are complex associations, framed to suit overt and covert purposes as also to deter perfidious mutual enemies; hence these need to be dealt with caution and a lot of contemplation. Alliances which do not have security guarantees, like the North Atlantic Treaty Organization, only resort to agglutination as a deterrence.
- The Chinese population have the ability to overcome depredations inconceivable anywhere else in the world, which shows the tenacity of their culture and the cohesiveness of their relationships, which is an Indian weakness. Indian polity needs to build up this tenacity and cohesiveness amongst the populace through media, education and a wholesome Information Campaign.
- It is important to strengthen the five fingers to make a fearful fist. The five fingers comprise of information warfare, diplomatic deftness, military ascendancy, mature and assertive leadership and economic eminence.
- Narratives are critical to convey success of any event, the Indian *Katha* (story) has to cater for the three levels viz. Domestic, Adversary and International. A robust national IW setup for unleashing the *Katha* needs to be setup in the country.
- The dragon may remain on leash till the US remains superior to China in economic and military terms. Once China advances past US, it will most likely start imposing its notion of celestial supremacy by asserting through force. India needs to be prepared for that event, both in terms of economic and

military heft and insulation with a robust comprehensive national power. The national policy on grey zone warfare including non-kinetic warfare/non-contact warfare is still inchoate, there exists a large chasm, which needs to be bridged.

History has proven time and again that the primary guarantor of a nation's sovereignty is its military power. Investment in developing a future ready and strong military may not appear to pay dividends in the short term but adds immense value to the country's progress by ensuring its growth and survival. The gestation period of developing any military capability is nearly a decade and half.

The dragon is likely to start flapping its wings in the later part of this decade as it starts matching US capability for capability, then would start growling to dictate terms by early next decade, roar to threaten enemies by the end of the next decade and finally breathe fire to destroy its enemies in the decade starting 2040 to realise the master's dream of 2049. Therefore, if India is to be prepared for the Dragon's roar which may come close to the end of next decade and avoid its breath of fire, we need to put in motion processes to step up our military capabilities in this decade itself.

Conclusion

The understanding of China's strategic culture and military stratagem is crucial for India to navigate the complex dynamics of Sino-Indian relations. The dragon's awakening has significant geopolitical implications, and India must develop a nuanced approach to engage with China, leveraging its own strengths and weaknesses. By adopting a patient and pragmatic strategy, India can mitigate the risks of conflict and promote a rules-based international order. The key elements of India's China policy, including avoiding provocations, continuing dialogue, and utilising all instruments of national power, will be critical in shaping the future of Sino-Indian relations. As the dragon continues to assert its influence globally, India must prioritise economic growth, military modernisation, and strategic partnerships to ensure its sovereignty and security. The time to act is now, for the dragon's roar is approaching, and India must be prepared to face the challenges of the future.

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China's Influence in the United Nations: An Evolving Role

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Abstract

Beijing views the United Nations (UN) as a tool to achieve its 'Middle Kingdom' Dream and reshape global governance. Despite being a late entrant, China has skilfully infiltrated key UN departments, aligning norms with its long-term strategy. This influence signifies a shift in global governance with implications for a rules-based order. Beijing has advanced its agenda by placing nationals/proxies in key positions, providing funding, and initiating aligned programs, which has allowed it to shape agendas and build coalitions against Western dominance. China's presence has reshaped UN cultures, diluting human rights norms and raising transparency issues. As China's role expands its impact on global decision-making will likely increase and challenge the traditional rules-based order.

Introduction

Post-World War II, numerous international organisations have emerged to oversee global affairs. Improved means of communication and transportation have heightened interdependence among countries, making international organisations indispensable for navigating global affairs. The United Nations (UN) has emerged as a powerful entity, with many nations believing it can establish a new world order.

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China has been diligently working to establish a new international order that addresses its historical sense of *mianzi* (loss) from past humiliations and asserts its global prominence. This effort involves subtly influencing global dynamics without antagonising the international community. Having satisfied lower-level need of basic and psychological needs of Maslow's Hierarchy of Needs, China is now pursuing a higher-level need of self-esteem and self-actualisation for rejuvenating its global image and reclaiming its historical status. As the United States (US), a declining power, reevaluates its role, China, a rising power with substantial resources, is seizing every possible opportunity to shape an alternative global environment where it is seen as a friendly, peaceful, and dependable partner.

Since the early 21st Century, China has emerged as a formidable economic and military power. With the second-largest economy and military, China aims to enhance its global standing and reclaim a pivotal role in global governance through international organisations. After joining the UN in 1971, China has skilfully leveraged international organisations to shape norms, standards, and practices that support its long-term strategy to bolster its global image. On 10 Apr 2024, Victims of Communism's President Emeritus, Ambassador Andrew Bremberg, testified before the Foreign Affairs Subcommittee on global health, global human rights, and international organisation that "Over the last decade, the Chinese Communist Party (CCP) has grown increasingly assertive in its engagements at the UN. What was once described as a defensive 'Snapping Turtle' approach has been replaced with Xi Jinping's; 'Wolf Warrior' foreign policy'.¹ To amplify its preferred narratives and suppress dissenting views, China has been meticulously working to exploit multilateralism in global governance by transforming existing international organisation into 'China Fit Organisation'. A former UN employee and British citizen, Emma Reilly, has provided evidence of China reshaping the international order through the UN by silencing discussions on sensitive topics, manipulating reports to align with its priorities, and downplaying human rights and democracy issues.² China is increasingly playing an active role in international organisations, signalling its potential to lead and challenge existing institutions and norms. In October 2021, to mark the 50th anniversary of China assuming a permanent seat on the UN Security Council (UNSC), UN Secretary-General António Guterres delivered a speech lauding China as "An

increasingly important contributor to the work of the organisation and a major pillar of international cooperation".³

The CCP promotes the view that China is 'A builder of world peace, contributor to global development, defender of the international order, and provider of public goods'. To that end, China positions itself as a crucial 'Promoter' and 'Constructor' of international organisations, with the ambition of making China's viewpoints part of a 'Global Consensus'. China also pushes to insert its own global governance rhetoric of a 'Shared Future' into UN documentation. In doing so, China counters the traditional UN focus on development, human rights, peace and security as the means to promote just and stable societies, with its own state-centric approach that dismisses universal values and instead champions each state as unique.⁴ The United Kingdom's Parliament is currently investigating China's instrumentalisation of the UN and how China is attempting to bribe and influence the UN system to gain favours from the multilateral system.⁵ In recent past, China has phenomenally boosted her power by taking a bigger role in international institutions, advertising its increasing influence, creating pro-Chinese international organisations, and subverting global governance rules.⁶ This article examines China's strategic penetration of the UN to promote its global governance vision of a shared future and counter traditional UN priorities. It explores how China achieves this by positioning its citizens and proxies, providing funds, implementing developmental programs and initiatives, manipulating voting, and creating organisations aligned with Chinese interests, and various alternative strategies to undermine global governance regulations.

Chinese Role in International Institution

Before joining the UN in 1971, China was diplomatically isolated and faced limited international recognition. China struggled with legitimacy issues as the Republic of China (Taiwan) held China's UN seat until that time. Internationally, China's influence and engagement were restricted, severely impacting its ability to participate fully in global affairs and decision-making processes. Since becoming a UN member, China has transformed into a prominent global player. As the world's second-largest economy and a permanent member of the UNSC, China wields considerable influence and strategically shapes UN policies, norms, and operations to align with its national interests.

China, initially, was sceptical of the UN Peace Keeping Force (UNPKF), but subsequently began to engage cautiously and now has evolved into a major player in terms of manpower and funding. China is the second highest contributor to the UNPKF budget, donating approximately 15.0 per cent of the total budget after US (28.0 per cent) Unlike other permanent members of the UNSC, China is amongst the top 10 suppliers of uniformed UNPKF personnel (2,227) as of Feb 2023. Since 2018, China has maintained a 8,000-person standby force to carry out peacekeeping missions for the UN. In addition, Ambassador Huang Xia, was the first Chinese national to be appointed to a senior post of UN Peace Keeping Operations, as special envoy for hotspot regions in the African Great Lakes Region.⁷ The strength of the Chinese contingent is more than the combined forces of the other permanent members. Most of these Chinese soldiers serve in Africa, which facilitate China in aligning with her Africa strategy to bolster influence and foster a favourable perception.⁸

Leadership and Staffing

China has expanded its influence in international organisations through positioning Chinese citizens in governing positions or placing its proxies. It leverages these roles to advocate for resolutions and norms, aligning with its worldview, including non-interference in internal affairs, cyber sovereignty, and revised human rights definitions. UN agencies under Chinese leadership often promote domestic initiatives like the Belt and Road Initiative (BRI), Make in China 2025, and the global rise of Chinese companies.⁹ China also strategically places its nationals, including career professionals and diplomats, in lower positions within multilateral bodies. This 'A Team' approach selects highly capable, articulate individuals, often western-educated, to effectively advance China's interests in international institutions.¹⁰

China's membership in multilateral organisations of the UN has increased from 12.0 per cent in 1989 to 20.0 per cent by 1997. Over the last two decades, ever since it entered the World Trade Organisation in 2001, China has set out to influence the global multilateral system. In 2020, China was the only state to lead four of the fifteen UN specialised agencies. The Chinese presence as a leader in these organisations ensures that national champions like Huawei and its standards become embedded and implemented by UN agencies, such as the International

Telecommunications Union (ITU). This includes endorsements of the BRI through the UN Industrial Development Organisation and the exclusion of Taiwan from all discussions on air navigation and safety standards during the pandemic, as seen in the International Civil Aviation Organisation (ICAO). During the same period, the Chinese deputies were present in nine agencies.¹¹ Department of Economic and Social Affairs (DESA) is the UN's think tank and conference coordinator which now reinforces China's leadership in global development and its grasp on economic, environmental, and social issues.¹² Since 2007, Chinese career diplomats have permanently held the position of Under-Secretary-General of the UN DESA, allowing China to influence and reshape the UN's development programs to align with its interests.¹³

China has extensively used its economic clout to place its representative in steering committees of international bodies. In Jun 2019, for instance, Mr Qu Dongyu easily defeated the US-backed candidate to become the Director General (DG) of the Food and Agriculture Organisation (FAO).¹⁴ Under the Chinese financial/trade threat, Cameroon withdrew its candidate in 2020¹⁵, while Uganda¹⁶, Argentina, Brazil, and Uruguay supported the Chinese candidate.¹⁷ German broadcasters also reveal Qu Dongyu has been tailoring the FAO to Chinese interests as its head.¹⁸ In Aug 2020, the Chinese candidate was selected with an astounding number of votes in the International Tribunal for the Law of the Sea, for adjudicating disputes related to the UN's Convention on the Law of the Sea, despite South China Sea maritime dispute.¹⁹ The CCP demands that Chinese nationals in UN leadership roles prioritise party interests over UN obligations. Wu Hongbo, former head of DESA, admitted to favouring China.²⁰ During Zhao Houlin's tenure as ITU Secretary-General (2015 to 2022), Beijing reduced Taiwan's international presence, changing references to 'Taiwan, China'. In 2021, China attempted to revise the UN Code for Transport Locations to undermine Taiwan's role in global supply chains. In 2020, ICAO, under Chinese leadership, blocked social media users inquiring about Taiwan's exclusion.²¹ Chinese Interpol Director, Meng Hongwei, was actively involved in Operation Foxhunt and managing Chinese operations before his arrest as Interpol Chief in China due to differences with President Xi.²² China has also used the Interpol 'Red Notice' system to force the return of fugitives from the US.²³ The Chinese diplomats were also accused of fishing for names of individuals who sought

accreditation from the Office of the High Commissioner for Human Rights to speak against China's human rights abuses.²⁴

The restriction of Taiwan's participation in the UN, the threat to bar non-governmental organisations in the UN that do not label Taiwan as a province of China, the blocking of Taiwanese passport holders from entering UN headquarters²⁵, the shelving of recommendations to investigate a cyber security hack in Nov 2016 by a Chinese government-linked group²⁶, the temporary removal of critical submissions from Hong Kong, Tibetan, and Uyghur groups compiled by the UN in 2018, and the continued usage of 'Xizang' to systematically remove Tibet's name from the UN system are some of the major instances highlighting Chinese tampering with the UN system, either through leadership or other positions. China uses Government Organised Non-Governmental Organisations (GONGOs) in Geneva to influence its human rights reviews by filling meeting halls with officials or sympathisers to suppress criticism. Out of 47 Chinese NGOs authorised for UN Human Rights Council participation (UNHRC), at least 34 are GONGOs connected to CCP bodies.²⁷

Suspension of 'Ease of Doing Business' Rating by the World Bank²⁸ and the role of the current DG of the World Health Organisation, Tedros A, during the COVID-19 pandemic prominently displayed China's growing influence through proxies holding leadership positions in the UN.²⁹ China also employs strategies to flood UNHRC proceedings with favourable comments, aiming to dilute meaningful recommendations. Since the UNHRC's inception in 2006, China has used tactics to gather supportive remarks by pressuring nations to speak favourably during the Universal Periodic Reviews (UPR).³⁰ The UPR was designed to ensure all nations face regular human rights scrutiny before the international community. Despite its goal of rigorous scrutiny, China has attempted to undermine the UPR's effectiveness by actively working to whitewash its human rights violations. Human Rights Watch reports that Beijing leverages its influence within the UN to obstruct human rights NGOs, reduce human rights positions, and use DESA's office to eject or bar experts who are critical of China from UN premises.³¹

Funding

China has increased its influence in international bodies through strategic funding, especially where direct penetration is challenging. The UN's growing dependence on China's contributions has elevated China's position within the system. By funding key projects, China advances its domestic agendas. High-profile voluntary funding, which offers more influence than assessed contributions, includes China's sole funding of the UN Global Geospatial Knowledge and Innovation Centre and President Xi's USD 1.0 bn pledge to establish the UN Peace and Development Trust Fund.³² In the early 2000s, China's share of the UN regular budget was around 2.0 per cent. Subsequently, the share surged to 15.25 per cent in 2022 and continues to rise.³³ Since 2019, China has been the UN's second-largest funder. From 2010 to 2019, China's mandatory and voluntary donations to the UN rose by 1096.0 per cent and 346.0 per cent, respectively. China exploits the UN's poor funding disclosure, which omits conditions attached to donations. Reilly's evidence suggests that China secretly requires funds not to be spent in states with ties to Taiwan, and that Chinese representatives in the UN allegedly promote BRI projects.³⁴ In May 2017, ICAO DG Fang Liu signed a USD 4.0 million agreement with China to boost aviation safety and sustainability, aligning with China's BRI goals of enhancing interconnectivity and infrastructure.³⁵ Under the UN promotion, China has also signed a memorandum of understanding with International Labour Organisation, Universal Postal Union, United Nations Development Programme, and UN-Habitat to endorse her foreign policy objectives through voluntary funding.³⁶

Programs and Initiatives

Beijing is creating China-centred institutions to shape the global narrative. Since launching the BRI in 2013, China has used multilateral forums to promote it and align it with the UN Sustainable Development Goals (SDGs). The Chinese-led UN DESA has endorsed BRI through studies and high-profile events, and framed the Global Development Initiative's Group of Friends as a platform for discussing SDG implementation.³⁷ At least 35 of the 47 UNHRC member states are part of the BRI, with many supporting China or abstaining from anti-China forums. In 2020, DESA head Liu Zhenmin endorsed the BRI's alignment with SDGs. DESA also

supported the China-funded program 'Jointly Building BRI towards SDGs', and the UN Secretary-General affirmed the UN's readiness to collaborate with Beijing on SDGs at the 2017 Belt and Road Forum.³⁸ To gain prominence and lead, China has initiated and co-produced initiatives with emerging markets like the Shanghai Cooperation Organisation (SCO) and the grouping of Brazil, Russia, India, China, and South Africa, and established China-led forums like Forum on China-Africa Cooperation and China-Community of Latin American and Caribbean States. Beyond these institutions, Beijing fosters informal networks through 'Circle of Friends', party-to-party relations, and negative messaging about the West. This strategy positions China as a peace broker and a future development model for the Global South.³⁹ In the 2010s, the SCO became a platform for China to challenge existing global norms, advocating for closed, government-controlled internets instead of a unified, open global internet.⁴⁰

Voting and Manipulation

The voting trend in the UN on sensitive Chinese issues validates growing Chinese influence in international bodies including the UN. In Oct 2019, US Secretary of State Michael Pompeo has warned that the CCP participates in international organisations to validate its authoritarian system and spread its reach. The growing pro-China views on various UN platforms regarding sensitive Chinese issues are a testament to the increasing influence of China in the world. In Jul 2020, China's restriction of political freedoms in Hong Kong led to two opposing UNHRC declarations: one praising Beijing, supported by 53 nations, and another expressing concern, backed by only 27 countries.⁴¹ On 10 Oct 2023, China was elected as a member of UNHRC for the sixth term since 2006, making it one of the most frequently elected members, despite its poor human rights record and allegations of monitoring dissidents.⁴² In 2022, China sought to prohibit the UN High Commissioner for Human Rights from releasing a report in Aug 2022 documenting its abuses in Xinjiang.⁴³ Despite extensive evidence of atrocities against millions of Uighurs in Xinjiang camps, many countries, including all Islamic nations, have yielded to Chinese pressure.⁴⁴ Interestingly, Islamic nations support for China extends beyond just commending China's human rights record and obstructing resolutions critical of China; it also involves apprehending and repatriating Uighur refugees back to China.

There are even reports of the presence of secret Chinese jails in Dubai to arrest and deport Uighurs.⁴⁵

Miscellaneous

Christopher Krebs, former United States Director of the Cybersecurity and Infrastructure Security Agency, while comparing Chinese and Russian digital threat said “When we think about Russia, they’re trying to disrupt the system, and China is trying to manipulate the system”.⁴⁶ Beijing reportedly spends billions annually to shape global opinion through media manipulation. China co-opts influential individuals with financial incentives and positions while repressing negative reporting through legal threats, visa denials, and other measures. In democratic countries, China files defamation suits, threatens legal action, and uses international institutions to label critics as ‘Economic Fugitives’ for repatriation.⁴⁷

The integration of the Digital Silk Road and Space Information Corridor with the BRI allows China to leverage big data and advanced artificial intelligence technologies for global communication monitoring and manipulation. Xi proposed the concept of *wǎngluò xìnxī xìtǒng* (internet information system) as vital for modern battles. Chinese state media highlights the Information Support Force, a successor to the Strategic Support Force, as a key component of China’s modern military.⁴⁸ China employs propaganda, misinformation, censorship, digital authoritarianism, and manipulation of international organisations to advance pro-China narratives and suppress criticism.⁴⁹ China engages in overt or covert digital data collection and management, shaping data processing and generating new narratives. With vast databases and digitalisation tools, China not only manipulates historical records, but also directs global audiences towards its curated data.⁵⁰ China has extensively employed popular social media platforms for global dissemination and manipulative tactics like bots and trolls to amplify pro-Chinese content and suppress anti-Chinese voices. China has also complicated online navigation by flooding search engine results and hashtag searches.⁵¹ In 2019, ICAO head Fang Liu has even obstructed investigations into the 2016 Chinese cyber-attack to cover up the incident.⁵²

China employs cartographic manipulation through its ‘Three Warfare Strategy’ to increase influence in international forums, using psychological tactics, media influence, and legal justifications

to assert their territorial ambitions.⁵³ China has also coerced Multinational Corporations to align with its geopolitical goals of depicting disputed areas as part of China and have made specimens of companies not aligning with their preferred narratives.⁵⁴ With the largest market, China's influence extends to sports⁵⁵ and Hollywood⁵⁶, where stakeholders conform to unwritten Chinese dictates and avoid actions that may upset China. China has enacted numerous laws and regulations to bolster the legal framework for information campaigns and media strategies both domestically and internationally. Recent laws include the Data Security Law (2021), Personal Information Protection Law (2021), and Cyber Security Law (2017). China's new laws extend extraterritorial reach and pose distinct hurdles to freedom of expression globally.

Xi Jinping has called for more shared control of global governance. He has declared that China needs to 'Lead the reform of the global governance system with the concepts of fairness and justice' for a multipolar world. China's multi-pronged strategy to align with global governance rules ranges from supporting international institutions that align with its goals and norms (such as the World Bank and the Paris Agreement on climate change) to countering those organisations that undermine its values by reorganising existing ones or creating alternatives (such as human rights). In areas where norms and institutions are still being established (such as internet governance), China works with other powers such as Russia to create international standards that reflect their interests. China employs both offensive and defensive measures to counter organisations that undermine its values. China's evolving global governance strategy is most apparent in four major issues: global health, internet governance, climate change, and development finance.⁵⁷

China is shifting health governance in a revisionist direction, potentially undermining global public health cooperation. Unlike traditional donors, Beijing acts unilaterally and opaquely, expecting recipients to seek support without formal proposals. Its aid focuses on infrastructure like hospitals, but lacks transparency efforts in recipient countries.⁵⁸ China aims to lead global internet governance, promoting 'Cyber Sovereignty' for state-controlled internets. With the world's largest internet user base, Chinese companies excel in 5G patents and standards.⁵⁹ Beijing leverages its UN influence

and other forums to advocate closed internet policies. China is active in organisations setting procedures and standards for new technologies, such as International Organisation for Standardisation, International Electrotechnical Commission, ITU, and 3rd Generation Partnership Project, using its scientific and technical potential to influence international rule-making.⁶⁰ Chinese representatives in agencies like ITU have ensured that Chinese companies like Huawei embed their standards globally, exemplified by the acceptance of blockchain standards for finance proposed by Chinese institutions.⁶¹ In the past decade, China has shifted to supporting international climate change efforts, reduced fossil fuel use, and become the largest investor in renewable energy. It leads globally by collaborating with international institutions.⁶² China employs unilateral and multilateral strategies in development finance, establishing two institutions: the BRI, operating under its own standards, and the Asian Infrastructure Investment Bank, adhering to international aid standards.⁶³

Conclusion

Beijing now sees the UN as a strategic tool for reshaping global governance. China's increasing influence in the UN, represents a significant shift in global governance and has substantial implications for the adherence to a rules-based order. With increased involvement in administrative and procedural matters within the UN, China has emerged as a highly effective player wherein it has successfully advanced its agenda and deflected objectionable proposals from others. Chinese effectiveness and assertiveness in UN forums can be observed in its ability to shape policies, utilise organisations to project power, and promote its national interests. Tangibly, China has exploited the UN structure for elevating its status by strategically placing its nationals/proxies in key UN positions, providing substantial funding, initiating developmental programs/initiatives, and transforming organisations aligned with its interests. These efforts have allowed China to shape agendas, advocate for policies in its favour, and build a coalition of supportive nations to enhance its decision-making influence and position it as a counterbalance to Western dominance. Intangibly, China's presence in the UN agencies invariably has reshaped institutional cultures to project Chinese power and promote its national interests. This growing Chinese influence in the UN/international bodies has diluted norms on

human rights and individual freedom, fight against global pandemic and various other issues for protecting Chinese interests. Transparency and accountability are other issues that have also emerged in Chinese-funded UN projects and BRI.

The impact of China's growing influence on the global polity is profound. By advancing its own agenda while deflecting objectionable proposals from others, China is redefining the dynamics of global governance. This paradigm shift challenges the traditional rules-based order that has been predominantly shaped by the Western powers. As China continues to expand its role in international bodies, its impact on global decision-making processes is likely to increase, further reinforcing its position in global governance. The future of China's influence in these international bodies will depend on the broader geopolitical landscape, responses from other major powers, and the evolving priorities of the UN and other organisations. Constructive dialogue and collaboration will be crucial to ensure these bodies remain platforms for addressing global challenges inclusively and equitably. China's growing role reflects its broader ambitions, necessitating careful management to preserve the integrity and effectiveness of international institutions and maintain a balanced and fair global polity.

Endnotes

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Increasing Indian Air Force's Footprint in Indian Ocean Region

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Abstract

The Indian Ocean Region (IOR) is a significant maritime zone. It is bordered by the coastal countries of three major continents: Asia, Africa, and Australia. The region holds strategic, economic, and geopolitical importance due to its vast expanse, rich natural resources, crucial trade routes and the presence of populous and economically active nations. It is bounded by over 35 countries. The IOR is a vital maritime trade route, encompassing world's busiest and most important sea lanes. The Indian Ocean contains significant oil and gas reserves. Major powers, including India, China, the United States, and various European nations, have interests in the region due to its strategic location and resources leading to increased naval activities, defence partnerships, and geopolitical competition. The Indian Ocean is also prone to natural disasters such as tsunamis and cyclones. Coordination and preparedness for disaster management are crucial in the region.

"Whoever controls the Indian Ocean will dominate Asia. This ocean will be the key to the seven seas in the 21st Century. The destiny of the world will be decided on its waters".

- Alfred Thayer Mahan, 1897

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Introduction

The primary role of the Indian Armed Forces is to preserve the national interests and safeguard territorial integrity against external threats by deterrence or by waging war. In modern times, the shaping of the battlefield will be determined by the offensive and defensive operations undertaken by the air force. Additionally, the wars are expected to be short in duration, with airpower having the capability to decisively affect the outcome.

The Indian Air Force (IAF) possesses extensive and rapid reach both on land and in the maritime domain and it has the ability to deliver accurate firepower using modern platforms. The IAF has further increased both its potential and potency through the induction of force multipliers such as Airborne Warning and Control System (AWACS) and Flight Refuelling Aircraft (FRA). Despite the IAF being the fourth-largest air force in the world that safeguards our skies against enemy threats, there is substantial lack of IAF assets in Indian Ocean Region (IOR).¹

The existing geostrategic scenario provides an opportunity to leverage island nations in the region and evolve a proactive strategy to counter challenges in the region by enhancing the IAF's footprint in IOR. With the recent commissioning of new platforms by the Indian Navy (IN) in terms of destroyers, frigates and aircraft carriers, there exists an opportunity to increase force participation and the complexity of joint exercises with the IN in collaboration with the Indian Army.

To showcase enhancement in the footprint of the IAF in the IOR, India has been regularly and steadily increasing its engagement with the Friendly Foreign Countries (FFC) with the conduct of exercises involving IOR nations. Given the current IAF assets there exists a scope for increasing engagements in the future to enhance the IAF presence in the region and also serve as a tool to counter growing Chinese influence, thereby, safeguarding India's strategic and national interests.

India's Strategic Interest in IOR

The various choke points and international shipping lanes that pass through IOR where IAF could exert influence are depicted on the map. Both the Six Degree and Nine Degree Channels lie largely within Indian waters, and provide India with a unique geographic advantage in monitoring the majority of shipping traffic transiting the Indian Ocean.



Figure 1: Entry/Exit Choke Points and ISLs of the IOR ²

Six Degree. There are 572 islands in the Andaman and Nicobar Island territory. These islands are located in the Bay of Bengal and the 10° North Parallel splits them into two groups: Andaman and Nicobar. The Six Degree Channel, also known as the Great Channel, lies south of Indira Point on Great Nicobar Island (India's southernmost territory) and north of Aceh in Indonesia. The Great Channel is wide, easy to navigate, and used by ships entering or leaving the Strait of Malacca.

Nine Degree. Lakshadweep is an archipelago of 36 islands in the Arabian Sea, off India's western coast. The islands are separated by the 11° North Parallel: North group—Amindivi Islands; Southern group—Laccadive/Cannanore; and Minicoy Islands in southernmost part at the Nine Degree Channel. The Nine Degree Channel is the channel between Lakshadweep Islands of Kalpeni and Suheli Par,

and Maliku Atoll. It forms the most direct route for ships sailing from the Persian Gulf to East Asia.

Growing Strategic Interest of Other Nations in IOR

United States (US). The US is one of the major player in this region. Its primary concern in this area is the growing influence of China. The US has established a Naval Support Facility Diego Garcia (a British Ministry of Defence facility leased to the US Navy). Camp Lemonnier, another United States Naval Expeditionary Base situated next to Djibouti–Ambouli International Airport in Djibouti City, and serves as home to the Combined Joint Task Force–Horn of Africa of the US Africa Command. It is the only permanent US military base in Africa. In addition, The US drone base in Seychelles is a military base operated by the United States and located at the Seychelles International Airport on Mahé island, Seychelles. The aerial fleet is composed up of General Atomics MQ-9 Reaper drones. The drones have been hosted in Seychelles since 2009.

People’s Republic of China (PRC). China’s increasing geo-strategic influence in the IOR is a major concern for India. PRC is conducting military and diplomatic activities to spread their foothold in this region. China’s increased regional presence with its ‘String of Pearls’ strategy, stretching from Djibouti (Africa), Gwadar (Pakistan), Hambantota (Sri Lanka), Chittagong (Bangladesh), Sittwe (Myanmar), and potential future developments in Kyaukphyu Myanmar), Koh Kong (Cambodia) and the Maldives is of India’s significant concern. The People’s Liberation Army Air Force (PLAAF) has been active in the South and East China Sea and frequently asserts its presence in the area.³

The strategic dynamics in the IOR are shaped by various nations, each with distinct interests and security concerns that influence their actions and interactions in this vital maritime zone. These are:



Figure 2: China's String of Pearls

- **East Asia.** China's campaign to wear down Taiwan expanded substantially, with nearly 1,200 intrusions by the PLAAF into Taiwan's airspace till Dec 2022. There is a regular intrusion into the airspaces of Taiwan and Japan (over the Island of Okinawa) by PLAAF, while China has deployed its most advanced fighter aircraft. During the visit of US House of Representatives Speaker, China resorted to blockade of the island nation for over a week. Russia's Exercise Vostok 2022, Joint bomber patrols with China and the joint Russia-China Sea Cooperation exercise in Dec 2022 was a matter of regional security concern for nations in the East China Sea, especially Japan.
- **Southeast Asia.** China retains control of the South China Sea in all circumstances short of war with the US. It enforces domestic laws in the international waterways. Reports emerged by year end of 2022 regarding new construction work by China at Eldad Reef, Whitsun Reef, Lankiam Cay and Sandy Islands in the Spratly Islands. Also, there are disputes over the Parcel islands. Regular long-range bomber missions and fighter jet

intrusions are regular missions undertaken by PLAAF in the region.

- **Pakistan.** The major concern for Pakistan is to prevent India from dominating the IOR close to its territory in Pakistan. Pakistan is an active partner with various countries for reasons such as Anti-Piracy, Anti-Terrorism, etc. Pakistan is also trying to widen its area of interest close to India.
- **Japan.** A significant portion of Japanese trade passes through the IOR. If the Sea Lines of Communication were to be interdicted it will be a cause of concern for the Japanese and hence, they are trying to increase their influence in the IOR. Towards this, they are participating in various exercises with India and trying to engage in strategic partnerships like Quadrilateral Security Dialogue.
- **Israel.** The country possesses good surveillance capabilities in Bab-e-Mandeb region and can monitor almost all vessels crossing that region into the IOR.
- **United Kingdom (UK).** The country maintains a presence in the IOR, primarily through its overseas territories, strategic interests and partnerships. The UK, administers the British Indian Ocean Territory which includes the strategically important island of Diego Garcia.
- **France.** France maintains a notable presence and interest in IOR due to its overseas territories such as Réunion Island and the Scattered islands of the French Southern and Antarctic Lands.

India's Present Influence in the IOR

The Indian Armed Forces form an important component in projecting India's foreign policy on the world stage. Well before the emergence of Indo-Pacific concept, India was already strengthening security and freedom of navigation in the IOR and fulfilling its responsibilities of a regional security provider by participating either in peacekeeping efforts, Humanitarian Assistance and Disaster Relief (HADR) requirements or anti-piracy operations in the Gulf of Aden. By sharing equipment, training, and exercises, India has built relationships with partner countries across the region. In the past few years, India has provided coastal

surveillance radar systems to several nations including Mauritius, Seychelles, Sri Lanka, the Maldives, Myanmar and Bangladesh. All these countries also use Indian patrol boats, as do Mozambique and Tanzania. The frequency and number of defence training programmes have also increased. Mobile training teams have been deputed to 11 countries, ranging from Vietnam to South Africa, as well as Sri Lanka, Bangladesh, and Myanmar.

India has been actively engaging both regional as well as extra-regional countries in international defence exercises on bilateral and multilateral platforms. Exercises Desert Knight, Bright Star, Milan, and Pitch Black are few examples of strategic engagements. This indicates a global appreciation of Indian Armed Forces and for enthusiasm of engaging them for mutual understanding of operations. All the three services, either individually or collectively are strengthening India's role as a peaceful and responsible nation. Along with various types of defence cooperation, international exercises with the armed forces of like-minded countries have enhanced India's military diplomacy on a global platform.

The threats to regional security in the IOR range from piracy, terrorism, proliferation of weapons of mass destruction, small arms and drug trafficking, and threats of sea denial in the region. China's intensified activities in the region, including infrastructure development and an active weapons supply program to Pakistan, are additional issues to consider.⁴ India's energy security and trade interests are undoubtedly under threat with any instability in the IOR region, and must be addressed on priority. The security challenges for India have increased with the recent developments by China in the region, string of pearls policy, as well as the debt trap policy leading to indirect militarisation of the region by China. Given the present maritime and security challenges, India should enhance its military presence in the region with its navy and air force.

The Indian Navy (IN) is responsible for India's security interests in the IOR. However, with the increasing threats, and China's growing interference in the region, efforts are required to tackle the threats jointly by all the instruments of the nation. Integrated operations between the IN and Indian Air Force are now essential to increase the reach and tempo of operations.

Present IAF Engagements with FFCs in IOR

The IAF plays a significant role in IOR focusing on training security surveillance and response capabilities. It conducts regular joint exercises with other regional and international nations to maintain a strong presence and train to ensure the security of the region's airspace and maritime interests.⁵

India's defence cooperation efforts across various nations in the Indian Ocean Region and beyond reflect its commitment to enhancing bilateral relationships, capacity building, and strategic partnerships through training, joint exercises, and development projects. These are enumerated below:

- **Mauritius.** India has been offering helicopter training, courses under the Indian Technical and Economic Cooperation-II (ITEC-II) scheme and the HAL has secured deals for the ALH Mk-II aircraft. India has recently helped Mauritius in development of the Agelega Islands. The project included construction of a jetty, rebuilding and extension of the runway and building an airport terminal.
- **Egypt.** Both countries continue to provide transit facilities to aircraft/ships for each other. Exercise Bright Star is a major air exercise between the air forces of both countries. Egypt Air Force has also expressed keen interest in the Production Test Pilot courses conducted by the IAF.
- **Kenya.** At present the defence cooperation activities with the Kenya Defence Forces (KDF) are limited to providing various training courses to KDF.
- **Madagascar.** At present there are no defence cooperation activities with the Malagasy Air Force. However, there exists a possibility of increasing defence cooperation in training and capacity building to enhance India's strategic footprint in Madagascar.
- **Mozambique.** The country has no major defence engagements with India, except for gifting of few flying clothing items in year 2021.
- **Saudi Arabia.** At present the defence cooperation activities/exchanges with the Saudi Air Force is limited to Over Flight Clearance and exchange visits.

- **South Africa.** Presently, the IAF's engagement is in terms of presence of Mobile Training Team and exchange programs.
- **Sudan.** The defence cooperation is limited to Sudan availing few training courses in India with IAF and presence of training team.
- **Tanzania.** At present the defence cooperation activities with Tanzania are limited to providing various training courses to TPDF.
- **United Arab Emirates (UAE).** India and the UAE have shared close bonds of friendship since long. Commencement of Air Staff Talks, the conduct of bilateral Air Force exercises and providing training vacancies to UAE, AF will prove to be an impetus for the presence of IAF in the region.
- **Malaysia.** IAF has been a key factor in training its pilots at Gong Kedah airfield for the ab-initio training of its Su-30 MKK aircraft in 2009. The Light Combat Aircraft was also on the shortlist offer for the Royal Malaysian Air Force (RMAF). India has been actively engaging RMAF in bilateral exercise during its ferry for Exercise Pitch Black. Recently, HAL has setup a repair and maintenance facility for sustenance and meeting the maintenance requirements of RMAF's SU-30 aircraft. In the future, there is also a proposal for mutual exchange of fifteen young officers to each other's operational bases.
- **Thailand.** IAF regularly engages the Royal Thailand Air Force (RTAF) in young officer's exchange program. RTAF has been invited as observers in exercises conducted by IAF.
- **Maldives.** India has facilitated Maldives National Defence Force (MNDF) in setting up their Coast Guard Aviation Wing with two Advanced Light Helicopters and a Dornier aircraft to assist MNDF in search and rescue, medical evacuation of critical patients and surveillance. So far, over 300 lives have been saved by these aircraft and have helped India earn a lot of goodwill from the local populace.

- **Australia.** The IAF is part of Exercise Pitch Black which is hosted by the Royal Australian Air Force. Approximately 17 air forces and 2,000 military personnel from across the globe as part of the contingent.

Enhancing IAF's Presence in IOR

Most IAF fighters can now be refuelled in the air. The two fleets with longer ranges are the Su-30 MKI and Rafale. SU-30 fleet has the advantage of numbers and the squadrons are positioned in different parts of India. These two types also carry a larger weapon load for both ground strike and Air Defence (AD) roles. They are thus better suited for long range missions. These and the Jaguars could also operate from Andaman and Nicobar Islands to extent reach of the IOR. IAF has significant transport fleet with global reach. These include the C-17 aircraft (77.5 tonne load capacity) which has nearly 4,500 km range. The C-17 and C-130 have good short field and rough air strip performance. The FRA and AWACS will play a very important role in global combat reach.

The Sukhoi-30 and Rafale have recently carried out long-range missions⁶ lasting over extended hours, delivering pinpoint precision strikes, on targets in the IOR. They were supported by IAF's IL-78 FRA for in-flight refuelling, and the IL-76 based AWACS aircraft for aerial radar cover and command and control.

The IAF has one active base in almost centre of the Eastern IOR. Andaman and Nicobar Islands acts as a massive natural fortress for India in the region. These islands can provide many military options to keep the busiest sea lanes under surveillance and enhance air power projection from Bay of Bengal to Pacific Ocean. It allows India to keep a vigilant eye on the strategically important Malacca Strait, through which 80.0 per cent of China's crude and oil imports from the Middle East and Africa pass, along with fuel imports for Japan and South Korea. These islands are also first line of defence in case of a maritime threat and sub-conventional attack. To further our assertiveness and presence in the region, IAF needs to strengthen the Air Defence and the positioning of its offensive elements along with associated infrastructure.

Headquarters Andaman and Nicobar Command (ANC). The ANC is the only tri-service command of the Indian Armed Forces based at Port Blair in the Andaman and Nicobar Islands. It was created in 2001 to safeguard India's strategic interests in Southeast Asia and the strait of Malacca by increasing the rapid deployment of military assets in the islands. It is responsible for conducting biannual coordinated patrols (CORPATS) with the navies of Thailand and Indonesia, the annual SIMBEX maritime exercise with Singapore and the biennial Exercise Milan with Indonesia, Singapore, Sri Lanka, and Thailand.

Offensive Element. A permanent plan to locate a squadron of Sukhoi-30s or a suitable platform, as decided by the IAF will go a long way in increasing our presence in the eastern IOR. The unit located on the island can serve as a centre of excellence in the conduct of maritime operations and acts as a bridge in ironing out the interoperability issues with the IN. The unit could also serve as a nodal agency in passing expertise to other flying squadrons, which can undertake detachments with the local unit in the Andaman and Nicobar Islands. The unit could also provide guidance on tactics, training and associated technological harmony. The BrahMos Missile system offers a potential for interoperability, wherein the IAF can be called upon for positioning of BrahMos, either air/land-based system for increasing deterrence in the IOR.

Recommendations

For effectively utilising the available resources of the IAF there has to be balance in commitment to meet our operational preparedness and resources allocation for increasing our presence in the IOR. Certain suggestions/recommendations are put across to achieve the desired outcome:

Short Term.

- A permanent plan to locate a squadron of Sukhoi-30 will inherently provide AD to the islands, and regular exercises with IN will showcase our presence in the region. This should also include training exercises with foreign navies so as to validate the feasibility, time etc., of missions that will be carried out from ANC in case of actual contingency. This will also bring out the limitations and constraints, that the crew will face during operations. All types of assets planned to be

used should be utilised in these exercises to keep the crew and maintainers current on such operations.

- With the induction and operationalisation of Carrier Battle Group (CBG) by the IN, exercises with IAF need to be undertaken to draw valuable tactical lessons for understanding and formulate the principle of deployment of CBG and air force assets.⁷

- IAF may look into the deployment of Maritime Patrol Radars with long ranges to increase the radar cover and early warning capabilities and integration with other sensors presently available in ANC. The offensive presence of IAF in ANC can further be enhanced by permanent deployment of long range surface to air missiles in the northern and southern most parts of the islands.

- Conduct of joint IAF and IN military exercise with AF and Navy of FFC's which will include operations from Island territories in order to enhance the IAF footprints. There can be an increase in the frequency of range/intent demonstration missions in IOR coupled with AAR and AWACS.

Medium Term.

- The airfields at the Andaman and Nicobar Islands, as well as the Lakshadweep Islands should be developed in terms of runways, taxi tracks, dispersals, ammunition and fuel dumps etc, so as to make them fit for regular operations by fighters, as well as AWACS/AAR types of large aircraft.

- A common network including data-linking should be developed for most of the assets, like fighters, ships, maritime patrol aircraft, radars and AWACS which will help to enhance Maritime Domain Awareness (MDA) air picture for effective targeting/deterrence.⁸

- The frequency of exercise with countries like Malaysia, Vietnam, Japan, Indonesia, and the Philippines may be enhanced. This will help the IAF to understand the nuances of operations in a contested maritime domain. Although bilateral exercises with Friendly Foreign Countries (FFCs) are beneficial, the conduct of multinational exercises by the IAF in the ANC, in line with Tarang Shakti, should be considered.

- The IAF doctrine should be revised to include the roles and tasks of IAF assets in a diplomatic capacity, along with the desired effects and objectives aligned with the Naval Doctrine.
- Other non-IOR nations, such as the US, UK, and other North Atlantic Treaty Organisation countries, have expressed keen interest in deploying their naval ships in the IOR. The recent proposals by France, UK and Germany to deploy their Littoral Response Group/Frigates/warships in the IOR could be leveraged to build engagement with IAF assets in Anti-Submarine/MDA/ISR/other support roles to gain experience. The immediate neighbouring IOR nations may be engaged in joint HADR exercise to enhance interoperability of air assets.

Long Term. A plan should be developed to either use the airfields of Diego Garcia, the Maldives, Mauritius, Oman and other nations in IOR which have military operations being carried out by Western-friendly nations, or new airfields may be acquired by India in friendly countries for military deployments in IOR. This would be one of the most important steps, as it will increase the reach of air force in the IOR, in minimal time. The aircraft can be deployed anywhere using Air-to-Air Refuelling, and then can continue operations from there within their range. A case for sharing of air picture by FFC's in the IOR should be pursued as a long term plan for inclusion with IAF to enhance its surveillance capabilities. Additionally, formulate and leverage mutual logistics agreements will further enhance enhancing Indian presence in the IOR.

Conclusion

The IAF stands at a pivotal juncture, with its potential to significantly influence security dynamics in the IOR. As a crucial element of India's national defence strategy, the IAF must adapt to the evolving geopolitical landscape characterised by rising tensions and strategic rivalries, particularly from China's increasing presence. By enhancing its operational capabilities and expanding its footprint through collaborative engagements with friendly foreign countries, the IAF can effectively safeguard India's national interests and maintain regional stability. The strategic advantages presented by the geographical positioning of the Andaman and Nicobar Islands, combined with advancements in airpower and the integration of modern military technologies, will empower the IAF to project its

influence across the IOR. Furthermore, the recommendations outlined for short, medium, and long-term actions provide a comprehensive roadmap to strengthen IAF's presence, promote interoperability with allied forces, and counter external threats. Ultimately, through sustained engagement and strategic foresight, the IAF can reinforce its role as a regional security provider and contribute to a stable and secure maritime environment in the Indian Ocean.

Endnotes

¹ CAPS Article – “Indian Air Dominance to Achieve Maritime Security in the IOR” – by Pooja Bhatt.

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⁴ India's Defence Diplomacy in 21st Century: Problems and Prospects, Book published by ARIDSS, Meerut.

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⁷ Research Paper by Maj Roy Walker and Capt Larry Redolfi, “Airpower's Role in Maritime Operations”.

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Tactical Transport Operations Along Northern Border

Air Commodore Kunal Kala[®]
Wing Commander Rathiesh NM[#]
Squadron Leader Dasari Abhishek[^]
Squadron Leader Prashant Kumar P Gitte[&]

Abstract

Application of airpower in mountainous regions presents both opportunities and challenges in elevated terrain providing a natural advantage for surveillance, radar installations, and communication lines while posing significant disadvantages in terms of airpower employment such as low aircraft performance, inhospitable terrain, extreme weather, and limited infrastructure. India shares lengthy borders with China and Pakistan and the epicentre of its constrained international relations with these countries lies along these shared borders. To deter any hostile engagement from either neighbour, the sustained presence of troops along the borders is imperative. Transport operations in the mountains along the northern border significantly improve the deterrent capability of armed forces by applying the requisite airpower. This article highlights the importance of tactical transport operations along the northern borders.

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[&]**Squadron Leader Prashant Kumar P Gitte** was commissioned in the flying branch of IAF as flying pilot in Dec 2015. He has flying experience of 2500 hrs on various transport aircraft.

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Introduction

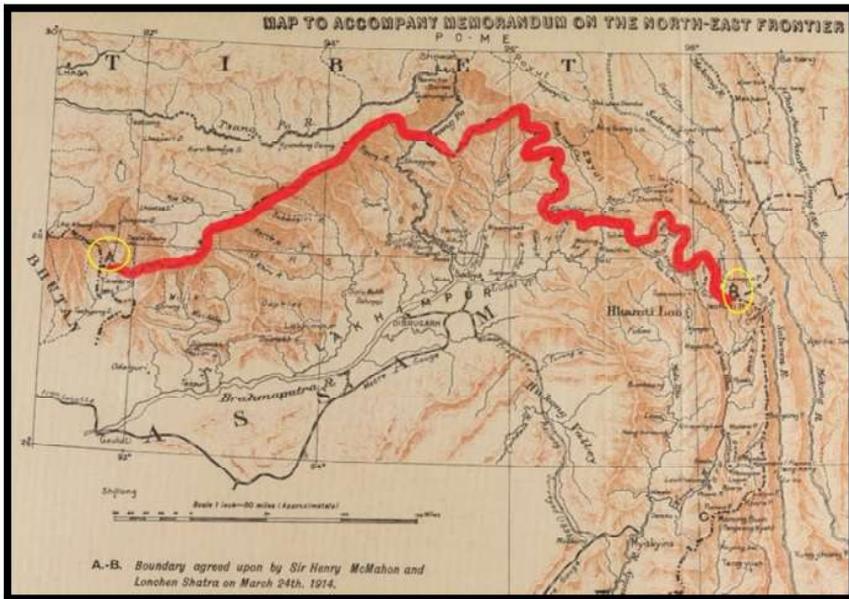
The India-China border dispute dates back to the pre-independence era when China refused to agree to the draft convention drawn up by the British during the Shimla Conference held between Oct 1913 and Jul 1914.¹ Nonetheless, the 'McMahon Line' was established on 24 Mar 1914², and despite being involved in a legal process for nine long months, China outrightly rejected the McMahon Line and its application to the India-China border ostensibly on the grounds of 'Imperialist Legacy', but actually foreshadowing its revisionist approach. Since then, the two countries have had numerous disagreements, skirmishes, stand-offs, conflicts and even a war in 1962. The India-China border spans Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh (approximately 3,488 km³) with Nepal and Bhutan as buffer states as depicted in Map 3. Routes of Incursion by Peoples' Liberation Army (PLA) in 1962 depicted in Map 4, skirmishes along the Line of Actual Control (LAC) at Cho La, Chumbi Valley depicted in Map 5 and the Galwan Valley clash⁴ in Jan 2020, depicted in Map 6, bring out the historicity of terrain centric sensitivities of both countries. In Jun 2017, both militaries had a stand-off over a road construction in Doklam near the tri-junction border⁵ of India, Bhutan and China.

The McMahon Line dates back to the pre-independence era and its veracity has been contested by both neighbours since its inception, only exacerbating perceptions over time. Given the territorial sensitivity in both countries about territory, the issue is here to stay. Ongoing skirmishes only foreshadow what lies in store for the future.

The area shaded in red and bounded by a dotted red line in Map 6 is China's interpretation of the border and the territorial claims implied thereby.

IAF Transport Operations from the Past

Post-independence, in the Oct 1947, three Dakotas carrying troops of the First Battalion of the Sikh Regiment touched down in Srinagar just in the nick of time.¹² In early 1948, Pakistan launched Operation Sledge¹³ to seize the areas of Skardu, Kargil and, Zozila and ultimately wrest control of the Leh Valley.

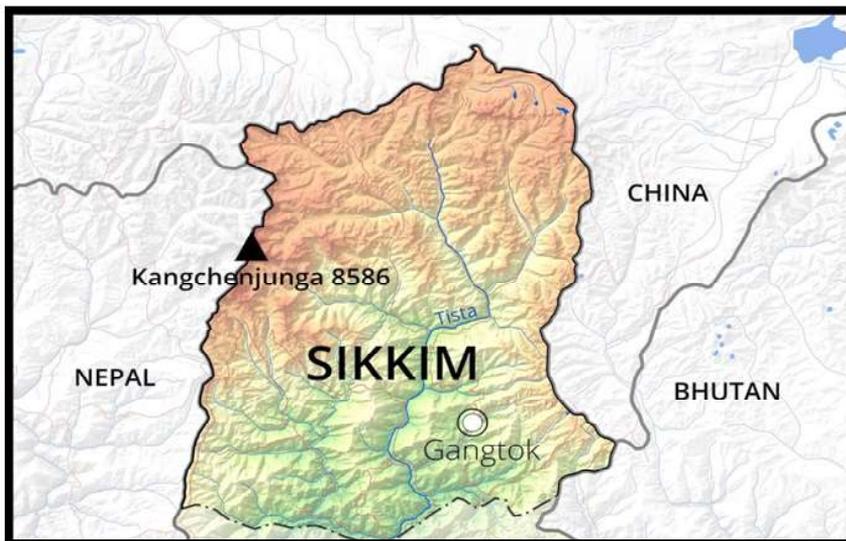


Boundary agreed upon by Sir Henry McMahon and Lonchen Shatra on 24 Mar 1914.

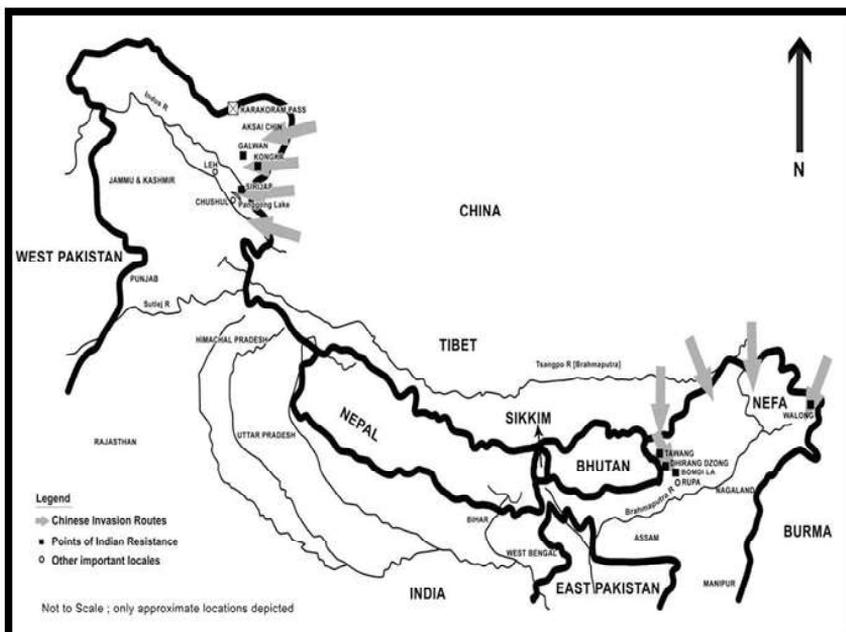
Map 1: McMahon Line⁶



Map 2: LAC map along Northern Sector⁷



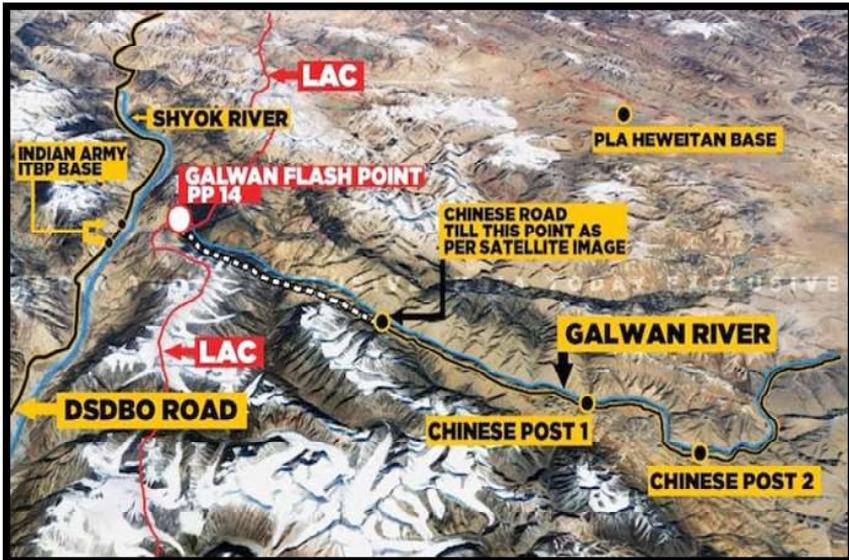
Map 3: Indo-China border in Sikkim Sector⁸⁸ Sikkim Maps



Map 4⁹



Map 5¹⁰



Map 6¹¹

In 1962, during the Chinese conflict the Indian Air Force (IAF) was asked to undertake missions for air maintenance nearly three times the normal tasking. During the critical situations in Daulata Beg Oldi¹⁴, the urgent task of airlifting tanks was undertaken from Chandigarh to Chushul airstrip¹⁵, which was made of Perforated Steel Planks. Only an airlift of tanks could have counterpoised advancing Chinese armour. The C-130 Hercules aircraft of the United States Air Force (USAF) made their presence felt in the region by landing in Chushul with airlifted tanks for the 20 Lancers, an armoured regiment. This operation was critical as it provided much-needed reinforcements to halt the advancing Chinese forces. The C-130, a versatile military transport aircraft, was renowned for its ability to operate from short and unpaved airstrips, making it ideal for the rugged terrain of the Himalayas. The successful airlift not only showcased the logistical capabilities of the IAF in collaboration with the USAF but also underscored the significance of air mobility in modern warfare.

During the 1971 war, the transport operations included the Tangail Drop¹⁶ in East Pakistan, regarded as a landmark event.¹⁷ A fleet of 36 transport aircraft that included An-12s, C-119s, Dakotas and Caribous, carried out the paradrop of troops, artillery, vehicles and other stores.

In 1971, the An-12s were configured to carry 28 to 36 of 500 pounders for carpet bombing¹⁸ and on 03 Dec 1971 six aircraft from the 44 Squadron bombed Pakistan Army's Changa Manga Ammunition depot. Operation Poomalai¹⁹ or Eagle Mission 4 was the codename assigned to a mission undertaken by the IAF to airdrop supplies over the besieged town of Jaffna. A rapidly maturing and modernising IAF, armed with medium tactical lift An-32 aircraft, was poised to usher in a new era. In a span of just 20 days (11-31 Oct 1987), IAF undertook 2,200 tactical transport and 800 assault helicopter sorties, marking a new beginning. Troops, weapons, and vehicles were flown in and out, without a single loss of own aircraft to enemy fire or accidents, bearing testimony to the professionalism of the IAF.

Baba Mehar Singh, affectionately known as the 'Air Officer', was a pioneering figure in the Indian Air Force (IAF) and played a crucial role in establishing air operations in challenging terrains. His exceptional skills and bold decisions in aviation earned him

admiration not only from his peers but also from those involved in aircraft manufacturing. One of his most remarkable achievements occurred in 1968, when he set a world record by landing a Dakota aircraft at Leh, a feat that surprised even the manufacturer of the Dakota. The Dakota, a World War II-era transport aircraft, was not initially designed for the high-altitude conditions and unpredictable weather of the Himalayas. However, Mehar Singh's successful landing demonstrated not only his flying prowess but also the capabilities of the Dakota aircraft in extreme environments. This accomplishment had significant implications for military logistics and operations in high-altitude areas, reinforcing the importance of air power in enhancing strategic mobility and support for ground troops.

These daring operations marked a transformative period for the IAF, heralding a new era for combat support operations. The successful integration of air power in combat operations illustrated the growing recognition of air support as a vital component of military strategy. The ability to airlift troops, equipment, and supplies to remote locations significantly enhanced the operational effectiveness of ground forces, paving the way for the development of advanced air logistics and support capabilities in subsequent conflicts.

**Table 1: Transport Aircraft of the IAF in 1962²⁰
Lessons from Other Operations Across the World**

AN-12	1 x Squadron (7 x aircraft)
Dakota	1 x Squadron (8 x aircraft)
Fairchild Packet	2 x Squadrons
IL-14	1 Squadron
Otter/ Caribou (light transport)	2 Squadrons

Air mobility refers to the movement of personnel and resources to the right place at the right time. While strategic airlift may occupy centre-stage, tactical airlift may be indispensable in specific situations as evident during World War-I where an estimated 1,000 pounds of supplies were dropped by thirteen aircraft²¹ in a crisis. Profound impact of air mobility operations on the siege of Stalingrad in 1942, the siege of Dien Bien Phu²² in 1954, and the siege of

Khe Sanh²³ in 1968 can hardly be overstated. The local examples include Operation Tangail Drop²⁴ in 1971 in erstwhile East Pakistan and Operation Poomalai²⁵ in Sri Lanka. In the 21st Century, given the high tempo of operations, the ability to quickly and decisively deliver combat forces with equipment is vital to achieving military objectives.

The employment of airpower has had a profound impact on the conduct of mountain warfare. The third Anglo-Afghan war²⁶ and Pink's war²⁷ successfully delivered airpower under the Air Control Policy in a mountainous region. The roles assigned to the aircraft were reconnaissance, artillery, observation, offensive action, resupply of ammunition and supplies, delivery and messaging duties. The turn of the century replicated the old scenario, with United States (US) replacing the Union of Soviet Socialist Republics as agent provocateur. The use of airpower triggered 'Operation Enduring Freedom' - the first instance of large-scale use of Special Operations Forces to direct airborne fire power. Transport aircraft like the AC-130 gunship were introduced due to their ability to sight ground targets, speed and manoeuvrability compared to hostile fast movers.²⁸ The close air support was provided to ground forces by AC-130 during 'Operation Anaconda'.²⁹

Afghanistan operations drew a lot of lessons for the effective use of transport platforms in the mountainous regions. The transport aircraft with its long endurance, can successfully negotiate ground threats and rugged terrains to undertake close air support operations. Transport aircraft, if modified into gun-ship aided with a felicitous Self-protection Suite, could effectively neutralise enemy strongholds.

Rapid advancements in technology have resulted in the unprecedented use of the electronic spectrum in warfare. The ripples in the global order and attempts to usurp control of the battlespace have witnessed an increased acquisition and reliance on Anti-Access Area Denial systems. This poses a serious challenge to conventional methods of warfare. Remotely Piloted Aerial (RPA) platforms are among the harbingers of technology shaping modern warfare.³⁰ Micro RPAs, Medium Altitude Long Endurance RPAs, and Conventional RPAs can be air-dropped remotely by C-130J aircraft, avoiding enemy Air Defence (AD) radar³¹ while circumventing the speed-range conundrum of RPAs.

The profusion of RPAs attacking vital High Value Air Assets is truly alarming, given the simplicity and cost involved in offensive action. The destruction of four Russian IL-76 aircraft on the ground by the Ukrainian RPAs forces military commanders to rethink strategies and tactics due to the heightened vulnerability of air assets on the ground.³²

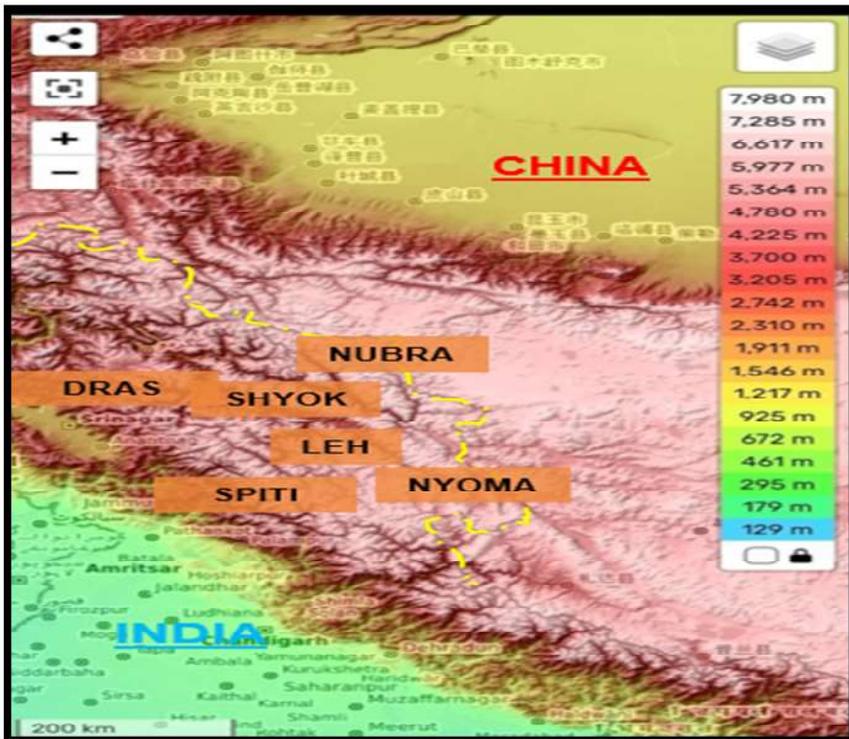
While C-130s delivering Directed Energy Weapons through a turret known as the Advanced Tactical Laser³³ is already an operational reality, the US Defence Advanced Research Project Agency has demonstrated the ability to launch and recover low-cost gremlins (swarms of drones) from a C-130J.³⁴ Raytheon has recently deployed Miniature Air-Launched Decoy (MALD) and MALD-X decoy/jammer missiles from C-130 to deceive missile defence systems³⁵, displaying capability to counter the multi-mode, overlapping, multilayered network of seemingly impregnable electronic order of battle of adversary employing the 'humble', 'domesticated' transport platform.³⁶ From the traditional radar-confusing metal chaff, the MALD offers a small, inexpensive decoy to counter AD measures, carrying electromagnetic transmitters capable of simulating virtually any aircraft. Along the northern borders, these decoys can be launched from their own territory, programmed to ingress into enemy territory and provoke the activation of enemy radars and Surface-To-Air Missiles (SAMs), thereby revealing vital Electronic Warfare (EW) data crucial to successfully waging an EW battle. These roles performed by transport platforms require minimal modification and yield exponential results, auguring new horizons for transport aircraft in combat and shattering the glass ceiling of a 'Combat Support-centric' approach and the limited originality of commanders.

Additionally, transport platforms may also be employed to deliver cluster munitions or mines to stymie the adversarial ground movement along a particular axis or valley, especially when coupled with armoured/mobile elements. These tactics would provide a vital time-window for their own corps of engineers to undertake extensive mining, unhindered and outside the reach of enemy fire, as evidenced by operations in Afghanistan. In the Indian context, these tactics, would impede the progress of High-Mobility Combined Arms Battalions³⁷ in the mountainous regions, and thus, deny critical capability to adversary. Such tactics can effectively shape the battlefield to one's choosing and can have a strategic impact

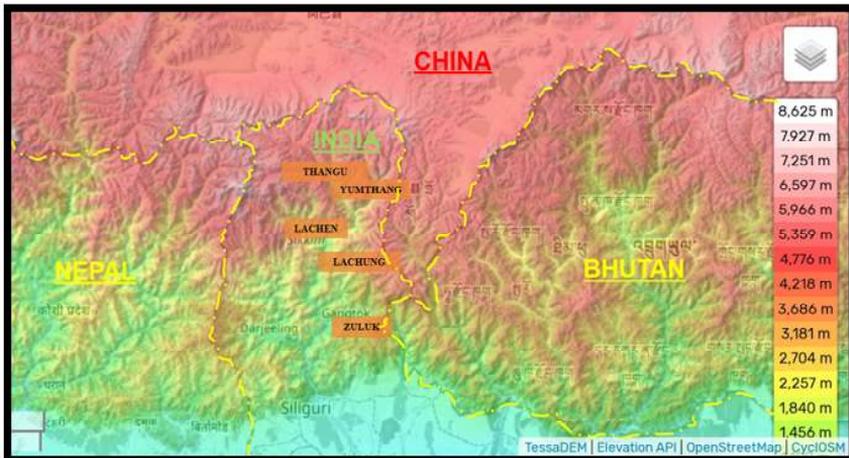
on the overall contest. The USAF has developed a method for rapidly converting a C-130J Super Hercules into a temporary bomber.³⁸ The method involves loading the C-130J with cruise missiles bundled onto cargo-type pallets. A similar system can also be employed on the C-17 giving an increased opportunity to deliver precision missiles on enemy targets. The system termed 'Rapid Dragon' was successfully tested with minor aircraft modifications.³⁹

Challenges of Transport Operations in High Altitude

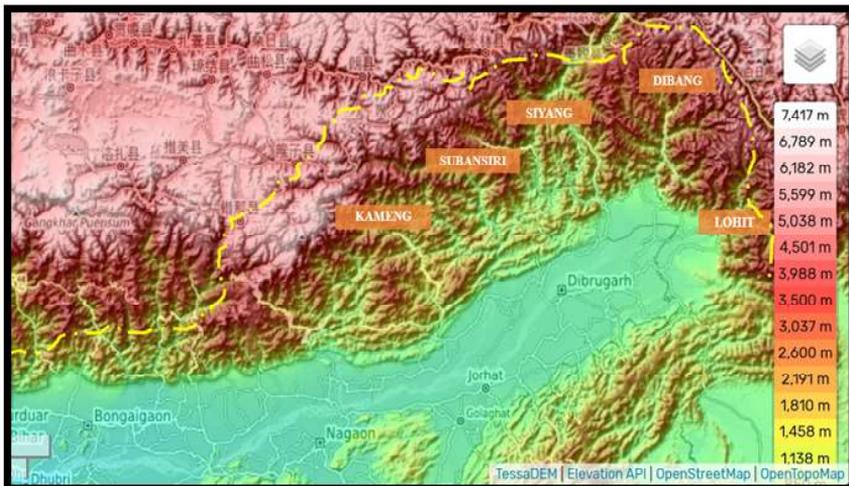
- **Terrain.** Despite the high-density radar network coupled with long range SAMs deployed by the PLA, the limited effectiveness in terms of detection and engagement due to high terrain and river valleys in the northern and eastern sectors regions renders the IAF an advantage.⁴⁰



Map 7: General Terrain and valleys along Northern Sector⁴¹



Map 8: General Terrain and valleys along Sikkim Sector⁴²



Map 9: General terrain and valleys in Arunachal Sector⁴³

- **Reduced Engine Performance.** Aircraft engines produce less thrust at high altitudes due to lower air density, resulting in longer take-off and landing distances at high-altitude airfields.⁴⁴
- **Weather.** High-altitude regions experience rapidly changing weather conditions, including turbulence, thunderstorms, and icing.⁴⁵
- **Aeromedical aspects.** Acclimatisation is essential for the personnel operating in these areas; otherwise, they may become prone to altitude sickness and lack of oxygen.⁴⁶

Change in People Liberation Army Air Force (PLAAF) Tactics in High Altitude Areas

As stated in the 2015 Chinese White Paper on 'China's Military Strategy'⁴⁷, China capitalised on the soaring economy to fund its defence modernisation program. Significant emphasis was placed on transforming the PLAAF into an integrated air-space force making it capable of undertaking both defensive and offensive operations across mediums. The PLAAF, taking cues from the network centric warfare of the US, has expanded both in numbers, sophistication and employment strategy significantly. In its southern boundaries with India, it has analysed its limitation regarding aircraft operations and dense network of multi-layered, multi-spectral AD network⁴⁸ has been its response. The Chinese disposition of AD systems in the northern sector are likely⁴⁹ to be Hong Qi (HQ)-6, HQ-17A, HQ-16, HQ-9B, HQ-7 and HQ-22. Additionally, China has also deployed an overwhelming network of radars.⁵⁰ Including but not limited to YLC-2/YLC-2A/YLC-2V, High Guard, JL3D-90A, JY-29, LLQ120, JYL-1, JY-27 and YLC-4.

Present Capability in IAF

The various transport platforms currently in the IAF inventory and their roles and capabilities including Air to Air Refuelling are depicted in the table below:

Table 2: Transport Aircraft of IAF⁶²

Aircraft	Airdrop	Airland	AAR	EW/Airborne Warning and Control System
AN-32 ⁵¹	Yes	Yes	No	No
C-130J ⁵²	Yes	Yes	No	No
IL-76 ⁵³	Yes	Yes	No	No
C-17 ⁵⁴	Yes	Yes	No	No
IL-78 ⁵⁵	No	No	Yes	No
IL-76 AWACS ⁵⁶	No	No	No	Yes
HS-748 ⁵⁷	No	No	No	Yes
DO-228 ⁵⁸	Yes	Yes	No	No
C-295 ⁵⁹	Yes	Yes	No	No
EMB-145 ⁶⁰	No	No	No	Yes
A-321 ⁶¹	No	No	No	No

Table 3: Comparison of Capability: IAF Transport Aircraft

Aircraft	C-130 J	AN-32	Do-228	IL-76	C-17	C-295
Maximum Take off Weight in tons	74	27	6.4	190	265	23
Payload in tons	19	6.7	1.2	43	74	8.8
Personnel	128	50	10	225	188	70
Troopers	75	40	15	126	102	49
Stretchers (patients)	97	24	02	80	90	24

From Table 2 it can be deduced that the tactical and strategic platforms capable of carrying out airborne assault and other tactical operations are Do-228, An-32, C-130J, IL-76 and C-17 and the newly acquired C-295. Table 3 enumerates operational capabilities of these aircraft.

Mission Planning Considerations

The challenging terrain and inhospitable regions along the northern borders present significant difficulties for transport operations. However, these conditions also offer a strategic advantage by creating natural barriers that enhance security and defensive capabilities. The operations of transport aircraft along the border are assessed to evaluate their vulnerabilities and survivability.

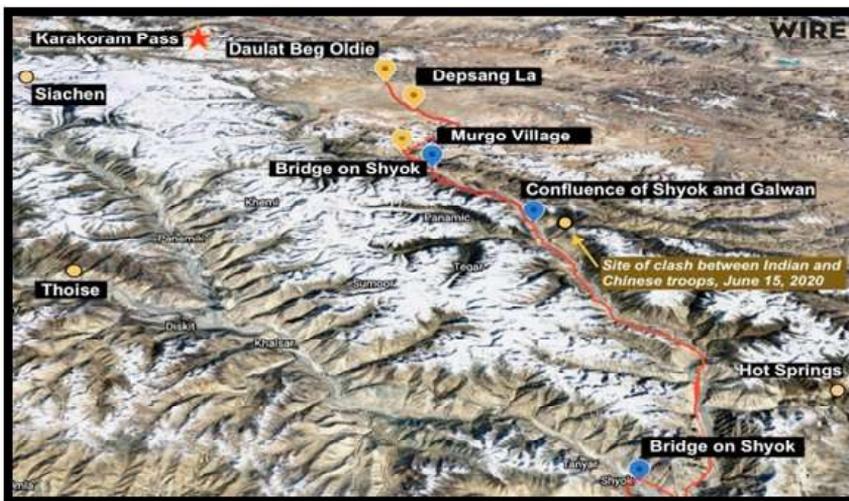
- **Vulnerabilities.** A typical transport aircraft possesses several vulnerabilities that must be acknowledged before determining the appropriate mission package. These vulnerabilities include:
 - Low max speed.
 - Large radar and visual signature.
 - Limited manoeuvrability.
 - Long trails.
 - Limited self defence capability.
- **Enhancing Survivability of Transport Aircraft.** Given the inherent vulnerabilities faced by transport aircraft, several factors must be considered to enhance survivability and ensure mission accomplishment:

- Unpredictable and fast developing weather phenomenon.
- Treacherous terrain with narrow and blind valleys with limited or no manoeuvring space.
- Limited radar coverage and communication with own forces.
- **Survivability.** With the inherent vulnerabilities that a transport aircraft is subjected to, following factors need to be considered for increasing the survivability and therefore, mission accomplishment.
 - Degree of control of air.
 - Accurate Intelligence.
 - Tactical Navigation.
 - Protector force and composite offensive aircraft package.
 - Radar cover.
- **Terrain.** While terrain can significantly impact the safety of aircraft, it can also present operational advantages. Flying below the crest level through valleys and evading enemy radar due to limited scanning capabilities can lead to delayed detection and create a shock effect on the adversary.
- **Self-Contained Navigation System.** Aircrafts like C-130J, C-17, C-295, Do-228 have 'State of Art' navigation system, sustainable even during Global Positioning System (GPS) jamming scenario, increasing mission accomplishment rate.
- **Survivability Enhancement.** The following capabilities can enhance the survival of transport platforms:
 - Advanced identification friend or foe.
 - Radar warning receiver.
 - Missile approach warning system.
 - Accurate autonomous navigational suite.
 - Secure communication.
 - Night vision devices.
 - Electronic counter measure pods.
 - Low radar cross section.

- Directed infra-red counter measure/Large aircraft infra-red counter measure.
- Multiband chaff.
- Cockpit armour.
- Force packaging.
- Route planning and launch bases.
- Timing of operations.
- Holding patterns, assembly areas and radio telephony procedures.
- Rapid Turnaround Operations.

Operations Envisaged by IAF Transport Fleet. The operations anticipated by the IAF transport fleet include:

- Air maintenance by air landed operations.⁶³
- Proposed emergency landing fields operations.⁶⁴



Map 10⁶⁵

- Inter valley troop transfer.⁶⁶
- ISR missions.⁶⁷
- Combat search and rescue.⁶⁸
- Tactical routine transport role.
- Special air operations.⁶⁹
- Casualty evacuation.⁷⁰

Outlook for Future

To reshape future tactical operations, certain employment philosophy adaptations may be affected in future CONOPS as follows:

- The evolving operational philosophy to employ transport fleet for roles other than conventional 'Support-centric' roles such as airlift of troops and equipment in and out of theatre of operation.⁷¹
- Mixed formations flying comprising of various transport platforms such as C-130J, An-32, Do-228 and C-295 should be prioritised. Such capabilities will aid in launching multiple missions exploiting complementarity of accurate navigational performance, high situational-awareness and achieve requisite mass over objective area.
- Retrofitting for NVD operations for IL-76, An-32 and Do-228. This will provide impetus for night operations
- Retrofitting navigation systems with Indian constellation receivers in IAF aircraft to forestall GPS jamming.⁷²
- The use of transport platforms for the carriage of high power jammers to counter dense enemy EW environment in the roles of stand-off-jammer to accord crucial defence to other aerial platforms as well as the advancing surface forces.⁷³
- Dedicated training on simulators, replete with accurate elevation modelling, is necessary to fully exploit operational capability inherent in modern transport platforms and undertake realistic mission preparation.
- One of the changes carried out by the PLAAF was realignment of Airborne corps. The PLAAF Airborne Corps⁷⁴, which serves directly under the PLAAF Headquarters, cancelled its earlier designation of the 15th Corps that carried a strong imprint of the army to further reinforce the concept of an independent arm of service within the air force. The establishment and command of the new airborne troops also have been adjusted into three tiers, which includes corps, brigade and battalion.⁷⁵ This allows the PLAAF airborne corps to act as a principal force employed for independent campaign

missions and presumably used for pre-emptive attack on enemy airfields. Under the corps, the airborne division have various special units, including weapon controller, reconnaissance, infantry, artillery, communications, engineering, chemical defence and transportation of soldiers.⁷⁶

- The use of C-130J as 'Take charge and move out' mission is already well documented.⁷⁷ Though study of such missions falls outside the scope of this paper, a related functionality that is airborne command and control support will provide for critical force-enabling especially if adversary has been able to severely impede information/communication systems of own forces. This functionality can be exploited on existing platforms of IAF like C-130J, which can act as an airborne command post using 'Jackpot System'⁷⁸ which is a roll-on roll-off communications package.

Conclusion

The enduring India-China border dispute, rooted in historical complexities and territorial sensitivities, underscores the critical importance of air power in contemporary military strategy. The operational history of the IAF illustrates its evolution in response to the challenges posed by high-altitude warfare and the changing dynamics of regional security. From the airlift operations during the 1962 Sino-Indian War to modern advancements in transport capabilities, the IAF has demonstrated a remarkable ability to adapt and innovate.

The lessons gleaned from past conflicts and the integration of advanced technologies in transport aircraft have paved the way for a more versatile and responsive air mobility strategy. As the geopolitical landscape continues to shift, characterised by China's increasing assertiveness and the ongoing modernisation of its military capabilities, India must remain vigilant and proactive in enhancing its air operations. This includes rethinking traditional roles of transport aircraft, emphasising multi-domain operations, and leveraging new technologies to ensure operational effectiveness.

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⁶⁴ Ibid, p. 62. "Presently the government is planning to construct the Arunachal frontier highway that would cover the entire McMahon Line similar to Darbuk-Shyok-Daulat-Beg-Oldie (DSDBO) Road depicted in Map 10. ELF operations may be undertaken on these roads. These ELFs would provide desired flexibility and redundancy in terms of operating surfaces available. A similar study of identifying potential ELFs in enemy area and surveyed in near-real time during conflict may also facilitate utilisation of such ELFs for covert/ clandestine insertion of SFs."

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⁶⁶ *ibid* p. 62. Helicopters and fixed wing aircraft can be combined to enable rapid insertion or transfer of troops into forward locations, ALGs and inter valley troop transfers (IVTT) in mountainous terrain enhancing the flexibility of surface operation for immediate change of sector during operations.

⁶⁷ *Ibid* p. 64. The C-130J ac is fitted with 'state of the art' Star Safire III Electro Optical Infra-Red (EO-IR) System. The EO-IR enhances external vision, offers an independent and more importantly, a passive means of surveillance.

⁶⁸ *Ibid* p. 63. C-130Js may be used towards search missions for downed aircrew using EO-IR pod. Such an operation will have to be carried out in coordination with Rescue Platforms (RESPLATs) such as helicopters. Depending on the position of downed aircrew, FAS may be a pre requisite for conduct of such ops due to the large radar signature of the platform

⁶⁹ Ibid p. 63. "Special air operations are conducted at any level of conflict to support clandestine and psychological operations. These operations include inserting agents or troops into the enemy occupied territory and may require specialist training such as low-level ingress and landings by using NVDs. Some of these operations may have to be carried out regardless of the total air situation and under conditions not normally considered suitable for air operations. The preferred platform for special air operations would be C-130J due NVD capabilities, advanced avionics and defensive system suite. The remarkable and dramatic aerial rescue by the IAF of 121 Indians from a small airstrip at Wadi Sayyidna about 40 km North of Khartoum in Sudan, with a degraded surface and no navigational approach aids, fuel or landing light stands testimony to the capabilities that IAF transport fleet possesses."

⁷⁰ Ibid p. 63. Transport aircraft by virtue of being large bodied, can be fitted with equipment to support large-scale medical evacuation from battle or crisis zones. Casualties are evacuated from the combat zone to a forward casualty clearing area and from there moved to the rear. Aircrafts equipped with Patient Transfer Units (PTU) would greatly enhance the survivability of the patient and would be morale booster for troops.

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Russia-Ukraine Conflict: Military Lessons for India

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“If you wage war, do it energetically and with severity. This is the only way to make it shorter and consequently less inhuman”.

— Napoleon

Abstract

The Russia-Ukraine conflict has emerged as a pivotal geopolitical event with far-reaching implications for global security. As the international community closely monitors the unfolding dynamics in Eastern Europe, this essay seeks to analyse the military lessons that India can draw from the ongoing crisis. The multifaceted nature of the conflict, encompassing conventional warfare, hybrid tactics, and strategic considerations, provides a unique opportunity for India to glean valuable insights for enhancing its own defence capabilities and strategic preparedness. This essay attempts to comprehensively examine key aspects, including the evolving nature of modern warfare, the role of technology, and the importance of strategic alliances. By dissecting the strategies employed by both Russia and Ukraine, the study aims to identify lessons for effective military doctrines, orchestration of operational art, and diplomatic strategy that could be pertinent to India’s defence posture. The essay employs a multidisciplinary approach, combining

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military strategy, geopolitical analysis, international interjections, and technology assessment to provide a holistic understanding of the Russia-Ukraine conflict. The findings aim to equip Indian policymakers, military leaders, and strategic thinkers with actionable insights to fortify the nation's defence capabilities and navigate the evolving challenges in an increasingly complex geopolitical environment. Lastly, this research endeavours to contribute to the discourse on national security by distilling relevant lessons from a contemporary conflict with profound implications for the global order.

Background

The Russia-Ukraine conflict, which began in 2014, has been one of the most significant geopolitical crises of the 21st Century, profoundly impacting Ukraine and global politics. The Russia-Ukraine conflict has its origins in Ukraine's historical links to Russia. Ukraine was part of the Soviet Union until its dissolution in 1991, when it gained independence. The relationship between Ukraine and Russia has remained complex, with Ukraine oscillating between seeking closer ties with Europe and maintaining its historical, cultural, and economic links with Russia. Ukraine emerged as a contested region between the European Union (EU) and Russia, dividing the country into two factions: Western Ukraine, aligned with European interests, and Eastern Ukraine, aligned with Russian interests. This conflict started with the 2004 Orange Revolution. The Ukrainian political crisis increased the fighting in late 2013. Ukrainians protesting for EU integration overthrew pro-Russian President Viktor Yanukovich in 2014. This threatened Russia's dominance in Ukraine, thus, it annexed Crimea in Feb 2014. The annexation drew international condemnation and led to sanctions on Russia.

In Eastern Ukraine, notably in the Donetsk and Luhansk regions, pro-Russian separatist movements emerged following the annexation of Crimea. The declaration of independence by these regions led to violent confrontations between Ukrainian forces and separatists. Russia was accused of supplying separatists with military support, thus, aggravating the conflict. Multiple attempts at resolving the conflict through diplomacy were made, with the

Minsk agreements being the most notable. These agreements, brokered by the Organisation for Security and Cooperation in Europe, aimed to establish a ceasefire and a roadmap for a peaceful settlement. However, ceasefires were frequently violated, and a lasting peace remained elusive.

Geopolitical Implications

The Russia-Ukraine conflict has had significant geopolitical ramifications. The conflict has strained Russia's relations with the West, leading to sanctions and increased tensions. It has contributed to a broader deterioration of Russia's relations with the North Atlantic Treaty Organization (NATO) and the EU. Eastern European countries, particularly those bordering Russia, have become increasingly wary of Russia's actions, leading to greater alignment with NATO and requests for NATO assistance. Ukraine's desire for closer ties with the West has grown stronger, resulting in a shift away from Russia and efforts to join Western institutions. The conflict highlighted the limits of international institutions in resolving disputes and underscored the importance of great power politics in shaping global events. The conflict has had highlighted severe humanitarian consequences, with thousands of deaths and significant displacement of civilians. Infrastructure in affected areas has been heavily damaged. Economically, Ukraine and Russia have suffered due to sanctions, reduced trade, and the costs of the conflict.

The Russia-Ukraine conflict represents a complex and ongoing geopolitical crisis with far-reaching implications. It has strained international relations, challenged regional security, and tested the effectiveness of diplomatic efforts to resolve conflicts. As the situation continues to evolve, the world watches closely, hoping for a peaceful resolution that respects the sovereignty and aspirations of Ukraine while addressing Russia's concerns.

The Special Military Operation

On 21 Feb 2022, Russian President Vladimir Putin expressed his primary apprehensions and anxieties regarding the progressive advancement of NATO towards the east, resulting in the gradual encroachment of its military infrastructure upon the Russian border. He said that "Over the past 30 years, Russia has been patiently trying to come to an agreement with the leading NATO countries

regarding the principles of equal and indivisible security in Europe”.¹ However, in return, Russians have constantly encountered either cynical lies and deception, or attempts at coercion and extortion. At the same time, despite Russian objections and worries, the NATO alliance has continued to grow. He added, “Its military machine is moving and, as I said, is approaching our very border”.²

Three days later, on 24 Feb 2022, Putin made it clear in a televised address that the People’s Republic of Donbas had asked Russia for help. Under the circumstances, Russia had no other option and was compelled to take bold and immediate action. He announced that:

“In this context, under Article 51 (Chapter VII) of the UN Charter, with permission of Russia’s Federation Council, and in execution of the treaties of friendship and mutual assistance with the Donetsk People’s Republic and the Luhansk People’s Republic, ratified by the Federal Assembly on 22 Feb, I made a decision to carry out a special military operation”.³

He added, “The purpose of this operation is to protect people who, for eight years now, have been facing humiliation and genocide perpetrated by the Kyiv regime”.⁴

“To this end, we will seek to demilitarise and denazify Ukraine and bring to trial those who perpetrated numerous bloody crimes against civilians, including against citizens of the Russian Federation. It is not our plan to occupy Ukrainian territory. We do not intend to impose anything on anyone by force”.⁵

Phases of Military Campaign

Firstly, going by the intricacies of warfighting terms, the special military operations have transcended into the ‘Military Campaign’ that is now entering its nineteenth month. During this period, it has seen a complete cycle of weather changes, but both sides are undeterred by the prolonged operations, and the conflict is still ongoing. Besides conventional warfare, the Russia-Ukraine conflict is notable for its use of hybrid warfare tactics. Hybrid warfare combines conventional military tactics with unconventional methods, such as cyberwarfare, disinformation campaigns, and support for insurgent groups. Russia has been accused of arming and

supporting separatist forces while also engaging in cyberattacks and disinformation campaigns to sow discord and confusion.

A geographical orientation on the map and a summary of conflict with a self-explanatory time-sliced pictorial depiction of Russia’s control of Ukraine’s territory since Feb 2022 is considered essential for understanding the chronology of the campaign’s progress, thus far.



Figure 1: Map Explainer: Key Facts About Ukraine

Source: Visual Capitalist⁶

- On 24 Feb 2022, Russia invaded Ukraine by land, sea, and air, targeting military assets and cities. The United States’ (US) President Joe Biden called the attack ‘Unprovoked and Unjustified’ and imposed harsh sanctions on top Kremlin officials⁷, including Putin, four of Russia’s largest banks⁸ and the oil and gas industry.

- On 26 Feb 2022, Russia launched an all-out offensive on Ukraine, targeting almost the entire country with a lesser concentration on the far western side. An audacious air operation was undertaken to capture Hostomel airfield near Kyiv. However, it could not execute the follow-up air operations and logistical support, leading to the disastrous outcome of the missions. Russia had to take a tactical pause at the end of the first week of the invasion.⁹

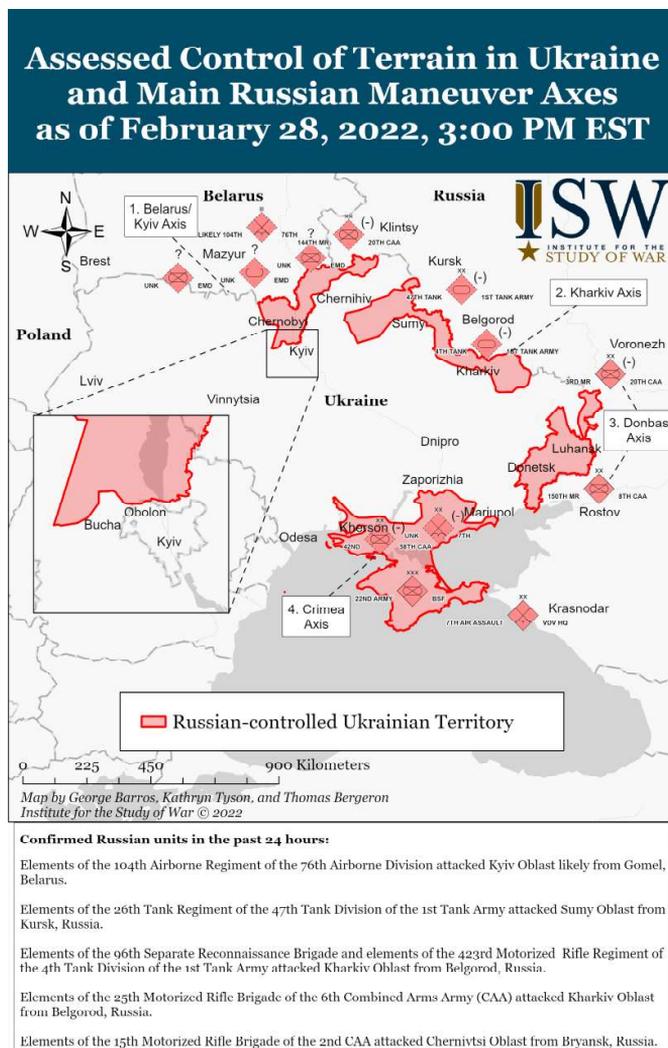


Figure 2: Russian captured Area in Ukraine as of 28 Feb 2022

Source: Institute for the Study of War

- On 02 Mar 2022, 141 of the 193 United Nations (UN) member states voted in an emergency session of the UN General Assembly to condemn Russia's invasion of Ukraine and demanded its urgent withdrawal from Ukraine.¹⁰
- By 06 Apr 2022, Russia had withdrawn all troops from Ukraine's capital (Kyiv) region.¹¹



Figure 3: Ukraine's Counter Offensive and Russian Captured Area as of 09 Apr 2022

Source: Institute for the Study of War

- On 14 Apr 2022, Russia faced a major setback with the sinking of the Russian missile cruiser *Moskva*, the flagship of the Black Sea Fleet.
- On 18 Apr 2022, Russia conducted a strong offensive in eastern Ukraine after failing to conquer the capital.¹²
- By May 2022, Russian forces seized Mariupol, a crucial port city in the southeast.¹³
- Since Jun 2022, fighting has mainly occurred in Ukraine's east and south¹⁴, with Russian weapons targeting the Black Sea and Sea of Azov port cities.¹⁵ Ukrainian food exports were blocked, causing supply chain chaos.
- By mid-Aug 2022, the war's frontline shifting southward generated concerns about a nuclear fallout at the Russian-captured Zaporizhzhia atomic reactor on the Dnipro River.¹⁶
- Sep 2022 saw Ukrainian forces march northeast and revive the southern counteroffensive. Ukrainian forces shocked Russian soldiers and cut off crucial supply routes by retaking significant Kharkiv land. Ukrainian forces recaptured Kherson and all-terrain west of it, forcing Moscow to retire across the Dnipro River.¹⁷
- By the end of 2022, Ukraine had taken back half of the land that Russia had taken over. However, Russia still controlled 14.0 per cent of the country.¹⁸
- Putin also hinted at the chance of a nuclear escalation, citing the US precedent of dropping atomic bombs on Hiroshima and Nagasaki during World War II.
- In Aug 2023, Yevgeny Prigozhin, leader of the Russian private military company Wagner Group, was killed in an air crash.¹⁹ Two months earlier, Prigozhin had led a failed uprising against the Russian government.



Figure 4: Russian captured Area in Ukraine as of 12 Sep 2023

Source: Institute for the Study of War

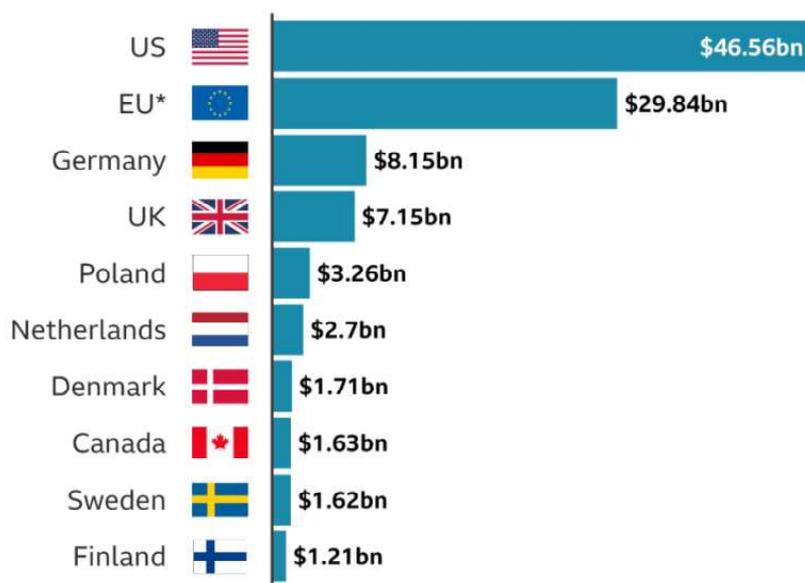
International Interjections

A report on the Ukraine war²⁰ states that the US has provided nearly USD 40.0 bn²¹ in security assistance to Ukraine since 24 Feb 2022, including USD 19.0 bn²² in military aid and USD 16 bn

in humanitarian aid. In early 2023, the Biden administration approved the Patriot Air Defence system for Ukraine and significantly increased its troop presence to over 1,00,000 in Europe.²³ US President Biden said in a joint press conference with British Prime Minister Rishi Sunak on 08 Jun 2023, that the US has the funds to “Support Ukraine as long as it takes”. A day later, USD 2.1 bn in military aid was announced.²⁴ NATO has sent more weapons and ammunition to Ukraine to defend against Russia’s invasion. The EU, Germany, and the United Kingdom (UK) have given the most military aid after the US. Military aid²⁵ to Ukraine is shown in Figure 5. Meanwhile, Russia has turned to North Korea and Iran for military equipment and intelligence collection. It continues to sell subsidised gas and oil to other countries.

Largest donors of military aid to Ukraine

Commitments made by donors for arms and equipment, 24 Jan 2022 to 31 May 2023



*Commitments by EU institutions include the Commission, Council, EPF and EIB
Figures do not include commitments related to other military purposes

Source: Kiel Institute for the World Economy



Figure 5: Ukraine’s Military Aid until May 2023

Source: BBC, Kiel Institute for the World Economy

The US announced a USD 500 mn military aid package for Ukraine²⁶ until May 2023. The US has also confirmed the provision of cluster munitions, which has alarmed NATO allies. Ukraine will also receive French missiles like those recently delivered, Storm Shadow missiles by the United Kingdom. By Jun 2023, the UN Human Rights Office had registered almost 9,000 civilian deaths and over 15,000 civilian injuries.²⁷ The bloodshed has forced over six million people to flee to neighbouring countries, notably Poland and Moldova, where the US and other partners assist refugees.

Lessons for India

The ongoing conflict, now spanning over 32 months (as of this writing) has led defence analysts worldwide to revisit the lessons learnt many times. The assessment of evolving phases of military operations in these months can be maturely analysed for well-informed lessons that would be relevant for any other country with further extrapolation in their local context. Following are a few of the lessons drawn in the Indian context.

Steep Asymmetry Gradient. Russia is a superpower with no comparison to the military prowess of Ukraine. Russia has very high technological and numerical superiority against Ukraine and maintains a steep gradient in the military assets, capacity and capability build-up. This holds true both in the conventional and sub-conventional domains. Russia also enjoys a significant asymmetry in the form of nuclear deterrence. However, despite such overall superiority, it has not been able to achieve its objective to date. The prolonged duration of the battle, without any imminent resolution, can be attributed to a confluence of factors, namely the military incompetence exhibited by the Russian military command and the mobilisation of public support orchestrated by President Zelenskyy.²⁸ This argument leads to the following observations and lessons for a country waging war against the adversary. Along with military lessons, a few interconnected lessons regarding the intent of war are also deliberated.

Political Objectives and End State. The country must clearly spell out the political objectives to its armed forces, if not the country. Unfortunately, an unambiguous political intent has not been observed in any of the addresses given so far by President Putin. No specific official statements in this regard have been made until now. Russian political leaders would find it unacceptable

if the country relinquished the advantages it has acquired in combat. Likewise, the minimum permissible solution for Ukraine would be a return to the status quo.²⁹ How these conflicting viewpoints can be resolved is yet to be determined. It is most likely heading akin to the Line of Control and Line of Actual Control (LAC) references in the Indian context. The end state throughout this conflict has been blurred and indecisive, leading to the failure of military operations by the Russians.

Conflict Termination Criteria (CTC). It is essential to have the CTC well-defined before waging war. It helps maintain the focus throughout the conflict, and the military forces make their operational manoeuvres accordingly to meet those objectives and force the adversary to end the conflict on its terms. The initial objectives of the Russian government were to swiftly effect a regime change in Ukraine and establish a governing body that would be amenable to Russian interests while also ensuring Ukraine's commitment to refrain from joining NATO. It is an option that a predefined CTC may be revisited for meaningful direction and the execution of military operations. Depending on the conflict's progress, attrition, and percentage of success in achieving objectives, the best alternate CTC must be made the original one is not achievable. During this prolonged conflict, there have been numerous occasions for the Russians to revisit the CTC, but unfortunately, this has not been seen on the ground, and the conflict does not seem to be ending. Therefore, having a CTC is essential.

Operational Art. The Russo-Ukrainian conflict is a classic example of how war should not be orchestrated. The Russian side has experienced the sacking of military leadership at least six times until Aug 2023, which does bring out the ineffective orchestration of the tactical and operational art of warfare. A critical lesson learned from this conflict is maintaining synergy between all the players on the battlefield. Two major embarrassments the failed attempt to capture Hostomel Airfield and the sinking of the Moskva in the initial phase of the conflict, are glaring examples of a lack of operational planning and synergy within and with other services in the battlespace. The surrender of Snake Island, the withdrawal from Kyiv, being unable to capture Odesa thus far, and losing almost the entire North Ukraine are direct reflections of the mistuned operations by the Russian forces. The Indian Armed

Forces will have to pay adequate attention to this aspect in the light of the proposed realisation of theaterisation.

Intelligent Preparation of the Battlefield (IPB). The IPB is one of the early and primary stages of the preparatory phase of war. This conflict has shown that the IPB of Russia did not meet the desired professional standards. Right from the first week of the conflict, the tactical failures in the execution of suppression of enemy air defence missions, special heliborne operations, special operations, delays in follow-up operations, and logistics are a few of the examples that remind us of the necessity of a well-planned IPB. Russian actions have, at times, succumbed to the complacency factor of being a much superior force. In the Indian context, this aspect needs to be well-planned and rehearsed. One should also be cautious of the widely and easily accessible misinformation through Open-Source Intelligence (OSINT) as part of propaganda warfare. Both China and Pakistan have found themselves effectively managing their tactical social propaganda.

Revisiting Centre of Gravity (CoG). The John Warden Model of the CoG is still relevant to the core. However, this concept is shadowed under the garb of an ambiguous end state, CTC by the central leadership, and ineffective Op Art by the military commanders on the battlefield. In the first three days of the conflict, Russian forces showed an intent to strike the CoG and capture Kyiv, forcing President Zelenskyy to come down to the negotiation table. However, the orchestration of military tactical operations was severely jeopardised due to the lack of follow-up on the ground or in the air. Since then, the mighty Russian forces have been unable to hit the CsoG, such as Kyiv, Odesa etc., which is alarming. It is time to revive the basics of neutralising the CsoG and mop up the infructuous, prolonged special military operations with a well-planned final blow on the CoG, enabling the painful operations to end. Russia has taken most of the Donbas region. The Ukrainians recaptured the control of Zaporizhzhya and Kherson oblasts from the Russians, and the land battle still continues there. To assert full dominion over the entire northern shoreline of the Black Sea, which shares a border with Ukraine, the city of Odesa holds significant strategic value as a CoG that the Russian forces may choose for targeting and call a truce. Odesa links Crimea to the Russian mainland by land route, passing through Donbas for secured Russian access to the Atlantic via the Mediterranean

Sea. This reminds us to revisit CoG and critical vulnerabilities, especially with the infrastructure development by both Pakistan and China nearing border areas.

War of Resources. This conflict has undoubtedly highlighted the need for adequate resources to wage a war for prolonged durations. The detailed analysis of the phases of operations indicates that even Russia had to take several tactical pauses right after the first week and in between to gather and consolidate its resources for the next moves. Prolonged wars indeed lead to the 'Battle of attrition and fatigue'. In the Indian context, self-reliance is an essential drive that needs to be boosted expeditiously to meet military hardware requirements. In the interim, India must keep its diplomatic channels open with the military hardware supplier countries during war or conflict. Also, integrated training in the theaterisation concept requires to be strengthened.

War of Egos. Though rarely discussed, this conflict has also emerged as a War of Egos between the leaders by virtue of being the superpowers. The ongoing conflict is not simply between Russia and Ukraine; it involves bigger powers such as the US, the entire West, and NATO against Russia. Various statements and postures by leaders of all these countries, even to the extent of nuclear threats in this prolonged period, show that in this age and era of peace, countries are still betrothed to conventional war. The chances of India getting into such a scenario with Pakistan may not exist due to the huge disparity in most cases, except nuclear deterrence. However, with China, it cannot be ruled out due to India's growing stature in all sectors. However, as a responsible and diplomatically mature nation, India would not engage in such an immature act.

Reequipping the Forces.

- The protracted struggle has underscored the necessity for a diverse range of military weaponry to effectively address the emerging threats from the adversary. The conflict has witnessed the utilisation of a wide array of weaponry and systems, including tanks, combat vehicles, air defences, long-range artillery, howitzers, anti-tank weapons, drones, fighter jets, para drops, helicopters, electronic warfare, space-based surveillance, communication, intelligence, surveillance and reconnaissance, loitering munitions, among others. It has

reminded us that while newer technology shows greater reliability and efficacy, no older weapon or system is obsolete. Every weapon will be used in the war at some point.

- A similar assessment can be drawn from the ongoing and prolonged deployment of Indian troops in Eastern Ladakh post-Galwan skirmish. It has necessitated the need for the Indian armed forces to reequip themselves with the military hardware that may be required for specific terrain and purposes. For example, India needs more robust detection capabilities in its mountainous terrain. Radars have the fundamental limitations of the line of sight. Thus, dependence on passive detection systems is one way out. The People's Liberation Army Air Force is mitigating the disadvantages of having their airbases at higher altitudes, which penalise weapon-carrying capability with the constant infrastructure development for their rocket and missile forces throughout the International Border and LAC. As a result, India needs to defend its airbases and airstrips, which are vulnerable to missile attacks with almost no early warning available. Thus, India needs consider Iron Dome-type systems in such terrain for specific sectors and areas.

Space-based Warfare.

- This conflict has further validated the need to graduate from the conventional domain of warfare to the space domain. During the initial phase of operations, it was observed through many reports that the enhanced accessibility of satellite data and signals impacted the effectiveness and durability of Ukraine's communication and military intelligence systems. It also facilitated new OSINT applications for space-based data reporting.³⁰
- According to reports, SpaceX has deployed thousands of Starlink terminals in Ukraine to ensure continuity of broadband connectivity. The funding for this initiative is said to have been provided by commercial and certain governmental entities.³¹ The Ukrainian military's use of satellite broadband connectivity is extensive, encompassing tactical communications. In addition, commercial radio frequency spectrum monitoring, implemented on satellites weighing 15 kg by the American enterprise HawkEye 360, has played a

significant role in identifying military personnel movements and endeavours to disrupt global positioning system signals.³² The utilisation of commercial high-resolution radar images plays a significant role in the process of mapping military activities and chronicling ground changes, providing near real-time information. According to the US National Geospatial-Intelligence Agency, extensive utilisation of commercial geospatial intelligence has been achieved by integrating data obtained from over 200 commercial satellites and more than 100 distinct companies. This utilisation has been described as 'Unprecedented' in scale and scope.³³ Taking a clue from this conflict, the Indian Air Force (IAF) has rightly projected itself as an aerospace force through its latest doctrine of the IAF (IAP 2000–22). India must become a potent user of space with its robust and safe military application through space at the earliest.

Short, Swift and Sectoral War. Since the beginning of the conflict, analysts have begun inferring that the age of long wars has returned, and the notion of a short and swift war is no longer valid. Similarly, the inferences that tanks have become obsolete, drones are the future of aerial warfare, etc. These early inferences have caused significant damage and confusion in strategic and academic circles, in addition to the thought processes of men in uniform. It is important to appreciate that this conflict is not a classical war, and it has the merit of becoming a relevant case study in various war colleges of how wars should not be fought. In the Indian context, no country has the complete wherewithal to engage in such prolonged wars. In all likelihood, this region will experience only short and sectoral war similar to Op Vijay in 1999.

Conclusion

The Russo-Ukrainian war in the highly technological era has plenty to offer regarding how war is not to be fought by the superior nation and how the end state of the superior force can still be kept at bay by an inferior nation, although at a higher cost. It also reveals that every country will have to depend on itself during such crisis due to global and regional geopolitical and geoeconomic complexities. Though not much similarity exists in the Indian context, many of the above lessons can be learned from this

crisis between a superior nuclear state and an inferior non-nuclear state. These lessons can be addressed at strategic, operational, and tactical levels for the defence forces. At the same time, the conflict has also brought various lessons for the national and political leadership, the general populace, industry, etc. While many scholars and practitioners of warfare have outrightly changed their stance due to the outcome of the war, such as the notion that short and swift wars have transitioned into long-drawn conflicts, or that all-out physical warfare has returned; these may not be the appropriate lessons in the Indian context. India and its adversaries have their peculiarities ranging from political, economic, ethnical and natural hindrances where the conduct of war, if any, will be quite different to the ongoing Russia-Ukraine conflict.

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Letter to the Editor

Dear Sir,

Over 67,000 men of the Indian Army served in Malaysia and Singapore during World War II. When Britain surrendered Singapore to Japan on 15 Feb 1942, the vast majority of these soldiers were taken as prisoners of war (POWs). Their experiences during this period were harrowing and diverse, as they faced extreme conditions throughout their captivity. Initially, they suffered from severe overcrowding, inadequate food, and a lack of medical supplies, which resulted in a significant loss of life due to illness and malnutrition. As the war progressed, these soldiers were presented with a choice – join the Indian National Army (INA), an armed force that sought to secure India's independence by fighting alongside the Japanese, or remain POWs. Many chose to join the INA, driven by the hope of contributing to India's freedom struggle. However, not all of them joined the INA.

Those who did not join the INA faced even harsher conditions. Thousands were sent to labor camps, particularly in what is today Papua New Guinea, where they were subjected to brutal working conditions. Many lost their lives due to exhaustion, malnutrition, and disease. The plight of these soldiers is an often-overlooked chapter in World War II history, and their sacrifices deserve greater recognition.

I am currently researching the stories of these soldiers, both during and after the war. To that end, I am reaching out to veterans and their families who may have memories, documents, or stories to share. The goal is to preserve their legacy in a book that will be published in Aug 2025, coinciding with the 80th anniversary of the end of the war. Any materials shared will be reviewed and cleared with the families prior to publication.

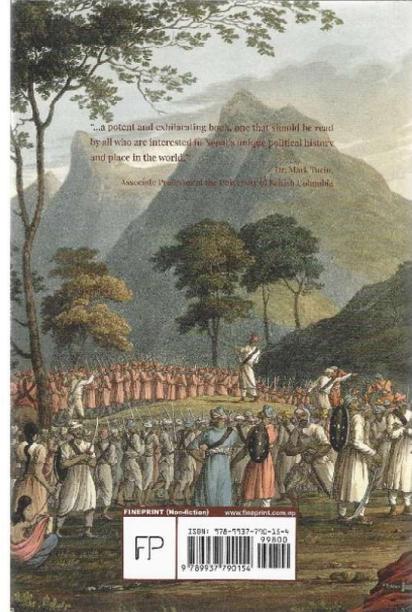
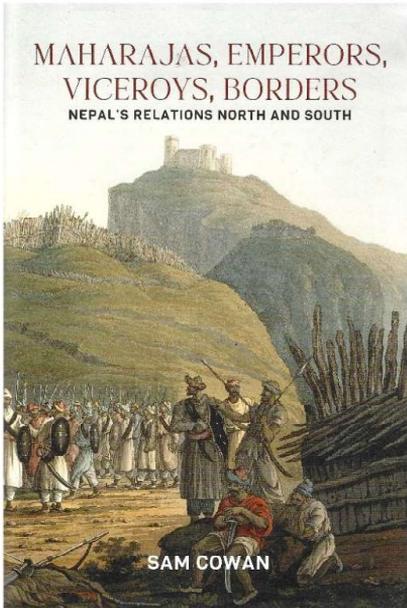
Gautam Hazarika

Gautam Hazarika grew up in India and after his MBA became a banker in 1993, moving to Singapore in 2002. After over 25 years in the financial world, in 2022 he started research as an amateur historian, his lifelong passion. Along the way, he has published many articles, and this would be his first book.

Review Articles and Book Reviews

Maharajas, Emperors, Viceroys, Borders: Nepal's Relations North and South

Sam Cowan



About The Author

Sam Cowan served with Gurkha soldiers for many years in Nepal but also in Malaya, Singapore and Borneo, eventually becoming Colonel of the Brigade of Gurkhas and the Chairman of the Gurkha Welfare Trust. In this capacity, he had official audiences with both King Birendra and King Gyanendra.

After retirement, he started researching and writing articles on Nepal's history. Apart from that, he has trekked extensively in Nepal. This book; 'Maharajas, Emperors, Viceroys, Borders: Nepal's relations North and South' written from a personal viewpoint is a collection of his important articles. As he states, "Retirement from the Army meant that he could express his views publicly".

Maharajas, Emperors, Viceroys, Borders: Nepal's Relations North and South by Sam Cowan, Pages 298, Price ₹ 449, ISBN-13:978-9937-790-15-4, Publisher Fineprint

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About the Book

The book comprises of eight articles which cover the period from the Anglo-Nepal wars till 2008. The first of which discusses the Kalapani Lipu Lekh border a disputed territory between Northwest Nepal and India, which after festering for several years, came to the forefront in 2020. Cowan provides much needed context and a detailed investigation into major aspects of the border that is now in the forefront of Indo-Nepal relations, including a history of the frontier, created in the aftermath of 1814-16 Anglo-Nepal war and subsequent Sugauli Treaty.

Drawing on reproductions of files and maps from archives and relevant academic studies, Cowan details the roles and limitations of the demarcation. While India felt that in order to provide security from China, India's sovereignty would only be guaranteed if the Himalaya's were secured, not just the Indian Himalaya but Bhutanese and Nepali too. Prime Minister Nehru has been quoted during his visit to Nepal in Jun 1959 as saying; "The Himalayas are the guardians and sentinels of India and Nepal and their white capped peaks welcome friends and are a warning to those of hostile intent". To do so required a strong military presence near or on other countries' borders. Yet while Nepal worried that it ran the risk of becoming a mere province of India, it also required assistance guarding its long remote frontier. The Indian military extended an offer to Nepal to help open and run border checkpoints between Tibet and Nepal and from 1952 to 1970, there were 18 Indian military checkpoints on Nepal's Northern frontier. As per Cowan, "Lipu Lekh's absence from the list is striking and revealing".

As regards Lipu Lekh, Cowan claims that there was a long-established diplomatic precedent for China and India treating Lipu Lekh as Indian territory and as a recognised border post between India and China. To quote Cowan, "India from the date of its independence has assumed and acted on the basis that the trail to Lipu Lekh fell exclusively within its territory and the ownership of the pass was exclusively between it and China".

China accepted this principle as per Article IV of the Sino-Indian Trade Agreement over the Tibet Border in 1954 and this status remained unchanged in both the Memorandum of Understanding on Border Trade during President Li Peng's visit to

Delhi in 1991 and the 'Protocol of Entry and Exit Procedure' for border trade in Jul 1992. In both these agreements Lipu Lekh was mentioned as a 'Mutually agreed border trading point'.

This was again reinforced in Article V of the Agreement between Prime Minister Manmohan Singh and the Chinese Premier, Wen Jiabao, on 11 Apr 2005. Whereas Nepal had made no attempt to create similar diplomatic convention or support, as he writes, "Nepal's case for Kalapani has been badly undermined by long years of silence on the issue by the country's leaders". Details of the case are too vast to go into here, but Cowan provides a balanced understanding of the border dispute and the geopolitical realities.

The truth is that the Sugauli Treaty signed on 04 Mar 1816 never had a map attached as 'All maps were so incorrect that no satisfactory judgement could be framed from them'. To put it simply the British wanted a trade route to Tibet 'Free of interference by the Gorkhas' and hence, Edward Gardner the Commissioner of Kumaon was given the 'Authority to move the boundary as far East' from the river and adjust the treaty terms accordingly'. In fact, the book quotes historical records to state that 'Nepal's recent claim to Limpiyadhura, based on what is written in the Sugauli Treaty and framed using almost identical words used by Bum Shah was firmly rejected by Lord Moira in Sep 1817'. In addition, the 'China-Nepal Boundary Treaty signed by King Mahendra in Beijing in Oct 1961 'Makes no mention at all to Lipu Lekh'. As per Cowan 'It corresponds to the 1879 map and the one claimed by India today'. Quoting Ambassador Rakesh Sood, "We now have a territorial dispute between India and Nepal and it's not going to be easy". "I think this will be remembered as PM Oli's lasting legacy to have created an insurmountable problem in India-Nepal relations".

Chapter three covers the three meetings at Lipu Lekh between the Surveyor Captain Webb who was responsible for carrying out the survey of Kumaon and Chinese Governor of Taklakot in May 1816 at Lipu Lekh. Cowan also writes about the Survey of India map of 'Kumaon and British Gurhwal' published in 1850, which accurately showed the line of the border as decreed in the Sugauli Treaty and quotes the Governor Generals letter of 05 Sep 1817 rejecting in the strongest terms, Nepal's claim to the land it is now claiming again. He states, "That there is no record of any official

in Kathmandu protesting against the ruling, and the matter rested there till 13 June 2020”.

The book is not just focused on border disputes. There is coverage of the Nepal-Tibet war of 1792, which was an awakening for the Gorkhas, who suffered a rare military defeat and were forced to sign a Peace Treaty and entered into a feudatory relationship with China.

Cowan also provides a detailed analysis of the East India Company and its relationship with the Qing Dynasty, and how this relationship directly impacted the British relationship with Nepal. He states, that “The English had become hooked on tea” which became a major source of profit for the East India Company and China was the only producer, hence, there was acute sensitivity to Chinese feelings. Hence, before launching the war Lord Moira obtained ‘Informed views on likely Chinese reactions’.

The book also throws light on how the Nepalese tried to draw the Chinese into the war. The Nepalese ‘Wanted China to support its military rivalries, the pleadings of which intensified in 1814. Cowan says, “Nepal’s intricate manoeuvres ended total failure”. He goes on to write that ‘They also found out the hard way just how limited and restricted were China it owed its vassals.’ He also gives insights into what the British wanted in the aftermath of the Gorkha war, what the Quing dynasty thought about this and the Western borders of Nepal.

There is an in-depth essay on King Mahendra and his role in key events of Nepali history, including the drafting of the 1959 constitution by Sir Ivor Jennings, who wrote the Ceylon Constitution in 1946 had a completely different mindset to the man who was called to help draft Nepal’s new constitution. Amid Cold War imperatives placed political stability over the democratic rights of Nepal’s citizens thereby favouring the ‘Hereditary Executive’ giving him total and absolute control over the Army, leading the way for King Mahendra’s subsequent coup in 1960.

In fact, the book clearly brings out how he prevented the advent of democracy by arresting BP Koirala the first Prime Minister. Cowan does an admirable job in portraying both the fallout and resistance to the coup, but the inner worries and doubts of King Mahendra and criticism by the West, fortunately for King Mahendra the 1962 Indo China war ‘Came to his rescue’, thus saving ‘his imposed Panchayat system and his absolute position within it’.

In addition, after the Nov 1962 war, Indian opposition to Mahendra weakened rapidly and he was able to embark on his much-acclaimed strategy of playing China off against India, which essentially consisted of worrying India that he was getting closer to China.

The various facets of the relationship between the Ranas, who ruled Nepal autocratically for 104 years, and the British, who gave them legitimacy, is given out beautifully. The book also covers the importance that the many military awards and insignia played in internal Rana politics. As the Ranas greatly desired these awards, this keenness to get not just an award but the most senior and prestigious one possible gave the British officials more opportunities to try to use the awards to get Nepal's rulers to adopt policies that were advantageous to British interests.

While the essays cover how the Nepalese allowed recruiting of Gurkhas for the British Indian Army to take place, it also throws light on an interesting facet of the character of the Ranas as General Sir Kaiser Shamsheer Jung on being appointed as Knight of Most Excellent Order of the British Empire wanted Garrads of London to make him an extra-large star as he thought the regulation pattern star was not impressive enough.

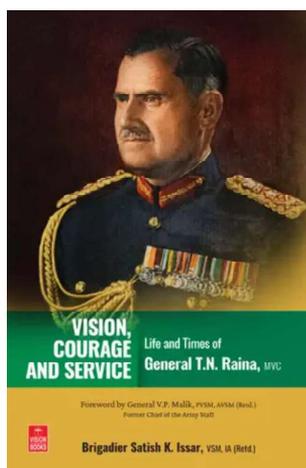
Conclusion

The book, backed by maps and historical documents gives an insight into key aspects of Nepali history throwing light on some lesser-known aspects by the authors access to archival material. Each chapter takes a particular historical episode and with Cowan's 'Obsessive Commitment' to dig deep reveals certain facts that throw light on the events from an unusual angle.

Meticulously researched, analysed and written with intellectual rigour, the book is an insightful collection on key events which include the Anglo-Nepal War of 1814-16 and the Treaty of Sugauli in 1823 and their relevance to contemporary issues including the dispute regarding Lipu Lekh and the area to its West known as Limpiyadhura. It is a book that is both scholarly and readable and needs to be read by those who are interested in Nepal's unique political history and its impact on India.

Major General Jagatbir Singh, VSM (Retd)

Vision, Courage and Service, Life and Times of General TN Raina, MVC by Brigadier Satish K. Issar, Pages 500; Price ₹ 599/-, ISBN-13 : 978-9386268518 Published- Vision Books Pvt Ltd; First Edition (1 Jan 2021);



The autobiography of this heroic Indian General, 'The Life and Times of General TN Raina, MVC', brings out the true spirit of a warrior. General Tapishwar Narain Raina, MVC, the esteemed former Chief of the Army Staff with a remarkable tenure from 1975 to 1978, remains enshrined in the annals of Indian military history. While this autobiography captures his career trajectory and the accomplishments brought to the Indian defence arena and the world, it also traces his personal ethos as the Chief of the Army Staff, General Raina's career out of which the Indo-Pak

War that began in Dec 1971 was one the most crucial ones that saw Raina at his tactical best. Brigadier Issar skilfully conveys Raina's strength in the leadership role during this dangerous period, focusing on vision and courage in the face of danger and hardship. He provides vivid narration of strategic sessions, frontal encounters, together with his interactions with the troops and this makes it easier to appreciate the temperament of this hard-featured, strict yet compassionate commander. Another area where the biography is excels is in explaining is due to the much focus used in explaining how Raina's leadership styles when serving in the general service years was different from those in his higher rank positions. Issar gives a blow-by-blow portrayal of Raina's coming of age in the Indian Army but intersperses his narration with powerful moments detailing Raina's bravery and strategic prowess on the battlefield. One of such narration can be typified by his fighting experience in World War II and the Indo-China conflict with real life lesson on holding his ground in the face of adversity. Additionally, the book also reveals the behind the scenes work of General Raina in improving the quality of life of soldiers and their dependents. His concerns and efforts to improve living standards of his men and their promotion are described with due consideration. Issar spends quite some time recounting the visionary ideas of General Raina such as revamping the Indian Army's infrastructure and pushing

for technology, which have brought lasting changes to the force. With regard to criticisms, it is important to note that although the book provides a good, detailed account of General Raina's life it tends to be hagiographic at times, which may give an impression that critical examination of some of the contentious actions during his leadership is lacking. Such incidents are rare and do not negate the primary goal of providing factual information about his life and his service. In addition, there are photographs and documents that complement the material and give the reader more insight into the text, 'Vision, Courage, and Service'. These are not just illustrations but tools that make the historical narrative more personal and less abstract, where faces are given to names and situations to the events narrated. Thus, the biography 'The Life and Times of General TN Raina, MVC', is an excellent example of a work that does justice to the person. It not only tells one about the major events of General Raina's life but also gives one an idea about the temperament of a man who was a soldier and a gentleman. This book is an informative read for all those interested in the history of the Indian military, and it would indeed inspire many in the forces as well as other citizens of the country. It is written in a very professional, precise, and polite manner that is best suited for those who wish to gain insight on military hierarchy and the honor in serving the country.

Summing up the analysis of General TN Raina's biography as narrated by Brigadier Satish K Issar, one can emphasise that one of the chief values of this work is in the fact that it goes beyond the concept of military heroic deeds. The job that Issar is portraying is the human aspect of leadership, which is empathy, moral character and a doggedness on nation building. These qualities depicted in the book present General Raina not only as a military strategist but also as a symbol of unchanging values that are relevant to both military and civilian societies. A biography is not just a story of someone's life but turns it into a story of leadership that can be followed and continued. In the pages of this book, the entire life story of General Raina is revealed in a way that is nothing short of inspirational on the traditional values of leadership and unyielding spirit of servant leadership which cuts through generations and is relevant to anyone in leadership irrespective of the position adopted.

Dr Jyoti Yadav

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The following are eligible to become members of the Institution:

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- Class I Gazetted Officers of Group 'A' Central Services.
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For further particulars, please write to Director General, USI of India, Rao Tula Ram Marg, (Opposite Signals Enclave) Post Bag No. 8, Vasant Vihar PO, New Delhi – 110057.

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OUR ACTIVITIES

Centre for Military History and Conflict Studies (CMHCS)

The CMHCS was established in Dec 2000 at the behest of the three Service Headquarters for encouraging an objective study of all facets of Indian military history with a special emphasis on the history of the Indian Armed Forces. It focuses on diverse aspects of the history of Indian military evolution, policies, and practices—strategic, tactical, logistical, organisational, socio-economic, as well as the field of contemporary conflict studies in the broader sense.

Centre for Atma Nirbhar Bharat (CANB)

The centre was established on 01 Jan 2024 and also includes Cyber Centre of Excellence (CCoE) as part of it in conjunction with Cyber Peace Foundation. The centre's objective is to forge emerging technologies with geostrategic and geopolitical situations with a view to make the services self-reliant by making possible the indigenous production of defence equipment and spares. The CCoE trains military personnel in artificial intelligence, cyber, and machine learning in addition to cyber forensic analysis in its well-equipped lab.

Gold Medal Essay Competition

Every year the Institution organises a Gold Medal Essay Competition open to all officers. These essays, the first one of which was introduced in 1871, constitutes a barometer of opinions on matters that affect national security in general and the defence forces in particular.

USI War Wounded Foundation Joint Essay Competition

This essay competition was instituted in 2021 after the signing of the Memorandum of Understanding between USI and the War Wounded Foundation. The competition is open to all across the globe and must be on the subject of issues relating to the experiences and/or rehabilitation of war disabled personnel of the Indian Armed Forces.

Lt Gen SL Menezes Memorial Essay Competition

This has been instituted from 2015 on a subject related to armed forces historical research. The essay competition is open to everyone, all across the globe.

Lectures, Discussions, and Seminars

A series of lectures, discussions, and seminars on service matters, international affairs, and topics of general interest to the services are organised for the benefit of local members in Delhi.

MacGregor Medal

This medal is awarded to armed forces personnel for valuable reconnaissance and adventure activity they may have undertaken.

Centre for Strategic Studies and Simulation (CS3)

The erstwhile Centre for Research and its resources have been merged into the new centre named as CS3 w.e.f. 01 Jan 2005. The centre aims at conducting detailed and comprehensive enquiry research, and analyses of national and international security related issues, and gaming and simulation of strategic scenarios, to evolve options for wider discussion and consideration.

Centre for UN Peacekeeping (CUNPK)

The centre was established in 2000 and functioned with USI to organise workshops, seminars, and training capsules for peacekeepers, observers, and staff officers, both Indian and foreign. It also oversaw the practical training of Indian contingents. In Aug 2014, CUNPK moved out under the Integrated Headquarter of Ministry of Defence (Army). The USI has now established a United Nations (UN) Centre which is focusing on operational, strategic, and policy issues related to UN Peacekeeping. It also organises seminars and conferences on such issues.

Correspondence Courses

The Institution runs regular correspondence courses for officers of the armed forces to assist them in preparing for promotion examinations, and for the entrance examinations to the Defence Services Staff College and the Technical Staff College. Over the years, this has been significant and well-received activity.

USI Journal

The USI Journal is the oldest surviving defence journal in the country and in Asia, having first appeared in 1871. In the era when there is a feeling that free expression of views by defence personnel is not looked upon kindly by the establishment, the journal in fact provides just such a forum, without regard to seniority and length of service in the armed forces, subject to propriety and quality of the written work.

Library and Reading Room

The library holds over 68,000 books and journals, including some books from the 17th, 18th, and 19th Centuries, on an astonishing variety of subjects. While the principal emphasis is on strategy and defence, there are a large number of works on different vistas of Indian life. There are memoirs, biographies, recollections, diaries, journals and manuscripts for scholars and researchers. The reading room is air-conditioned, spacious and well-stocked in terms of current reading material. Library was automated in 2002.