USI Strategic Year Book

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United Service Institution of India

Strategic Year Book
2022

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"Speak softly but carry a long stick; you will go far"

— Theodore Roosevelt

Abstract

The world recently has witnessed three strategic shocks in succession viz. Covid pandemic, Talibanisation of Afghanistan and Ukraine conflict. The 'New Cold War' has escalated in Eurasia and is likely to engulf the Indo-Pacific Region as well. The ripple effect of strategic rivalry is being felt in South Asia, wherein amidst the chronic India-Pakistan-China rivalry, we are witnessing politico-economic instability in South Asian countries. The ensuing geopolitical developments point towards heightened strategic brinkmanship between the 'Great Powers' over domination of locations, resources, trade, technology, and political influence. Russia's invasion of Ukraine has put a new lease of life in NATO and consolidated the Euro-Atlantic alliance. The U.S. is continually upgrading its Indo-Pacific vision and revamping the East Asian security alliance system. In contrast, Russia – China strategic embrace is expanding to include some other Asian countries. Amidst evolving contestation, what emerges is hedging, aligning, and balancing by the middle level/small powers to protect their respective national interests. These geopolitical developments are bound to alter the strategic security landscape of the world, especially in Eurasia and the Indo-Pacific. India is recognised as an emerging world power. However, India is beset with internal security challenges that are inextricably linked with external collusive hybrid threats. Further, Ukraine crisis poses a major dilemma on India's multi alignment foreign policy and strategic security concerns. It is, therefore, imperative to carry out a comprehensive horizon scan and study its impact on India's strategic interests.

Introduction

Historically, Black Swan events like 'Black Death' during the 14th century, 1918 flu pandemic, the Great Wars, break up of Soviet Union, 9/11 terrorist attacks on U.S., 2008 financial crisis, etc., have disrupted the balance of power and begun a new paradigm in the international order. We have seen the world continually transiting from bipolarity to unipolarity to nascent multipolarity to bipolarity 2.0. Strategic pundits coined a new epithet of 'asymmetric bipolarity' to describe U.S.-China as contending powers in a milieu of diffused multipolarity, wherein, the middle level and small powers were seen hedging, aligning, and rebalancing their national interests vis a vis the two behemoths. In this strategic milieu, India fast positioned itself as a leading power in the comity of middle-level powers. However, since 2020, three successive strategic shocks viz, Covid pandemic, Taliban victory in Afghanistan and Russia's invasion of Ukraine, have caused major disruptions in the evolving geopolitical landscape. Literally, the evolving strategic environment is characterised by Volatility, Uncertainty, Complexity, Ambiguity (VUCA).

Covid pandemic inter alia put globalisation in the reverse gear, jolted global economy and took the sheen away from Pax-Americana and Pax Sinica; during the pandemic crisis the U.S. failed to lead, whereas, China exhibited belligerence in pursuance of its narrow core interests. The undignified withdrawal of America from Afghanistan has heightened the

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risk of a Talibanised Af-Pak Region becoming an epicentre of Jihadi terrorism. America's exit has severely damaged its strategic interests in Eurasia, thus reducing U.S. status to a marginal player in the region. In the meanwhile, in a classic 'Great Game' playbook, Ukraine and Eastern Europe have emerged as the new arena of strategic brinkmanship. The contending sides have made a series of miscalculations and are unlikely to relent from their strident positions. What is manifest is a full-blown hybrid war by Russia and a proxy war by U.S. led West on the chessboard of Ukraine. The world is back to bipolarity: a U.S. led Euro-Atlantic Alliance is matched by Russia-China strategic alignment. The evolving geopolitical scenario has put India on the horns of dilemma in regard to its external balancing at a juncture when its internal security and collusive hybrid threats remain unabated. India is regarded as a swing player in the ensuing strategic brinkmanship. It therefore incumbent for strategic thinkers to objectively carry out a horizon scan and study its implications for India. This must begin with elucidation of India's strategic vision.

India's Vision

India strives to emerge economically strong, socially cohesive, militarily powerful, culturally vibrant, at forefront of science & technology, pragmatic & influential in international relations and a confident and satisfied society in pursuit of dignified peace & tranquillity in a multipolar world. At the heart of India's national interests is the well-being of citizens and the image and influence of our nation state. For accomplishing these lofty goals, it is paramount to develop comprehensive national power (CNP) and configure it to promote national interests. However, India's comprehensive national development is predicated on a stable internal and external security environment.

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Internal Security Scan

Jammu & Kashmir. The security scenario in Kashmir, post abrogation of Article 370 and delimitation of assembly seats, has shown incremental improvement. While the terrorist eco-system has been considerably disrupted, issues of radicalisation, alienation, and residual terrorism remain. Pakistan is finding new ways and means to keep the terrorism pot boiling. It is exploring new routes of infiltration south of the Pir Panjal, particularly in the International Border (IB) sector, and across the porous borders of Nepal and Bangladesh. It is using tunnels and quadcopters to supply weapons to the beleaguered terrorists operating in the hinterland. Use of mini drones for terrorist strikes against sensitive VAs and VPs has added a new dimension to Pakistan initiated terrorism. The 'Resistance Front' that combines terrorist organisations such as Lashkar-e-Taiba (LeT), Hizbul Mujahideen and Al-Badr is the new brainchild of ISI. There are reports of recruitment by Al Qaeda in the Indian Sub-Continent (AQIS) from South Asian countries and recovery of weapons sourced from Afghanistan in Kashmir. Building on the success of District Development Council elections, we need to hone our kinetic and non-kinetic approaches to combat terrorism. It is certain that implementation of 'Naya' (New) Jammu & Kashmir' package, good governance, fast-paced development, crackdown on corruption, job creation and engagement with youth will steadily usher peace in the restive region. Concurrently, misperceptions about demographic inversion and loss of land to outsiders and aspirations about restoration of need to be addressed. The Kashmir imbroglio should be addressed from the perspective of strategic security imperatives and not from the prism of political one-upmanship.

Punjab. **Pakistan'**s design to link cross border terrorism in Kashmir with Punjab (K2 — Kashmir and Khalistan) is well known. Pakistan has potential to inject lumpen anti- national elements in the civil society movements and exploit the prevailing polarised political climate in the state to its advantage. Despite Pakistan's nefarious design, barring sporadic low level terrorist attempts, the state has remained dormant. However, recent incidents such as arrest of four gangsters in Haryana, with Khalistan links carrying weapons and explosives, putting up the Khalistan flags on the wall of the Himachal Pradesh State Assembly and the rocket-propelled grenade blast that occurred outside the Punjab

Police Intelligence Headquarters in Mohali point towards determined efforts to revive terrorism in the state. A number of Khalistan militant organisations are patronised by the ISI. The role of a socio-political movement namely 'Sikhs for Justice' has come under scrutiny. Pakistan has resorted to use of drones for supply of weapons and narcotics and leverages Kartarpur pilgrimage for anti–India propaganda by its Khalistan proxies. It is high- time that both Centre and State avoid blame games and formulate a comprehensive and proactive counter terrorism strategy to defeat Pakistan's Khalistan ploy in the state.

Northeast India. The roots of insurgency in the North Eastern India are embedded in its geography, history and a host of social economic factors. About 98 percent of the borders of the region are international borders. Causes for conflicts in the region range from insurgencies for secession or autonomy, sponsored terrorism, ethnic clashes and migrations from other Indian states and across the border. Lack of economic development and poor infrastructure have further added to the prolonged conflicts in the region. The recent ambush and killing of commanding officer, his family members and four other soldiers of 46 Assam Rifles in Manipur, and unfortunate incident at Oting village of Nagaland in December 2021, reflect the fragility of situation. China's fallacious territorial claims in Arunachal Pradesh and its propensity to fuel insurgencies on one hand and civil-military conflict in Myanmar, on the other, have serious ramifications for security and development of this strategically vital gateway of India's Act East policy. Security of Siliguri corridor against hybrid threats merits detailed assessment, formulation of strategy and creating integrated mechanisms. Other critical areas that merit immediate attention are; the signing of Naga framework agreement, ethnic reconciliation in Manipur, comprehensive review and revamp of border defence and security, fast-track trans-Brahmaputra and trans-Arunachal Pradesh multimodal connectivity, acceleration of Kaladan and trilateral highway projects, creation of heritage tourism circuit, establishing regional medical and educational facilities, nurturing local sports talent and boosting domestic economy. There is a need to create an overarching umbrella organisation that incorporates all stakeholder to boost connectivity, commerce, culture and security.

> **Ladakh has emerged as the most formidable sector where Pakistan and China's politico-military objectives coalesce. Of utmost concern is PLA's forward offensive posture in the Depsang sector that has security implications for defence of Siachen glacier and contingencies in Gilgit-Baltistan.**

Regional Scan

China-Pakistan Strategic Nexus. This collusivity will manifest in multi-domains and in a 'Grey Zone' environment across the spectrum of conflict; ranging from Non-Contact Non-Kinetic, Non-Contact Kinetic and sectorial skirmishes at the LAC & LOC, with potential for horizontal and vertical escalation under a nuclear overhang. Some of the issues that merit attentions are as follows:

➢ Ladakh has emerged as the most formidable sector where Pakistan and China's politico-military objectives coalesce. Of utmost concern is PLA's forward offensive posture in the Depsang sector that has security implications for defence of Siachen glacier and contingencies in Gilgit-Baltistan. Pakistan military observers are posted at the HQ of Xinjiang Military Command and Western Theatre Command. There is bound to be more coordination in planning and execution of military plans in Ladakh and J&K. Regular Pakistan military and PLA training point towards an enhanced interoperability between the two forces.

➢ Pakistan has well-honed low-end asymmetric capabilities, whereas, China is fast developing disruptive technology based high-end war waging capabilities. It is pertinent to closely monitor China's assistance to Pakistan in areas of dual use infrastructure, ISR, AI, missile and nuclear technology, cyber, EW and outer space.

➢ In view of Indian Army's pivot to the North that among other steps involved re-deployment of combat formations from the border with Pakistan, there is a need to revisit our punitive deterrence capabilities and

operational strategy against Pakistan. The ongoing ceasefire at the LoC should not lull us into complacency as Pakistan military is unlikely to reconcile with its hostile design towards India.

➢ With regard to China, strong forward deterrence posture with a credible Quid-Pro-Quo (QPQ) capability is a 'sine qua non'. Measures need to be taken to address the challenge posed by China's Strategic Support Force. Speedy measures are needed to address vulnerabilities in un-held and lightly-held Middle sector and Eastern Arunachal Pradesh.

➢ Deeper thought is needed for internal balancing with specific reference to disentangle Army from CT/CI role. Restructuring, re-orienting and re-deploying Rashtriya Rifles merits a serious thought.

➢ There is growing nexus between China and Pakistan in Nepal, Afghanistan and Maldives. In our external balancing we ought to perpetuate Pakistan and China's two front dilemma on the Durand Line and in the western Pacific respectively.

Immediate Neighbourhood

Barring Bhutan, all our neighbouring countries are signatories of China's Belt and Road Initiative (BRI) and Maritime Silk Route (MSR). China is developing China Myanmar Economic Corridor, China Pakistan Economic Corridor and China Nepal Economic Corridor. Besides these, Bangladesh, Sri Lanka, and Maldives have joined the MSR. In the Indian Ocean Region (IOR), China is developing many critical infrastructure projects that have the potential for military use. With its main military base at Djibouti, these projects have the potential, when completed, to significantly enhance China's maritime capabilities in the IOR and alter the strategic balance in its favour at India's cost. In light of the above, the following points are relevant for India:

> **Pakistan is in the throes of an unprecedented politico-economic crisis with a possibility of plunging into chaos. It is facing serious threat from Tehrik e Taliban of Pakistan and Balochistan Resistance groups.**

➢ Pakistan is in the throes of an unprecedented politico-economic crisis with a possibility of plunging into chaos. It is facing serious threat from Tehrik e Taliban of Pakistan and Balochistan Resistance groups. The society is getting deeply polarised with radical groups like Tehrik e Laibaik calling shots. A Talibanised Afghanistan has turned out to be Pakistan's nightmare. Serious differences have emerged over fencing of the Durand Line, TTP using safe havens in Afghanistan, sectarian violence, refugee problems, Pashtun Tahfuz Movement and resentment over Pakistan airstrikes inside Afghanistan leading to civilian casualties. Humanitarian crisis and sectarian violence in Afghanistan will compound Pakistan's internal security problems at a juncture when the country is politico-economically fragile. In the worsening scenario the possibility of improvement of Indo-Pakistan relations will remain a pipedream. There is a strong possibility of military establishment playing Indian bogey to deflect public attention from internal chaos. India should look at all possible, 'what if' scenarios and be prepared with well thought-out response strategy.

➢ Socio-political and economic crisis has virtually led to collapse of Sri Lanka as a state. The government of Rajapaksa brothers has fallen and even the opposition stands discredited in the public eye. Given the dire state of economy, incapacity to payback international debt, foreign currency crunch, shortage of critical food, fuel and medicines, an unprecedented humanitarian crisis is looming large. Sri Lanka is on the brink of a civil war and open to terrorist attacks by Islamist and Tamil militant groups. Instability in Sri Lanka will have far-reaching political and security implications for India.

➢ The military takeover in Myanmar that is being tacitly supported by Beijing has created a dilemma for India to balance its realpolitik with a principled stand on the virtues of democracy. Another security challenge for India

is how to deal with the Karen Army in Myanmar that is determined to impede progress of Kaladan project and its further extension into the trilateral highway which is imperative for the successful implementation of India's Act East Policy.

➢ China is determined to undermine the status of Bhutan and Nepal as India's strategic buffers and drive a wedge in the Indo-Bangladesh and Indo-Sri Lanka relation. China has created a very strong pro-Beijing lobby in Nepal that is being manipulated to adopt an anti-India stance and marginalise India's traditional sphere of influence. Influx of Chinese goods from across porous border has potential of denting our regional economy and posing multitude of asymmetric threats to the Siliguri Corridor. Credible reports suggest a strong Pak-China nexus in Nepal, particularly in the Terai region is growing, to abet cross-border terrorism in India.

➢ With regard to Bhutan, we need to have a 'de novo' look at our military plans to ensure a pre-emptive forward military deployment supported by long range fire power to maximise our Chumbi valley options and deny PLA to pose a serious threat to Bhutan.

➢ India must show urgency to implement its 'Neighbourhood First Policy' in letter and spirit by invigorating initiatives such as Act East Policy, Bangladesh, Bhutan, India, Nepal (BBIN), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), Trilateral Maritime Security Initiative with Sri Lanka, Bangladesh and Myanmar and expansion of platforms such as Indian Ocean Naval Symposium (IONS) and Indian Ocean Rim Association (IORA).

> **The Great Game in Afghanistan will affect the great power relations in the Indo-Pacific and Eastern Europe. China's trade and BRI has increased economic dependence of Central Asia on Beijing.**

Eurasia

The Mackinder's heartland, has recently witnessed unprecedented geopolitical developments that have altered the balance of power in favour of Russia and China. After the unceremonious exit of the U.S. from Afghanistan, its influence and image in Eurasia has significantly dented. The Taliban regime remains isolated and the country is facing an unprecedented humanitarian crisis. Talibanised Afghanistan will remain a source of regional instability. The Great Game in Afghanistan will affect the great power relations in the Indo-Pacific and Eastern Europe. China's trade and BRI has increased economic dependence of Central Asia on Beijing. Russia on the other hand continues to be a net security provider in Central Asia as was seen by its intervention in the garb of CSTO in the recent political turmoil in Kazakhstan.

India's geographical connectivity to Central Asia has been impacted due to Taliban take-over of Afghanistan and U.S. sanctions on Iran. Non-operationalisation of International North-South Corridor and Chahbahar-Zaranj-Delaram Axis is impeding India's outreach to the region. Proposals such as extension of CPEC to Afghanistan and creation of a condominium of Pakistan and China for capacity building is being pushed forward to marginalise India's role and influence in a Taliban controlled Afghanistan. However, the silver lining for India is its popularity amongst the masses, cutting across the ethno-regional divide. A vast majority of Afghanistan leadership - leaving aside Pakistan's proxy of Haqqani network may welcome India's continued participation and assistance in building a new and prosperous Afghanistan. Efforts to reach out to moderate elements in Taliban and leaders of erstwhile Northern alliance must continue. Diplomatic engagement with Russia, Iran and Central Asian states must continue to balance Pakistan-China-Taliban strategic nexus.

The most significant development that has impacted the balance of power is the Ukraine conflict. Russia's invasion of Ukraine, tacitly supported by China, is bringing about a new paradigm in the balance of power. The recently concluded Xi Jinping - Putin Summit during the 'Winter Olympics' has led to further consolidation of their strategic interests vis-à-vis the U.S. and NATO. On the other hand, Russia's invasion of Ukraine has led to the consolidation of the NATO

and Euro Atlantic alliance. The world is in the throes of a heightened confrontation between the West on one side and Russia-China's strategic nexus on the other. Russia's embroilment in Ukraine has implications for India.

India-Russia trade has crossed $15 bn since 2018. Over 60% of Indian military inventory is of Russian origin, especially with respect to fighter jets, tanks, helicopters and submarines among others, while several major deals are in the pipeline. Russia's embroilment in Ukraine conflict and consequential economic sanctions imposed on Moscow will have serious implications on the procurement of the S-400 air defence systems, modernisation of frigates, induction of nuclear-powered submarines, AK 202 assault rifle project, Very Short-Range Defence Systems, spares for Brahmos, R-27 Air to Air Missiles and modernisation of AN 32-transport aircraft fleet. Likewise, import of fossil fuels under rupee-rouble exchange may have attendant repercussions as far India's western strategic partners are concerned.

West Asia

India's strategic interests in West Asia revolve around energy security; India imports about 2/3rd of its energy requirements from the West Asian countries. Further, security of eight million diaspora and billions of dollars of remittances sent home by the Indian workers from the region is important. Also, India must balance its interests between Israel, Saudi Arabia and Iran and checkmate Pakistan's nefarious agenda at the Organisation of Islamic Cooperation (OIC). Recently, India's relation with the UAE, Saudi Arabia, and other Gulf Cooperation Council (GCC) countries have significantly improved. Nonetheless, a new Islamic bloc that comprises Pakistan, Turkey and Malaysia needs deft diplomatic handling. India also needs to take extra measures to balance growing influence of China in the region. India must be extra vigilant on the import of Wahabi ideology and Daesh radicalised Indian youth.

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Indo-Pacific

The Indo-Pacific is the centre of gravity of the global power shift. Whether you gauge by demography, geography, economy, military or any other metric, the salience of Indo-Pacific stands out. The region serves as an interconnecting space to the Indian and Pacific Oceans, from a security and commerce perspective. Indo Pacific accounts for over 70 percent of global trade in goods and services, and 60 percent of global foreign and direct investment flows.

At the heart of strategic brinkmanship in the region lies contestation between assertive China and the reigning hegemon (the U.S.) over trade, technology, domination of locations, and military muscle flexing. With the election of President Joe Biden, the imperative of balancing China gained traction. In fact, there is a bi-partisan view in the U.S. to checkmate and balance an assertive China. Joe Biden's slogan of 'America is Back' is seeking to revive America's leadership in protecting the extant world order. Pronouncements such as 'Build Back Better World (B3W)', Bluedart initiative, mending East Asia and Euro-Atlantic security alliances, strengthening NATO, revamping QUAD and the very creation of AUKUS are aimed at balancing China's ascent in the Indo-Pacific. There is a renewed focus on QUAD; the U.S. has articulated a new Indo-Pacific vision which in most of its elements finds convergences in similar visions espoused by India, Japan, Australia, UK, Germany, and France. The collective vision of democratic construct is steeped in free and open Indo-Pacific, respect for rule-based international order, and collaboration in domains of health, climate change, trade, diversification of supply chains, infrastructure development, technology, and comprehensive maritime security.

These developments are viewed by Russia and China as inimical to their strategic interests. In contrast, China's Indo-Pacific strategy has three prominent prongs; one, creation of a China-centric Asian economic order through BRI, RCEP, and alternate economic institutions such as AIIB, follow a Two Ocean Anti-Access and Anti Denial (A2D)

military strategy, concomitant with strategic coercion of Taiwan and other Indo-Pacific littorals and using North Korea and a nuclear wildcard. Russia – China joint military exercises in the East China Sea are part of a continuum to countervail the America-led security alliance system. What we are witnessing is the era of Multi-Domain Warfare and Grey Zone conflicts that are far more complex and pernicious than classic state to state conflicts. The geopolitical contest between the major powers has put smaller countries on the horns of strategic dilemmas; ASEAN Indo-Pacific vision is rooted in neutrality and, likewise, other smaller countries are seen hedging, aligning, and balancing their security and economic interests.

India is seen as a lynchpin in the Indo-Pacific strategy with a potential to swing the balance of power. India's national interest stretches from the East coast of Africa to the Strait of Malacca. Nonetheless, India's QUAD ambition has certain attendant challenges. India needs the U.S. waiver on 'Countering America's Adversaries Through Sanctions Act (CAATSA)' to acquire S-400 AD system from Russia. Moscow, on the other hand, plays the Pakistan and China card to dissuade India from wholeheartedly band-wagoning with the U.S.. India is not part of U.S. led security alliance in the manner of Japan and Australia. Moreover, India is susceptible to China's military adventures at the LAC. Therefore, India must do an exceptionally fine balancing act to steer its strategic interests in a complex milieu. India, however, enjoys excellent relations with not only remainder QUAD countries, but with the European democracies, ASEAN, and other middle level powers. India's MALABAR series of exercises and its bilateral military exercises enhance India's salience as a credible maritime power in any new geopolitical construct that could fashion a non-hegemonic and multipolar international order. India, therefore, must work assiduously to vector the concert of middle level power that is so very essential for a polycentric Asian order.

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In the ongoing toxic milieu, India — a key QUAD partner is beset with strategic dilemmas. India's heavy arms import dependence on Russia and other diplomatic factors, particularly the China factor, have made it abstain from voting at various UN resolutions moved against Russia. Nonetheless, Moscow remains somewhat sceptical about India's cosying up to QUAD, or for that matter signing a slew of security related fundamental agreements with the U.S.. India's voting behaviour at the UN has raised eyebrows from its QUAD and other Western partners. While partner countries have exhibited some understanding of India's difficult choice, but their lurking disappointment cannot be ignored. How India navigates these choppy geopolitical waters is a big politico-military challenge? For the time being, the U.S. has abstained from invoking CAATSA against India for the import of the S-400 air defence system from Russia. The U.S. has also shown empathy towards India for its decision to import fossil fuels from Russia at cheap rates. But for India, it will be an uphill task to continually ignore U.S.-led west expectations, lest it is branded as an outright Moscow supporter. Russia, in turn, will expect India to render unstinted support in the hours of future reckoning. The shadow of Ukraine conflict will loom large on the geopolitics of Indo-Pacific. Concerns are afloat regarding China upping the ante on Taiwan and demonstrating more assertive behaviour in the Western Pacific. There are expectations of a more robust response from the U.S. to stand by its security alliance clauses and shed off its strategic ambiguity on Taiwan. An opinion poll reveals that more than 70 percent of the population in Taiwan are ready to pick up arms to resist China's military invasion of Taiwan. There is a growing propensity in North Korea to test more nuclear missiles and demonstrate its intent to target Japan, South Korea, and American military bases in the region. Ukraine crisis has once again established the efficacy of nuclear weapons in the strategic calculus of countries as an effective tool of deterrence. Growing nuclear threat may raise the pitch for extension of the U.S. nuclear umbrella by Japan and South Korea or may even nudge them to take the nuclear weapon route. These developments are bound to alter the strategic military balance in the Indo-Pacific, trigger arms race and hasten the pace of dangerous military manoeuvres. Western Pacific is studded with volatile flashpoints, viz Taiwan, military muscle flexing in South China Sea; East China Sea and nuclear sabre-rattling by North Korea. Propensity to undertake dangerous military manoeuvres in

an environment of historical animosity, deep strategic mistrust, hyper-nationalism may lead the contesting parties to misread signals and miscalculate responses. An accidental clash may take the contestants up the escalation ladder and across the spectrum of conflict into a major military confrontation under a nuclear overhang.

Global Order

Post 2nd World War the world order has continually transited from bipolarity to unipolarity, to diffused multi-polarity, to asymmetric bipolarity (China and U.S.) and back to bipolarity. Geopolitical developments in Eurasia and Indo-Pacific nudge strategic thinkers to reflect and debate over the following issues:

> Intensified contestation over political systems, domination of locations, resources, trade, technology, digital divide, military modernisation and posturing.

> Multidomain warfare involving domains such as political, economic, diplomatic, military/non-military and informational using multitude of means namely state, non-state, military, non-military, linear and non-linear and amorphous Grey Zone conflicts. Lines between classic conflicts and asymmetric conflicts will be blurred and increase dilemma of security, insecurity, action and inaction.

> Ascent of disruptive technology as a key instrument of national power to assert state authority.

> Revamped Euro-Atlantic alliance, expansion of NATO, U.S. East Asia Security alliance and possible expansion of QUAD and AUKUS.

> Operationalisation of Comprehensive Progressive Agreement for Transpacific Partnership (CPTPP) to balance China dominant RCEP.

> Geopolitics of G-7 and G-20.

> Geopolitics of energy, food and fertiliser supply chains, and financial system.

> America's asymmetric wars through Ukraine and Afghanistan to weaken Russia and balance China.

> Salience of China, Russia, Iran, Pakistan, North Korea alliance to balance Euro- Atlantic alliance.

> Russia's dependence on China.

> European dilemma of Hungary, Germany, France and Germany balancing their relations between U.S. and Russia and resultant fissures in the Euro-Atlantic alliance.

> Balancing and rebalancing of middle level and small powers, particularly India, Brazil, South Africa and some ASEAN countries.

> The rocking of the global order gobbling of smaller states by big revisionist states who claim others territories based on fabricated historical claims.

> Increased defence spending and new arms race.

> Set back to global initiatives such as climate change and world trade.

> Efficacy of UN and other international institutions and reforms for them.

> Strategic communication and use of social media for contestation of competing narratives.

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Military Affairs

Indian Armed Forces as instrument of last resort have effectively protected India's sovereignty and territorial integrity against asymmetric and conventional threats. However, low allocation of defence budget, high military arsenal import dependency, sub-optimal investment in R&D, relatively inert Defence Research and Development Organisation (DRDO), low performing Public Sector Undertakings (PSUs) and Ordinance Factory Boards, inadequate civil-military fusion and perfunctory jointness are some of the issues that have constrained India to achieve a favourable military balance to deter and defeat aggression of its adversaries. With the appointment of the Chief of Defence Staff (CDS), creation of the Department of Military Affairs (DMA) and the Atmanirbhar initiative in the defence sector, it is hoped that some of the lacunae in our national defence and security management will get addressed. However, delay in appointing the new CDS and news about rethink about the very concept of CDS is disconcerting. Creation of Integrated AD command and Theaterisation process has considerably slowed down at the peril of national security.

There is need to develop a Multi-Domain Warfare Doctrine across the spectrum of conflict and in escalatory dominance matrix, albeit with Indian characteristics. This must flow from a comprehensive National Security Strategy and defence and security planning guidelines. The criticality for our Long-Term Integrated Perspective Plan (LTIPP) and other periodic plans is assured budgetary support.

There is a need to have a de novo look at the inter-se relationship between strategy/operational art/ tactics, structures and systems and infusion of niche and disruptive technologies in our force structuring and development. Organisational changes must aim at creating lean and mean forces, customised for flexible and rapid responses while ensuring jointness, synergy, network centricity and effect-based operations across the spectrum of conflict. Creation of AD Command and other theatre commands needs more intra and inter service deliberations. By creating such important structures in a hurry to meet certain deadlines laid down by the political authority may have far-reaching implications that would prove counter-productive to the whole endeavour of jointness and synergy. Indian Armed Forces need to study the Strategic Support Force model of the Chinese organisation and use of 'Pocket of Excellence' forces. Likewise, the other functional commands such as Joint Training and Doctrine Command, Joint Logistics Command should be raised at the earliest. Specialised composite task forces need to be raised for Non-Contact Non-Kinetic warfare and out of area contingencies. Changes are afoot such as creation of Integrated Battle Groups (IBG) in plains. For mountains too organisational innovative changes such perhaps amalgamation of Scouts units into a specialised recce and support units for a role ahead of the defences and behind the enemy lines may be contemplated. There is an urgent need to integrate Special Forces and Special Frontier Force for strategic tasks on the Northern borders.

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Presently, our national security architecture is too diffused and not ideally geared for preparation of comprehensive national security strategy. There are many overlaps within strategies, structures and systems; these are not optimally aligned. There are a number of organisations, viz, CCS, NSCS, NSAB, SPG, Nuclear Command Authority, Defence Planning Committee, Defence Acquisition Council, DRDO, DPSUs, OFB, ISRO, BARC PMF, CAPF, Multi-intelligence Agency Centre (MAC), NDMA, NTRO and National Cyber Coordination Centre, associated with the national defence and security. Most of these organisations are prone to work in silos and think and act in a linear way. It is pertinent to take a holistic review of these organisations and create an effective and representative apex body for better coordination and synergy. Likewise, we need to debate over the creation of cyber, space and information as national level organisations comprising multi-domain experts and stakeholders. The idea of creating a Parliamentary Defence and Oversight Committee needs a serious thought to give an impetus to holistic defence modernisation, to monitor progress and

ensure timely accomplishment of laid down goals and objectives. A department of Strategic Communication under the National Security Council Secretariat merits a special thought.

The new Higher Defence Organisations such as CDS and DMA need continuous reforms such as balancing the role between the Defence Secretary and DMA, (the former continues to be responsible for defence policy and management of capital budget, whereas, the actual accountability of India's defence lies with the CDS and Service Chiefs), merger of HQ IDS with DMA and re-designation of CISC as VCDS. The CDS wears many hats and he should not be bogged down with routine staff work but left free for loud thinking and dealing with the National Command Authority on major national security and transformational issue, including civil military fusion. The integration of Services HQ and MoD has so far been paid lip-service and needs to be addressed on priority to have desired jointness within the Ministry. The AI, cyber weapons, Robotics and Disruptive technologies, cloud computing, machine learning, dark web, internet of things, nano technologies, unarmed aircraft, nano drones, swarm attacks, underwater drones, kinetic and non-kinetic space systems, new algorithms, hyper-velocity projectiles, new generation NBC weapons are the drivers of RMA. Our adversaries are fast developing new generation weapons and a serious asymmetry in military power already exits. If Indian Armed Forces do not catch up and develop capabilities in the new generation warfare, we would be vulnerable to strategic coercion and may have to fight the next war with gross inadequacies. The decisions in the future wars may not be sought in the tactical domain but in the strategic and cognitive domains in keeping with the Sun Tzu thought' "acme of skill is to subdue adversary without fighting".

> **The integration of Services HQ and MoD has so far been paid lip-service and needs to be addressed on priority to have desired jointness within the Ministry.**

The Defence Forces must initiate honest discourses involving external domain experts (Red Teaming) to develop nuanced understanding of how our adversaries are likely to orchestrate and prosecute military campaigns. Based on these inputs a joint military strategy must be prepared and validated through strategic gaming involving multi-domain experts. The Defence Forces must push for creation of a National Strategic Gaming Centre. One of the important events for the Army Commander's/Unified Commanders Conference should be conduct of annual strategic games conducted with an institution like the USI, with participation of senior representatives from other national security agencies.

Conclusion

India despite being an old civilisation faced a subjugation for nearly 1000 years at the hands of invading forces. Post-independence India has accredited itself well and in spite of hardships has created a niche for itself in the comity of nations. However, India has yet to realise its full potential to emerge as a preeminent power in Asia and as a responsible global stakeholder. India has daunting internal security challenges that are inextricably linked with external collusive hybrid threats. Uncertain geopolitical environment has posed serious foreign policy challenges for India. However, India has shown resilience and deftness to steer its national interests through these turbulent times. The only mantra for India to achieve its rightful place in the international order is comprehensive national development. For that to happen it needs strong economic heft and astute diplomacy backed by strong deterrence and war fighting capabilities. A pragmatic India must heed what Thucydides said, "the strong do what they can, and the weak suffer, what they must". And noted author Paulo Coelho further elucidates, "love everybody but never sell your sword".

Emerging Paradigms of National Security: Threats & Responses

Lieutenant General Raj Shukla, PVSM, YSM, SM (Retd)@

Section II

Internal Security Issues

India's Non-Kinetic Approach to Dealing with J&K

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Abstract

Proxy Hybrid conflicts which include irregular warfare, follow the same course as wars — from Conflict Initiation to Conflict Resolution. While armies the world over address such conflicts with extreme kinetic counter-violence in the hope of crushing the violence, the campaigns usually extend. This brings the necessity of ultimately adopting a balanced approach between kinetic and non-kinetic strategy. The non-kinetic domain is little understood; especially the part involving the study and use of the 'cultural terrain' for greater effect, to neutralise the negativity which emerges from violence. How this has been experimented in Jammu & Kashmir over the years is highlighted in this essay.

Introduction

It is best to understand the dangers of a proxy hybrid conflict and the most optimum approach towards neutralising it at a given time, by applying some basic theories to it. The J&K proxy conflict sponsored by Pakistan is tailor-made for such study because it has almost all the ingredients of hybrid conflict. Pakistan's aim in initiating the conflict was to wrest J&K by aiding and sustaining internal turbulence of such magnitude that India would be forced to use extreme counter-violence, thus increasing alienation of the populace and making it impossible for it to hold on to the territory. It also aimed at changing the ideological belief of the Kashmiri Muslims from the centrist, secular Sufi to the more obscurantist one, to bring it in line with the then emerging trend within the followers of Islam. Its fervent hope and desire were to internationalise the issue, brand India a violator of human rights and thus pressurise the international community to intervene and force the implementation of the UN Resolutions which had lost their relevance over time and were overtaken by the run of events, many of them created by Pakistan.

Background

In the period 1987-91 Pakistan calibrated and launched sponsored violence using infiltrated terrorists and local influencers. Conflict initiation was violent and demanded counter-violence as means to neutralise it. The passion and enthusiasm for Azadi (not integration with Pakistan) was high and a general belief existed that India would be unable to hold on to J&K. The public narratives revolved around two strong and popular slogans "Hum Kya Chahte? – Azadi" (What do we want? – Independence) and "Kashmir Banega Pakistan" (Kashmir will become Pakistan).

With an open LoC, trans-LoC movement of even the civil population became common. With a reported strength of 5000-7000 terrorists occupying the security space, employment of kinetic power in full measure was inevitable and the Indian security forces cracked down without remorse. In the absence of such a measure, India's control over J&K would

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have been extremely tenuous. Some other hard measures followed at the conflict initiation stage; among these were the raising and induction of the Rashtriya Rifles (RR) into J&K and the redeployment of additional forces from the North-East. The Indian concept then involved search and destroy operations (SADO) in the rural areas and cordon and search operations (CASO) in the urban and semi-urban areas; along with intelligence-based operations against the leadership and in large cities like Srinagar. Ambushes on the LoC and on some prominent routes in the hinterland, such as those in the vicinity of bridges and crossing points on the Jhelum River, brought considerable success.

Population: The Centre of Gravity (CoG)

The Indian Army with its wealth of experience from conduct of operations in Northeast India, Sri Lanka and Punjab was also aware of the one other factor most relevant in conflict theories; the one often referred to as the CoG. In hybrid conflicts which revolve around the use of irregular violence by insurgents, militants, or terrorists, to keep a state of turbulence alive, it is the population which suffers the maximum. Normal life is paralysed at the altar of violence by the irregulars and counter-violence by the security forces (SF). Both the SF and the irregulars and their masters consider the population as the CoG. Ultimately success goes to whoever wins the support of the population to his side. Conscious of this nuance of hybrid conflicts involving irregular violence, the Indian Army did make an attempt at the early stage of Conflict Initiation to use military soft power to assuage the sentiments of the populace. Standard Operating Procedures were drawn up to ensure such issues as minimum collateral damage, early compensation for operational destruction of civil assets, outreach to the population and resort to what is often referred as Military Civic Action (MCA) which is all about hearts and minds, a concept adopted most successfully by the British Army while fighting the Malayan insurgency. However, in the light of largescale presence of terrorists and a very insidious radical ideology being advocated from across the LoC and within, soft power as a concept could only become the overriding domain only after a stage of conflict stabilisation. It is to the credit of the Indian Army that MCA was yet adopted at Conflict Initiation and Conflict Progression stages; approximately 20 percent effort went towards it while hard power assumed a good 80 percent of the focus of operations.

> It is also to India's credit that progressive analyses of the Pakistani involvement and the internal Kashmiri upsurge led to change of our concept of addressing the conflict. In 1996 this led to the conclusion that the proxy hybrid conflict was being fought in different domains and the military dimension was just one part of it.

Conflict Progression to Conflict Stabilisation

The Indian Army did well to maintain its hard stance for a fairly long time despite severe international criticism and insidious Pakistani propaganda against its human rights record. By 1996 the pipeline of terrorists from Afghanistan had dried up and Conflict Progression was changing to Conflict Stabilisation. It is also to India's credit that progressive analyses of the Pakistani involvement and the internal Kashmiri upsurge led to change of our concept of addressing the conflict. In 1996 this led to the conclusion that the proxy hybrid conflict was being fought in different domains and the military dimension was just one part of it. Hard operations of the army would continue but there were the political, economic, social, and diplomatic domains to be addressed. This was partially spurred by the unexpected success India met in the diplomatic domain at the inaugural UN Human Rights Council meeting at Geneva in Jun 1994. The need to bring a people's dimension into the Indian strategy led to a decision to exploit the political domain. Assembly and parliamentary elections were held in 1996 under a bold decision, although the turnout of voters was extremely low. People's representation helps in the bringing about of a popular government; voter turnout improved over the years leading to representative rule. It also encouraged the decision to bring Panchayati Raj to J&K. There has been a progressive improvement in representative governance which contributed to the normalisation process.

Winning Hearts and Minds. In 1997 two major things happened outside the realm of kinetic operations which were being conducted much more professionally with the reorganised counter-terror grid established by the Rashtriya

Rifles in conjunction with the rest of the Army. First was the official adoption of Operation (Op) Sadbhavana as the Indian Army's MCA or the 'Hearts and Minds' program. This official adoption projected the necessity of the non-kinetic domain being given its due importance in the countering of hybrid conflict. Funds were separately allotted for it by the central government, in addition to the Border Areas Development Project (BADP) which was already in existence. BADP was essentially for the border belt where the infrastructure did not adequately support the execution of government efforts. The presence of the Army at the LoC and its policy to always take the local population along, ensured the execution of some small-scale development projects. However, Op Sadbhavana was different. It was for the entire conflict zone and later extended to the Northeast too. The purpose was twofold. First, in proxy conflict conditions due to security constraints it's not easy for the civil administration to execute development projects or be in regular touch with the population for its administrative needs. Since the Army has the ability to move any and everywhere, it assumes part of that responsibility. In the case of Op Sadbhavana after careful study of the needs of the situation, the Army decided on a few sub domains. Education, medical, small-scale infrastructure, national integration, and human resource management were selected. It's with much pride that one can state that 43 Army Goodwill Schools exist today in J&K[1], all hugely appreciated by the citizenry for their high standards. At least three of these schools have hostel facilities too. Even the management of these schools continued to be an Army responsibility; the demand of citizens was that they should remain in the Army's hands for efficient management of the administration. In addition, in the sphere of education the Army chose to support many government schools with additional facilities such as computer laboratories, security walls, play fields and surprisingly even toilets for the female children; the latter was a marked achievement in the bleak social environment where the girl child was not even considered worthy to build toilets for. Small scale infrastructure sometimes involved a new transformer, a more robust set of lanes and motorable paths in the rural areas, streetlights, and water supply schemes. The projects were initiated after a series of meetings with the local people followed up by coordination with the District Planning Officer so that the local civil authorities could also advise and tweak the envisaged deployment of effort.

> **It's with much pride that one can state that 43 Army Goodwill Schools exist today in J&K[1], all hugely appreciated by the citizenry for their high standards.**

Op Sadbhavana Tours. Interestingly among the non-kinetic initiatives of the Army the national integration tours under Op Sadbhavana proved extremely popular and made a fair impact. In the Kashmir zone alone almost fifty such tours are organised annually for senior citizens, students, and even standalone tours for women. Popular tours were to the Golden Triangle, Mumbai, Bangalore, and Ajmer (senior citizens). Each such tour was accompanied by an officer and his wife and unit staff from the unit organising it. When the separatists started issuing statements against these tours it was evident that the message was beginning to hurt them. The triggering of emotional pining for peaceful conditions existing in the hinterland of India, that would be revealed to the old and the young proceeding on these tours and hoping to help create these in J&K was the conceptual intent. How far these were successful cannot easily be stated. It was necessary to spread that message through publicity so that more could be revealed to these sentiments. The communication strategy for this remained less energetic than what was desirable, and the Army was satisfied with the completion of an event rather than building on it to take the campaign forward. This was rectified to some extent in later years.

Medical Welfare. The sub domain of medical welfare was almost as popular as that of education and national integration tours. J&K does have a reasonable medical infrastructure provided it was made to work. Public Health Centres (PHCs) in rural areas remained in an unusable state, with no doctors or paramedics. Citizens with even less than serious ailments had to make long, expensive, and arduous journeys to the cities to be treated. Thanks to the Army's brilliant and enthusiastic medical staff and the decision to provide bricks of medical stores for medical camps in remote areas, we could organise such camps. Veterinary camps were organised with similar enthusiasm. The local doctors were more than happy to join and, in this way, even gynaecological assistance to women and orthopaedic support to older

citizens was extended. However, the most popular field of medicine and the one most appreciated was that of cataract operations in remote eye camps.

The Minds. The second intent of Op Sadbhavana was its usage to meet, interact and influence the minds of the local populace with a subtle strategy necessary for different segments of society. Considering the fact that Pakistan's proxy hybrid strategy had a social domain built into it, which aimed to target every such segment of society, it was only appropriate to address it. It is this domain which included religious ideology and creation of alienation and antipathy against India and everything Indian. Pakistan wished to target J&K's tolerant, secular and very middle path Sufi culture and convert it to something more obscurantist in line with what it was attempting to do internally within Pakistan. Through this strategy it hoped to come closer to the obscurantist Islamic world and link it to J&K such that once this link strengthened, India would not only find itself under pressure from within J&K but also externally from many Islamic countries. Such strategies only reveal over time and cannot be targeted by military kinetic means.

Shaping the Ground for Non-Kinetic Operations

Op Sadbhavana was also supposed to create the conditions for closer interaction between the Army while facilitating the Civil Administration to join the Army in doing this. Somehow this could not really be achieved in the first decade and a half after it was adopted. There were a couple of reasons for this. The Army had transactional interaction with the public through its officers and soldiers at the sub tactical level but without any intent, no plans, nothing outlined on what to speak and convey. Much of this was because while the senior leadership appreciated the necessity to get closer to the people it failed to educate the rank and file on how to do it. Even a perfunctory knowledge of local culture, history and sensitivities would have set up some great conversations. A great scholar warrior, Lt Gen ML Chibber, the GOC-in-C Northern Command way back in 1983-84, forced upon the entire Command, the study of the 'cultural terrain' of J&K.

> **Non kinetic ways do not appeal to the rank and file because these are perceived not to be the responsibility of soldiers. Nothing could be further from the truth. No professional army ever uses only a single methodology.**

In subsequent years, if non-kinetic operations have to be conducted, you have to prepare the ground for that too. The proverbial shaping of the battlefield is done in this domain too but with education of the rank and file and its familiarisation with the 'cultural terrain'. The famous US military leader General Petraeus coined this term and attempted to lead the US Armed Forces in Afghanistan into adopting this as a means of better and more effective communication with the local people. He could not succeed; the US had a large number of officers very familiar with language and culture but taking this down to the lower levels remained a challenge. In the Indian Army this domain of non-kinetic operations found few takers too.

Two former Corps Commanders of the Chinar Corps who attempted to change this were Lt Gen VG Patankar and Lt Gen Nirbhay Sharma, in the period 2001-05. Their attempts to transition the concept of operations from prioritised hard power to a greater mix of soft and hard power were indeed appreciable. The efforts to return dignity to the common man resonated with the people. However, it must be realised that senior commanders always remain under pressure when such changes are attempted. Taking these to logical conclusion remains an issue, with push back remaining live even within an organisation such as the Army. Non kinetic ways do not appeal to the rank and file because these are perceived not to be the responsibility of soldiers. Nothing could be further from the truth. No professional army ever uses only a single methodology. Where counter-violence is necessary, it must be employed but what can be achieved without resorting to kinetic ways must find favour with professionals.

Awam aur Jawan. In the 14th year of Op Sadbhavana, the army attempted a conceptual change. This came about with the presumption that the strength of terrorists had fallen to approximately 300 in Kashmir from the high of 5000 which was once reported. It started with a subtle change of a long-existing slogan to test the environment. The slogan coined in 2003 was 'Jawan aur Awam, Aman hai Muqam' (the soldier and the public, peace is the target). The Army changed it to 'Awam aur Jawan…….', giving the public the first mention; symbolically putting the citizens on a pedestal and understating itself. The subtle change publicly announced resonated positively in Kashmir's media and became a subject of much discussion even as the Army declared 2011 as the 'Year of the Awam (People)'. The gesture evoked curiosity but as the year unfolded the Indian Army changed tack and made restoration of dignity of the Kashmiri citizens its main platform, even as it continued to conduct robust kinetic operations neutralising 19 top terrorist leaders and restricting infiltration to less than 50 terrorists through the year.

The restoration of dignity worked on the principle that the common Kashmiri citizen wished to lead a simple dignified life with family, but the constraints of the security system-imposed restrictions such as checkpoints, searches and other population control measures impacted their desire. These though understood to be resented by the population, were also acknowledged to be necessary to execute counter terrorist actions. The Army decided to change none of this but do all it had to do in a way that would not affect the dignity of the citizens. For this it was important to orient the mind of all officers and soldiers especially all those who had earlier served in Kashmir and who were unfamiliar with non-kinetic ways of fighting the campaign.

> **The restoration of dignity worked on the principle that the common Kashmiri citizen wished to lead a simple dignified life with family, but the constraints of the security system-imposed restrictions such as checkpoints, searches and other population control measures impacted their desire.**

Every soldier was put through a compulsory 'Entry into Kashmir Cadre' and no soldier was permitted to operate without this. Slowly, the orientation on the ground started to change. The groundswell changed to appreciation as courtesies were extended at checkpoints, women were given due respect, elderly were given priority and the tone and tenor of conversation became softer and more respectful. It will often be alleged that such a strategy dilutes the Army's image and capability. However, senior commanders have to be adamant about the results that are achieved through the balanced approach. The terrorists continue to get neutralised, better intelligence flows in, and the public starts to identify itself with the Army.

Facilitating Administrative Reach. In Kashmir another experiment succeeded to a great extent but could not be progressed beyond due to the lack of conviction by many in senior ranks who did not adequately apply themselves to the needs of the situation. In 2011 the Army conducted 34 townhall type meetings to facilitate the officials of the civil administration, the political community, and others to meet the public at different remote locations. These were those very areas which these officials could never visit due to prevailing security threats. It led to the understanding of ground realities in the prevailing situation and mutual constraints. The Army remained only the security provider and facilitator.

Conclusion

Post the amendment of Article 370 on 5 Aug 2019 the entire establishment has orientated itself far better to the needs of the situation. Gestures such as unfurling of the Tricolour at iconic spots such as Hari Parbat and Gulmarg, and at all schools, colleges and government buildings is creating a better atmosphere.[2] The celebration of National Days with enthusiasm and the mustering of youth power to conduct workshops, webinars, and other platforms of discussions, besides a much-enhanced presence of pro-India elements on social media, are also producing a far more positive environment.

In the final analysis, J&K is an issue which will not be resolved in favour of India overnight but through a process which will bring greater conviction among the people over a period of time. While efforts to regain traction are ongoing by the adversaries these will not succeed if the balance between India's kinetic and non-kinetic strategy remains in place through a succession of different leaderships in the future. One of the bottom-line issues which must remain centre stage in our approach is the necessity of the rank and file to be sensitive to the people and the effects that operations have on them and their psyche. Studying culture and sensitivities of the population, a critical non-kinetic aspect of counter terrorism strategy, throws up manifold options. These should be optimally combined with kinetic actions for the best effect.

Endnotes

1   Army Goodwill School. http://www.armygoodwillschool.in/

2   Lt Gen Syed Ata Hasnain (Retd), "Tricolour atop Kashmir: Why Flags are so Important in Conflict Zones?", *News 18*. https://www.news18.com/news/opinion/tricolour-atop-kashmir-why-flags-are-so-important-in-conflict-zones-4088141.html

1   Army Goodwill School. http://www.armygoodwillschool.in/

India's North-Eastern Region and Engagement East: Challenges and Options

Shri Jitesh Khosla, IAS (Retd)@

Abstract

As the South East (SE) Asian economies grew in the last quarter of the 20th Century — despite the economic crisis that affected the region in the 1990s — SE Asian Region's importance and future potential for growth of trade and commerce was globally recognised. In 1991, as India liberalised its economy, it launched its "Look East" policy seeking a more active engagement with Southeast Asia. This policy was given an added impetus in 2014 when it was branded as Act East policy. However, recent geopolitical developments have added new complexities to the interplay of economic and political forces in SE Asia. At the same time, attention of Indian policymakers has also been drawn to wider issues affecting its northern borders and the wider Indo-Pacific region. The economic and geo-political importance of the SE Asian Region, however, remains significant. Developing India's Northeast Region to engage actively with SE Asia remains a viable option but also a challenge, given the rapidly changing regional environment.

Acting East: In a Turbulent Neighbourhood

After nearly half a century of unprecedented growth, SE Asia has entered a turbulent phase. Much of this turbulence is caused by the looming economic dominance and aggressive foreign policy stance adopted by China in the backdrop of growing world power rivalry. The burgeoning security threat in the South China Sea and Taiwan, soured relations between India and China (post confrontation in Eastern Ladakh), a rising trend towards authoritarian/military regimes, e.g., in Myanmar, Cambodia and Thailand — have all added to the complexities in international relations in SE Asia and caused serious concerns globally about the security situation in the Indo-Pacific region. The response has come through groupings such as the Quadrilateral Security Dialogue (QUAD) and bilateral security pacts such as Australia, UK, and US (AUKUS). These developments challenge the carefully calibrated 'Act East' engagement of India which now needs to do a serious reality check considering the developments below, as it prepares to navigate very turbulent times ahead.

The Belt and Road Initiative

China's Belt and Road Initiative (BRI), launched in 2013, was originally termed as One Belt One Road (OBOR) and aimed at significantly expanding China's economic and political influence in Asia. The plan, which is being actively followed, has both overland and maritime components.

Overland, the BRI agenda envisages creating networks of railways, energy pipelines, highways, special economic zones etc. both westward — through Central Asia across former Soviet republics — and southward, to Pakistan

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(through the China Pakistan Economic Corridor or CPEC) and to SE Asia. The sea-based plans envisage investment in port development along the Indian Ocean, from SE Asia all the way to East Africa and possibly some parts of Europe.

BRI investments in the SE Asian region, a vital part of the BRI initiative, grew from US$16.8 billion in 2014 to US$29.3 billion in 2019, accounting for 27.6 per cent of all BRI investments worldwide. As of 2020, Southeast Asia (US$16.9 billion) became the BRI's largest investment destination, accounting for nearly 36 per cent of the total investment. BRI apart, China has concentrated hugely on its economic ties with ASEAN countries, pandemic notwithstanding. In 2020, China's trade surplus increased by 27% over that in 2019. In 2020, ASEAN replaced the EU as China's top trading partner.

India has not joined the BRI and is a critic of the BRI strategy which has attracted criticism in many other quarters as well. BRI projects are built using large interest-bearing loans without much consideration for the host countries' capacity to service such loans. Some BRI investments have involved opaque bidding processes and required the use of Chinese firms. While BRI supporters argue that BRI investments could facilitate infrastructure investment at low interest rates, the fact remains that where the host economies are unable to secure the projected return on the project investments or service their debt obligations otherwise, the result could be economically destabilising. The resulting economic crises caused by a burgeoning foreign debt could lead to internal conflict and political disruptions enabling illiberal/authoritarian governance structures as countries struggle with the crises.

Sri Lanka, a major BRI recipient, is already facing defaults in its debt servicing obligations, inability to sustain even essential imports, rapidly increasing inflation and possibly, piecemeal loss of sovereignty. The US and other western countries believe that China is likely to eventually militarise the BRI. There are apprehensions that unsustainable debt burdens faced by BRI recipients, particularly for Indian Ocean countries such as Pakistan, Myanmar, Sri Lanka, and Bangladesh, may be used by China to seize control of strategic locations which could be militarised to act as regional choke points.

> **While BRI supporters argue that BRI investments could facilitate infrastructure investment at low interest rates, the fact remains that where the host economies are unable to secure the projected return on the project investments or service their debt obligations otherwise, the result could be economically destabilising.**

China's BRI strategy holds the potential for transforming from an economic investment initiative to a drive for strategic control and dominance, particularly for the economies of SE Asia. Its fallout, therefore, is a matter of concern for India as well, as it seeks to increase its engagement eastwards.

The Clash in the Himalayas and the QUAD

The relations between India and China, which had shown improving trends with rapidly growing trade and investment over the past two decades, took a nosedive in June 2020 when border patrols of India and China clashed in the Himalayas in Eastern Ladakh following a unilateral change in status quo by Chinese forces, resulting in casualties on both sides. Since then, many talks have taken place to enable disengagement and de-escalation on the disputed border with the restoration of status quo ante but have been futile so far.

The border standoff has radically altered not only the security situation for India but also the international relations in the region. While India's bilateral trade with China continues (in fact in 2021 it has increased considerably over the 2020 levels), India is now investing more on economic self-reliance and diversifying its supply chains. At the same time, India is also now more open to increasing defence cooperation with the US, which has, of late, sought to knit together its strategic relationships in the region via the 2017 Indo-Pacific Strategy. Consequently, India is also an active member of the Quadrilateral Security Dialogue (QUAD) which brings together navies of US, Japan, Australia, and India. In

addition, India is now a major partner in the emerging Indo-Pacific partnership being forged under the leadership of the US along with several Western nations.

The other direct effect has been of concerns in India about the increasing economic and military presence of China in the SE and East Asian Region, which are now being viewed as an attempt to create Chinese hegemony in the region, threatening economic and territorial security of not only India but also the ASEAN countries — a perspective that is bolstered by the recent events in the South China Sea.

South China Sea

The South China Sea is a very important commercial waterway connecting Asia with Europe and Africa and is one of the world's busiest waterways. The South China Sea is also believed to contain significant natural resources, such as natural gas and oil and accounts for 10 percent of the world's fisheries. It is subject to several overlapping territorial disputes involving China, Vietnam, the Philippines, Taiwan, Malaysia, and Brunei who all have conflicting territorial claims over the Sea. China, however, has unilaterally claimed more than 80 percent of the South China Sea, through the so-called nine-dash line, despite claims by other SE Nations. China has also moved into the South China Sea militarily. Consequently, apart from alarming the smaller SE Asian claimants, the conflict has emerged as a flashpoint in China-US relations in Asia.

On January 22, 2013, the Philippines had filed an arbitration case against China, under the auspices of the UN Convention on the Law of the Sea (UNCLOS) with claims centring around maritime law issues in the South China Sea. In 2016, the tribunal ruled in favour of the Philippines. China, however, has rejected the Tribunal's award. Its threatening posture is now perceived as being obstructive to free passage of international commerce and seriously detrimental to freedom of navigation on the high seas.

> **While the smaller ASEAN countries do not have the wherewithal to challenge China, the loss of sovereignty over territorial waters regarded by them as their own is of concern to them.**

While the smaller ASEAN countries do not have the wherewithal to challenge China, the loss of sovereignty over territorial waters regarded by them as their own is of concern to them. Meanwhile, concerned at China's aggressive posturing, the US Navy has started patrolling the South China Sea. The formation of the QUAD is also a result of this aggressiveness. The developments in the South China Sea affect a number of ASEAN countries who are now apprehensive about their economic and military security. Given the overwhelming economic and military dominance of China in the Region, while treading a diplomatically cautious line they are becoming increasingly anxious to safeguard their sovereignty and economic interests.

The Regional Comprehensive Economic Partnership (RCEP)

Paradoxically, parallel to the growing concerns over South China Sea, on November 15, 2020, 15 Asia-Pacific nations, representing nearly a third of the world's GDP, signed the RCEP, a free trade agreement creating the world's largest trading bloc and marking a significant achievement for China as it seeks economic supremacy in the Asia-Pacific region. Initially, RCEP included the 10 ASEAN member countries and five Asia-Pacific countries with whom ASEAN had existing FTAs, namely: Australia, China, Japan, New Zealand, and South Korea. India had also planned to join the deal but pulled out in November 2019.

While not as comprehensive as the earlier envisaged Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) which was abandoned after the then US President Trump pulled USA out of the proposed partnership, RCEP is intended to lower or eliminate tariffs on a broad range of goods and services and establish rules on such things as investment, competition, and intellectual property, including digital copyright. Unlike the CPTPP, RCEP does not include provisions on labour and environmental standards.

So far India has not joined the RCEP as it believes that Indian concerns about uneven market access and non-tariff barriers have not been adequately addressed in the arrangement. It felt there could be dumping of goods in the Indian market through a possible circumvention of rules of origin. Another Indian concern was the non-exclusion of the most-favoured nation (MFN) obligations from the investment chapter. However, opinion on India's joining the RCEP is divided as many amongst the trade and industry in India also believe that India would benefit from participating in it. As things stand, India has a standing invitation to join at a time of its choosing. RCEP represents a new set of conditions determining economic relations in SE Asia and the Pacific Region. In its current form, with India still mulling participation, it provides a Sino-Centric focus to ASEAN economies. It remains to be seen how this new arrangement affects India's Look East- Act East policy.

The Challenge to Democracy — Myanmar

Events in Myanmar resulting from pro-democracy protests, known locally as the 'Spring Revolution' which began in early 2021, have thrown up new challenges for international relations in SE Asia. These protests began in opposition to the coup d'état on 1 February, staged by Min Aung Hlaing, the commander-in-chief of the country's armed forces, the Tatmadaw. The coup took place amid the COVID-19 pandemic. Myanmar was struggling with one of the most severe outbreaks in Southeast Asia, owing to its poor health infrastructure. The country's economy had also been greatly affected by the pandemic, shrinking by 5% during 2020. In response to the growing protest movement, the military resorted to violent use of force to suppress the protests. As of date, at least 1,488 protesters been killed by military or police forces and at least 8,702 people detained. The protests, however, continue.

> **So far India has not joined the RCEP as it believes that Indian concerns about uneven market access and non-tariff barriers have not been adequately addressed in the arrangement. It felt there could be dumping of goods in the Indian market through a possible circumvention of rules of origin.**

The response of Myanmar's neighbours has differed. China sees no merit in democracy and has come out in support of the military Junta. India has taken a cautious stand and maintained silence. Other neighbours, notably Thailand, itself de facto ruled by a military Junta, have stayed aloof. On the other hand, Cambodia's pro-Beijing regime has been campaigning in support of the Myanmar military Junta. ASEAN has remained largely silent, treating the events in Myanmar as being that country's internal affair. The meeting of ASEAN leaders and foreign ministers held in April 2021 included Myanmar's military regime and has drawn widespread criticism from activists, human rights groups and protesters on this account.

The internal situation in Myanmar, however, has long had an impact on the security situation in India's North East. The northern regions of Myanmar have been prone to insurgency since the 1950s and have, in the past, provided shelter and arms to militants on the Indian side as well. In recent times, the ethno-religious conflict within Myanmar led to 700,000 Rohingyas fleeing to Bangladesh. People from Myanmar, ethnically akin to people inhabiting regions along India- Myanmar border have steadily been moving into India, particularly in Mizoram.

As the situation in Myanmar continues to be chaotic, the twenty or so armed groups that have battled the Government for decades have become active again. The Myanmar army has bombed them, with collateral damage to civilian population. In some cases, the Myanmarese militants have come together to form new groups such as the Arakan Liberation Army. In addition to selling arms and weapons to militants in various countries, guerrilla conclaves in Myanmar also produce heroin and are world's biggest suppliers of methamphetamines.

The consequences for India are therefore serious. Apart from the growing influence of China on the Myanmar military junta, the connectivity of the Indian landmass with SE Asia is jeopardised. Some important infrastructure projects such as the Trilateral Highway connecting Thailand, Myanmar and India and the Kaladan Multi-modal transportation project are adversely affected. On a broader scale, the ability of ASEAN to function as a homogeneous

economic bloc is impaired as the deteriorating situation in Myanmar threatens all neighbours with spreading militancy, drugs, illegal arms, refugees, and economic disruption.

SARS COVID 2

Overshadowing all international and domestic affairs since the beginning of 2020 is the pandemic caused by COVID-19. The pandemic resulted in serious disruption of global supply chains with adverse effects on trade and commerce. It has changed employment patterns, heightened inequality and worsened global poverty. The impact of the pandemic on India's economy, already showing a declining GDP growth rate by 2019-20, was severe. India's GDP growth turned negative during 2020-21, registering a growth rate of (-) 8%. As the pandemic rages on in India during 2021-22 as well, the projections of recovery are also under strain.

With the decline in the first wave and discovery of vaccines against COVID, India, with its renowned pharma industry, had started supplying vaccines to many parts of the world including SE Asia as also to the global vaccine initiative named Covax. However, with the intense second wave hitting India during the period April-September 2021 and inability to meet domestic demand, India was compelled to stop the export of vaccines. Rather, India became a recipient of emergency healthcare aid from a large number of nations across the world for a short period. As the second wave abated, the Indian vaccination program eventually gained momentum and made considerable progress to become the largest vaccination programme in the world with nearly 1.71 billion doses administered by 11 Feb 2021.

> **In April 2021, Australia, India, and Japan launched the Supply Chain Resilience Initiative (SCRI) in the Indo-Pacific. The SCRI is the product of the supply-chain disruption caused by Covid-19, which served as a wake-up call exposing states' excessive dependence on China for critical products such as food and pharmaceuticals.**

Combined with the economic disruption, the impact of the pandemic on India's commitments for supply of vaccines to COVAX as well as through bilateral commitments to ASEAN countries was adverse. While with increased production, approvals to new vaccines supplies overseas were restarted, restoring India's credibility as a major supplier of vaccines, including to SE Asia would remain a challenge.

Supply Chain Resilience Initiative (SCRI)

One fallout of the growing belligerence of China and the pandemic is that in April 2021, Australia, India, and Japan launched the Supply Chain Resilience Initiative (SCRI) in the Indo-Pacific. The SCRI is the product of the supply-chain disruption caused by Covid-19, which served as a wake-up call exposing states' excessive dependence on China for critical products such as food and pharmaceuticals. Furthermore, growing tensions between the Chinese and "like-minded" Indo-Pacific partners such as the United States, exacerbated by Beijing's aggressive military and diplomatic tactics, only made risk diversification by moving value chains away from China a more urgent goal.

In this context, the Indo-Pacific centred SCRI has been conceived as a mechanism aimed at enhancing economic and political security by challenging China's dominance in trade and Beijing's growing clout from its more robust foreign policy. However, the success of this initiative is yet to be seen.

Policy Imperatives for Leveraging North East India for a Comprehensive 'Engagement East'

While the NE Region currently enjoys a period of comparative peace, the internal security situation in the region is dynamic and complex, shaped as it is by the region's geography, ethnic diversity, a strong sense of identity, legacies of past conflicts and changing demography and social change. Any policy of Engagement East would require to pay attention to and resolve internal challenges in NE India to be sustainable.

Identify, Focus, and Resolve Internal Issues

➢ **Dealing with Legacies of the Past.** In the past, assertion of identity based on ethnicity or revivalism in India's North East Region led to many militant movements resulting in protracted struggles and violent confrontation with the Indian State. While the insurgent /extremist ranks are now largely dissipated, the task of neutralising the now isolated, die-hard extremists that have fled into their sanctuaries outside India and enabling return to peaceful civic life by surrendered militants remains a work-in process which must be speeded up through innovative solutions.

➢ **Resolve Immigration and Citizenship issues.** The NE Region has been subject to immigration since time immemorial. However, the in-migration that took place during colonial times and after had a distinct disruptive effect that persists to this day. The demographic changes did not stop with the Independence and Partition of the country in 1947. The war of 1971 leading to creation of Bangladesh accentuated this manifold as millions of refugees poured into India. Eventually most of the refugees went back but many remained in India. In-migration also continued.

Immigration into the region has resulted in addition of ethnic, linguistic, and religious groups that are not indigenous to the Region. This has resulted in problems of assimilation with local and indigenous populations who fear being outnumbered with loss of political control. Many efforts to resolve citizenship issues have been made but have remained inconclusive. The comprehensive exercise done under the supervision of the Supreme Court of India to update the National Register of Citizens has been questioned. The institutional structure and the processes deployed to identify and deport foreigners have proved to be inadequate. The confrontation amongst various population groups continues and threatens internal stability of the Region. Therefore, the issues relating to in-migration into the Region and citizenship need to be resolved and put to rest expeditiously.

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➢ **Reorganise to Leverage North Eastern Regional Economy.** The reorganisation of the NE, carried out to resolve the conflicts of the past century, and creation of new states needs to be revisited so as to reorient it to meet the needs of the future. For one, it has created a number of boundary issues between states, some of which erupt in violence between population groups and sometimes even between police forces of affected states. In the past this conflict has also taken the shape of blockades by people of one state closing roads and highways to other states. Each of the NE states has its own land tenure and criminal justice systems, separate political leaderships, and administrations, making the region a pot-pourri of jurisdictions. The multiplicity of state specific legal systems and jurisdictional boundaries, apart from making coordination between law enforcement agencies a very complex affair, makes regional perspective over economic development with smooth flow of goods and services difficult. These have to be reviewed to allow comprehensive potential of the region to be articulated before the region can contribute meaningfully to international trade and commerce in SE Asia, which it adjoins.

Defuse the External Threat

It would be good to recall that the NE Region has been an important theatre of war twice after India's independence — in 1962 and 1971. The threat from the Northern borders is an ever present one as the border with China is still unsettled, with ambiguity over respective claim lines being the source of perpetual confrontation. Equally important is

the demarcation of the border with Myanmar which currently includes a host of ambiguities with regard to demarcation and movement control.

The turbulent politics and the geographical location of the North East makes it easy for any foreign power or agency to stir up trouble by aiding and assisting disaffected elements by providing them financial assistance, training in arms — and sanctuary when pursued by Indian security forces.

For enduring peace in the region, even as security operations continue to hold down the residual threat of armed violence, India needs to work towards settlement of border issues with her neighbours. The bold initiative taken in 2014 to settle pending border demarcation with Bangladesh is a very positive example. This must be accompanied by strategic foreign policy interventions in the South Asian and Indo Pacific Region, as well as constructive and continued engagement with Myanmar and Bangladesh. Needless to say, this is going to be a long drawn process during the course of which significant military deployment would be necessary to safeguard India's interests. However, the need will be to enable adequate military deployment and movement without disrupting civic life, trade, and commerce.

Looking Forward: Laying the Foundations for the Economy of the Future

For the NE Region to play up to its potential in enabling the Look East/ Act East policy to achieve its objectives it is important to embark upon a comprehensive economic development strategy that enables the NE region to attract investment and become a sought-after place to do business. This requires considerable legal/administrative rebooting and sizable investment in human development and capacity building.

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As things stand, the situation in NE India offers many positives. The states constituting the NE Region have all established political governance and administrative systems on the pattern provided for by the Indian Constitution. The enthusiastic participation of the people in elections at all levels and periodic and smooth changes of political power are harbingers of stability. The last two decades, despite sporadic flashpoints, have seen a decreasing trend in militancy in the region.

While government investment in the Northeast has been increasing, for the region to be a bridge to SE Asia it must come up to the level of the SE Asian countries and prepare for the economy of the future. Many facilitators need to come together consistently over a period of time to provide a sound foundation for economic growth. It is, therefore, worthwhile recalling and reviewing some of the core issues for the future of the Region in light of contemporary realities, to help identify challenges that will need to be addressed to leverage the region into a high growth path in the future.

Governance Imperatives for an Economically Progressive Region

To attain a sustainable and reasonably high economic growth trajectory, governance institutions in the NE, have to be re-oriented carefully so that their credibility and effectiveness in sustaining trade and commerce is maintained. Not only must there be a diversity of modern institutions to regulate trade and commerce, their credibility to do so with equity and fairness must also be established. legal frameworks and institutions that allow freedom to engage in economic activity need to be articulated through consistent policy and operationalised on the ground. Administration and civil policing have to be modernised along with operation of an effective and just criminal administration system that provides security to lives and property of all persons equally. The movement of people, goods and services across state borders must be seamless and efficient.

Most business and commerce related laws fall in the jurisdiction of the Central Government, but the local state governments have a significant role in ensuring their smooth operation. This requires reorientation and liberalisation of Central laws and institutions to facilitate international trade through the region along with capacity building in local administrations as they would be unfamiliar with the frameworks that guide expansion of business activity. As the NE Region grows economically and begins to connect with neighbouring countries, imperatives of international trade and commerce would become important and must form a part of this effort.

The Human Capital

One of the features of the ASEAN economic miracle has been the considerable enhancement of its human capital over the past half-century. The disparity between individual attainments in SE Asia and North East must be dispelled to enable entrepreneurs from the region to offer economically viable options to markets in SE Asia. Human capital in the NE Region must be enabled to interact with the SE Asian Region on terms of equality. This would require enhanced and affordable public facilities for education and public health and capacity building in emerging professions and activities.

The NE Region contains an amazing range of talent in its people in all walks of life. It has a sizable young population, high levels of literacy and college education. Young people from the North East are acquiring ever increasing levels of education and making their mark in several spheres of activity in India and abroad. The challenge is therefore to improve the quality of education to leverage the capacities of this population group for an economically meaningful engagement with SE Asia.

> **The NE Region needs to gear up to meet the challenges of a technology driven world, where economic opportunity would lie in adapting various technologies, from communications to creative arts to scientific farming. In fact, there must be a shift from traditional systems of production, manufacture, and exchange.**

The NE Region needs to gear up to meet the challenges of a technology driven world, where economic opportunity would lie in adapting various technologies, from communications to creative arts to scientific farming. In fact, there must be a shift from traditional systems of production, manufacture, and exchange. This would require a major jump in levels of education beyond literacy towards a multiplicity of disciplines and an increasing focus on science. The approach to education also must be diversified to accommodate talent diversity and enable multiplicity of vocations.

Capacity building, however, cannot take place overnight and requires considerable effort over a long period of time and investments in terms of financial support, building up the required institutions, involvement of experts and handholding of trainees as they venture into new areas and start using their new knowledge and skills. It must be accompanied by an ecosystem that rewards acquisition of such skills. The resulting pay-off in terms of the economic growth this would bring would make the investment well worth making.

Infrastructure

Reliable infrastructure in the form of roads and bridges, telecommunication systems, broadband networks, railways, energy generation, transmission and distribution, public transportation, well designed urban areas and cities, buildings and parks, hospitals and educational facilities at all levels provide opportunities for employment, healthcare and education and are the backbone of a healthy economy.

Local, Intra-regional and Transnational Connectivity. Over the last two decades there has been considerable investment in conventional infrastructure such as highways, bridges, main line railways, airports etc. The development has largely been for building linkages between the NE Region and the rest of the country. While there has been development of some important nodes, the development has been uneven with the hill states and the border regions

are still short of necessary infrastructure. Transport development has to go beyond spider development of national highways to include rural, and especially border area networks at one level and trans-national highway linkages at another.

There is a need to expand multi-modal operation of infrastructure linking together roads, waterways, rail grids and logistics hubs as well as border trade infrastructure. Crossing the borders even in India's immediate neighbourhood remains a challenging task, with long delays at border crossings and slow turnarounds, taking weeks for what is accomplished in other parts of the world in days. The long delays at the borders are largely due to the inadequate infrastructure at border crossings, a plethora of paper-based procedures, restrictive policies and regulations, and inefficient logistics for cargo handling.

While past investment has enabled availability of good airports in all the states of the NE Region for domestic operations, there is a need now to gear them up for international flights, linking different airports in the NE Region to destinations all over SE Asia and beyond.

Power. The North East has a huge potential for hydropower. Mega hydro-electric projects have been taken up to generate and transmit electricity outside the region to other parts of India, there is a need to invest in modern and efficient local transmission and distribution systems for the NE Region as a whole. As urbanisation grows in the North East and cities develop, there would be increasing demand for energy and properly planned urban areas and business centres, with stable and high-quality water and electricity supply and sanitation and waste disposal. At the same time, the NE Region, due to its location, is well placed to facilitate international electricity exchanges. For this, state of the art grid management and transmission system along with an internationally recognized settlements and dispute resolution mechanism is necessary.

> **Crossing the borders even in India's immediate neighbourhood remains a challenging task, with long delays at border crossings and slow turnarounds, taking weeks for what is accomplished in other parts of the world in days.**

Connectivity. In addition to transport requirements, for the NE Region to develop as a services hub, telecom and high-speed digital connectivity infrastructure would also be necessary. This needs to be supplemented by development of trade and exchange points along the borders that allows easy and efficient transit for goods and persons with use of modern technology. In short, the economic development strategy for NE Region needs to focus on both intra-regional as well as extra regional linkages. The regional grids of roads and electricity need to connect to all the states within the region as well as neighbouring countries. Trade and customs facilitation is necessary to enable smooth flow of goods and services across borders.

While the above requirements are well known and indeed are either planned or being implemented in some form or the other, so far implementation of infrastructure projects in the NER has been piecemeal and has faced inordinate delays and cost overruns. There is a need to develop comprehensive regional infrastructure plans, incorporate state-of-the-art technology and improve the speed of project implementation. There also must be an expansion of options to finance infrastructure to ensure quality similar to that being implemented across most of SE Asia. All these aspects would require major policy and implementational changes.

Leverage Strengths of the Region

Given its extensive land area, NE Region offers a wide range of agricultural and horticultural products, including exotic rice varieties, which may be processed for exports. India offers very extensive educational and health services which should be enhanced further and made accessible to people of SE Asia at competitive prices. The Region also offers a very wide opportunity for development of interregional travel and tourism. Another opportunity lies in development of international regional gas and electricity grids and transnational sales of oil refinery products. The strategy adopted

must also recognize local strengths and vulnerabilities and has to be multi-dimensional. This would not only enable local development but also leverage the position of India's Northeast as an important trading hub for SE Asia.

Acting East: The Future

As the international situation in Asia and Pacific unfolds, it has ushered in and would continue to introduce many complexities comprising heightened disputes, confrontations, and rivalries. It is likely that as the confrontation grows and the security situation in the region becomes more and more sensitive, ASEAN nations may be faced with the imperative of navigating their way through stormy waters rife with competition and rivalry, not only between China and India, but also between two emerging global power blocs headed by the US and China respectively.

In recent years, India has increased its participation in Indo Pacific security coordination with the US, Japan, Australia, as well as with UK and France. Through this, India is looking beyond its immediate neighbourhood in the East — into the Pacific Ocean. However, this participation needs to factor in India's standing in SE Asia. Indeed, India can have no effective role in the Indo Pacific without being counted as a significant player in the region connecting the Indian Ocean to the Pacific from the Straits of Malacca to Indonesia.

India's 'Engagement East' has to recognize the importance of the cumulative economic weight of the ASEAN and the opportunity it affords of engaging in trade and commerce without causing anxieties relating to sovereignty or security amongst its South East Asian trading partners. The centuries old relationships between peoples of the region are to be viewed as a strength rather than security concern. The trading strategy must recognise and leverage respective strengths of the trading partners. Clearly as India engages with ASEAN and beyond, it will have to be mindful of the interest of immediate neighbours like Bangladesh, Bhutan, Nepal, and Myanmar. In this context, initiatives like the Bangladesh Bhutan, India, and Nepal (BBIN) would have to be invested in and ramped up significantly to enable trade at reasonable costs.

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To enable India's NE Region to live up to its potential, a strong infrastructural foundation for regional economic growth, a re-orientation of the mindset to promote and remove bottlenecks to economic activity, creating supporting environment for business and private enterprise and enabling major upskilling and capacity building to use technology, will all be required. The resulting economic growth would set the stage for a more meaningful and successful 'Engagement East'.

Countering Terror- Finance: Key to Effective CT Strategy

Shri Jayanto N. Choudhury, IPS (Retd)[@]

Abstract

Terrorism delivers disproportionate damage against more powerful adversaries. Yet terror outfits cannot function without sustained funding. Which is why countering the financing of terrorism (CFT) is the key to effectively countering terrorism (CT). CFT efforts need to go beyond conventional CT methods and embrace an "all-of-government" and "whole-of-nation" approach. For this, relevant ministries need to coordinate seamlessly, be open to include new skill sets, build up state's capacity, enlist Financial Institutions (FI), engage IT/data-science experts, and encourage the public to join the effort. Experience has shown that CFT is a 'smart' approach to countering the terrorist threat to national security.

Introduction

The asymmetric impact of terror is evident from Al Qaeda spending an estimated USD 500,000[1] (INR 3.5 crores) on the 9/11 attacks on the United States. The direct damage caused by this amount is estimated at USD 40 billion or Rs 300,000 crores, and over 3000 killed. The indirect costs on wars in Afghanistan and Iraq that were triggered by these attacks are estimated by the Costs of Wars Project at Brown University, at USD 8 trillion and 900,000 deaths.

The 26/11 attacks on Mumbai by 10 Lashkar-e-Taiba terrorists probably cost the terror outfit INR 5-10 crores. The Taj Mahal hotel alone had to spend about Rs 500 crores in repairing the damage caused.[2] 170 people were killed and many more injured. These multiple attacks in the heart of the country's financial capital brought the horror of terrorist violence to homes across the country through live TV coverage. India did not retaliate militarily against Pakistan, but since then expenditure on anti-terrorist measures has significantly increased.

Terrorism Financing Imperatives

Terrorism is an effective weapon against a more powerful adversary because of its low cost and the disproportionate damage inflicted. This is why it is even used by nation-states as a component of Grey-Zone-Warfare. Yet, terrorist outfits need regular funding. Cadres have to be paid, training and logistics costs are to be met, and expenses for operations catered for. Acquiring weapons and ammunition, vehicles, fabricating improvised explosive devices (IEDs), procuring false IDs, travel to other parts of India or abroad, accommodation, food, medical treatment, recruitment, training, salaries of cadres, as well as to the families of jailed or killed cadres, call for a steady revenue stream. Orthodox CT operations focus on kinetic actions aimed at killing or arresting terrorists and capturing weapons/explosives caches. Weaning public support ("hearts-and-minds") is also an objective. Countering TF with a systems approach is rarely

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a component of CT strategy. In fact, conventional law-enforcement agencies usually lack capacity to trace, track and choke the complex financial flows of TF.

Terrorist Finance (TF)

The succeeding paragraphs briefly outline methods used to mobilise resources by terrorist outfits in India.

J&K. Terrorist *tanzeems*[3] operating in J&K are mainly funded from sources in Pakistan. Estimates of this terror offensive is INR 200-300 crores a year. This includes costs of support to 200-250 militants (both local and foreign), recruitment, launching bases in POK, and in mobilising the public. As early as the 1990's, the Jain Diaries case[4] had revealed the use of hawala channels and this continues to be a major conduit for terror finance. FICN (Fake Indian Currency Notes) printed in presses in Pakistan are regularly used, with fake currency physically transported by couriers. When crossing the LOC becomes hazardous, the more open international borders of India with neighbouring countries are used. Voluntary contributions, the use of shell companies, NGOs, charitable trusts, donation at places of worship, proceeds from the sale of narcotics smuggled from Pakistan, banking channels using third countries, are other routes used. In addition to criminal acts like extortion or robbery, innovative methods used are refunds for cancellation of booked airlines tickets, fake commercial agreements, crowd funding and scholarship subsidies. Separatist leaders have charged large amounts to recommend candidates for professional courses like medical seats in Pakistan which are then transferred to designated outfits. Cross-border LoC trade was exploited by blatant violations of the trade agreement and invoices manipulated.

Pro-Khalistan. Terror outfits in other parts of India are also lesser beneficiaries of funding from Pakistan. Militancy in Punjab ended 25 years ago. However, efforts to revive terror by fugitive militants and remnants of pro-Khalistan outfits based abroad continue, supported by agencies in Pakistan. Monetary incentives are used to lure unemployed youth. Sources in Pakistan provide pro-Khalistan outfits with FICN, weapons and narcotics that are trafficked into India.

Jihadi Terrorism. Used in the Indian hinterland, this is a complex phenomenon. The most lethal are groups with connections to the global jihadist network operating from bases in Pakistan. They too use methods like weapons and FICN trafficking, proceeds from legitimate businesses, and donations raised in religious institutions in Pakistan. Authorised money transfer services like Western Union have been misused. Extortion and underworld activities remain fund-raising avenues.

> Its main sources of funding are from Jharkhand, Bihar, Chhattisgarh and Odisha, usually through extortion from contractors in these mineral-rich states and other from traders in forest products like tendu leaf. Tracing, tracking and terminating terror funding is as much a challenge as apprehending terrorists. Understanding major financial flows, especially indirect routes is the first step.

North-East Region (NER). Funds raised by Under Ground (UG) organisations in NER are mostly from domestic sources. The main sources are extortion/abduction, narcotics and weapons trafficking. In several NE states, UG outfits systematically collect 'taxes'. A "conflict economy' has emerged that directly feeds off expenditures by the state such as on development schemes. The higher the Central allocation of funds to the state, the more is leaked to UG outfits. Money is laundered through bank accounts, and through use of bank cards and cash transfer channels.

Left-Wing Extremism (LWE). The Communist Party of India (Maoist), has a presence in 11 states. Its main sources of funding are from Jharkhand, Bihar, Chhattisgarh and Odisha, usually through extortion from contractors in these mineral-rich states and other from traders in forest products like tendu leaf. Tracing, tracking and terminating terror funding is as much a challenge as apprehending terrorists. Understanding major financial flows, especially indirect routes is the first step. A few details are elaborated below.

> ➢ **Non Profit Organisations (NPOs).** A 2014 FATF study indicated abuse of non-profit-organisations (NPOs) in different ways, such as diversion of donations to terrorist organisations; abuse of funding raised for development programmes; and creation of 'fake NGOs'.

- ➢ **LOC Trade.** Pak-based terrorist outfits exploited the commencement of cross LoC trade from Salamabad, Uri, District Baramulla and Chakan-da-Bagh in District Poonch. Funds were transferred besides smuggling of arms/ammunition, explosives, FICN, narcotics and communication equipment. Under-invoicing and over-invoicing were used to mobilise funds. This forced India to suspend LoC Trade since April 2019.

- ➢ **FICN.** Pakistan-based organised criminal groups supported by Pak agencies are involved in the distribution of high-quality FICN. The FICN trade is a profitable business for criminal groups while these agencies support the manufacture and supply of FICN to fund terror outfits. Terrorist groups like LeT, Al-Badr, HuJI, JMB and UN designated global terrorist, Dawood Ibrahim are linked to FICN networks.

- ➢ **Narco-Trafficking.** Narcotics trafficking is a major source of terrorist financeing, encouraged by Pak agencies who use terrorist groups for distribution, especially in J&K and Punjab.

Countering Financing of Terrorism (CFT) in India

FATF and Legal Framework. The Financial Action Task Force (FATF) was established in 1989 at the initiative of the G7 to develop policies to combat money laundering (ML). After the 9/11 attacks, this was expanded to include TF. FATF objectives are to set standards and promote effective implementation of legal and operational measures to combat ML, TF and other threats to the integrity of the international financial system. While it has no legal authority, its observations regarding compliance with AML/CTF measures affect the ability of countries to secure international funding. FATF recommendations or standards set out the framework for countries to address the challenge of terror finance. These include developing policies and domestic coordination, applying preventive measures against ML and TF, clarifying authority and responsibility of different agencies authorities and facilitating international cooperation. India has complied with these recommendations by enacting legislation specifically designed to combat Terror Financing as under:

> FATF recommendations or standards set out the framework for countries to address the challenge of terror finance. These include developing policies and domestic coordination, applying preventive measures against ML and TF, clarifying authority and responsibility of different agencies authorities and facilitating international cooperation.

- ➢ **The Unlawful Activities (Prevention) Act, 1967 (UAPA).** This is the principal legislation against terror financing and has been progressively strengthened.

- ➢ **The Prevention of Money Laundering Act (PMLA), 2002.** This is the primary legislation against money laundering, which enables terror financing. Sections 3 and 4 of this Act specifically address terrorism financing. Offences under UAPA form part of the scheduled offences within the purview of PMLA.

International Cooperation on Terror Financing

India has done the following:

- ➢ **UN Related.** Implemented UN Security Council Resolutions such as 1267 (1999), and its successor Resolutions, including 1373 and subsequent resolutions, including the provisions in UAPA and PMLA. It has also actively contributed to the UN Counter-Terrorism Committee (1267 Committee),

- ➢ **Multilateral & Bilateral Co-operation.** India has been actively engaged to forge mutual cooperation on TF at the bilateral and multi-lateral levels. It is a signatory to international agreements like the Palermo Convention against Transnational organised Crime that include Articles relating to global cooperation against TF.

➢ **GCTF.** India is an active member of Global Counterterrorism Forum (GCTF), an international forum of 29 countries and European Union. This forum brings together experts and practitioners from around the world to share expertise, and develop tools on how to counter the evolving terrorist threat including TF.

➢ **Mutual Legal Assistance Treaties.** International cooperation is regulated by bilateral Mutual Legal Assistance Treaties (MLAT) and multilateral treaties. An MOU has been signed with Bangladesh to counter smuggling of FICN. BIMSTEC of which India is a member has a sub-group specifically on 'Anti Money-Laundering and Combating the Financing of Terrorism (SGAML-CFT).

Internal Mechanisms

Under India's federal structure, primary responsibility for 'Public Order' and 'Policing' rests with the state governments. However, the central government actively assists the state governments in combating terrorism since national security is its responsibility. Central investigative agencies like National Investigation Agency (NIA), Central Bureau of Investigation (CBI), Enforcement Directorate (ED) and Directorate of Revenue Intelligence (DRI) address TF. Given the overlap between national security and organised crime, and international linkages, systemic cooperation between the Centre and States is essential. Mechanisms to achieve this are listed below.

Under MHA (Ministry of Home Affairs)

➢ **Multi Agency Center (MAC).** Its role is to collate and disseminate intelligence regarding terrorism and TF with all agencies in the country. Civilian, police, intelligence and military agencies are represented in MAC by senior officials.

> **Given the overlap between national security and organised crime, and international linkages, systemic cooperation between the Centre and States is essential.**

➢ **Combating Financing of Terrorism Cell (CFTC).** This deals with TF-related policy issues and inter-agency (Indian and international) policy coordination, including coordination with the FATF Cell of the Ministry of Finance.

➢ **FICN Coordination Cell (FCORD).** This shares intelligence/information to counter circulation of FICN within the country.

➢ **Narco-Coordination Centre (NCORD).** This functions under DG Narcotics Control Bureau (NCB) for effective coordination of all agencies combating narcotics.

➢ **National Investigation Agency (NIA).** The National Investigation Agency (NIA) Act, 2008 created a Central investigating agency that can investigate terrorism and TF offences anywhere in India. This is to ensure specialist investigation and speedy prosecution of such cases. A Terror Funding and Fake Currency Cell (TFFC) within the NIA focuses on investigation and prosecution of offences related to Terror Finance and FICN.

Under MOF (Ministry of Finance)

➢ **Inter-Ministerial Coordination Committee.** The Inter-Ministerial Coordination Committee (IMCC) on combating TF and preventing ML was set up in 2002. Its role is co-ordination, and monitoring regulators and enforcement agencies with regard to AML/CFT. The IMCC has a statutory status under Section 72A of the PMLA, 2002. It is chaired by the Secretary, Department of Revenue.

➢ **Financial Intelligence Unit-India (FIU-IND).** is responsible for receiving, analysing and disseminating information relating to suspect financial transactions. It produces Suspicious Transaction Reports (STRs) and Counterfeit Currency Reports (CCRs) for follow up by field agencies. FIU-IND also coordinates intelligence,

investigation and enforcement in the global campaign against money laundering, terrorist financing and related crimes.

➢ **Enforcement Directorate (ED).** Its primary task is investigation of money laundering. If it comes upon evidence regarding TF or terrorism, it transfers the relevant information to the appropriate agency.

➢ **Directorate of Revenue Intelligence (DRI).** focuses on violations of the Customs Act and Narcotics and Psychotropic Substances Act (NDPS), particularly criminal mafias that smuggle FICN, weapons and narcotics. Its leads have frequently led to linkage with TF networks.

At Ground-Level. Coordinating platforms such as the Terror Monitoring group in J&K comprising DRI, ED, Income-Tax, NIA, IB and the state police work together against TF. The National Action Plan of MHA that provides an overall strategy to contain LWE lists containing TF as an objective.

Impact of CFT on TF

At international levels, Pakistan remains on the 'grey list' of the FATF. The FATF issued a statement in 2019 that said, "All deadlines given to Pakistan to check terror-funding ended; it failed to complete its action plan in line with agreed timeline". Within the country, the NIA has registered 103 cases related to terror funding, and filed 91 charge sheets against 871 accused persons. Out of these, 796 accused were arrested; 97 have been convicted and rest are under trial. Several properties, bank accounts and vehicles used by terrorists or their support were seized or 'frozen' under relevant sections of UA (P) Act and other Acts.

> Protests and law-and-order situations that were common after SF-militant encounters in the Kashmir valley lessened once funds from Pakistan were blocked. Stone pelting on security forces, burning of schools, and damage to public property are now negligible.

The systematic and coordinated approach across ministries and use of sophisticated financial tools have effectively identified and disrupted the activities of a significant number of terrorist financiers and TF routes. Identifying and prosecuting the support network of Over-Ground-Workers has impacted the recruitment, logistics and activities of terror organisations. Protests and law-and-order situations that were common after SF-militant encounters in the Kashmir valley lessened once funds from Pakistan were blocked. Stone pelting on security forces, burning of schools, and damage to public property are now negligible. However, TF rapidly adapts to and circumvents such checks. In the future, Terror Financiers are likely to use cyber-space, exploiting e-commerce platforms and use digital or crypto currencies to launder funds, though currently the use of cryptocurrency for TF is negligible. However, some Middle-East extremist organisations have asked for donations in Bitcoin. Efforts by Saudi-based jihadi organisations to raise funds in altcoin has also been noticed, with calls for donations in cryptocurrencies like BTC, ETH, XRP, and various ERC20 tokens. The development of cryptocurrency technology, with improved anonymity, could increase this route for TF, which is why suitable regulatory systems need to be evolved in anticipation of the increased use of cryptocurrency for TF.

In other parts of India, blocking identified channels of funding to LWE has reduced recruitment. Local extortion has reduced and more victims are now approaching law enforcement agencies. Identifying linkages between organised weapons traffickers among NER UGs and LWE groups has impacted supply of arms and ammunition from this source to LWE areas.

The Way Ahead

Effective CFT needs to a 'whole-of-nation' approach, the first step being a cohesive 'all-of-government' CFT structure. MOF has the expertise and access to financial data to best understand and track financial flows, but it is MHA that focusses on CT. There is a blurring of boundaries between TF and ML. While MOF has access to the wider world

of finance both networks and data, MHA oversees national CT efforts and is therefore more suited to coordinate and draft policy for CFT. The IB with its national network and institutional experience, is best placed to continue to coordinate intelligence collation and analysis related to CFT from central and state agencies. Likewise, NIA is the most appropriate Lead Enforcement/Investigative Agency for TF cases. Yet this needs a different domain expertise; traditional security and enforcement agencies need to be open to embracing the different skills set needed. And in the context of TF, additional investigative tools such as controlled delivery of funds and provisional confiscation of property after approval by NIA Special Courts is required. At the highest levels, IMCC needs to continue laying down policy and lead an 'all-of-government' CFT effort. However, chair/co-chair by Union Home Minister for issues related to TF would be useful. Similarly, a High-Level Coordinating & Monitoring Committee (HLCMC) co-chaired by Union Home Secretary/Revenue Secretary including relevant agencies under MHA, MOF or other ministries would ensure policy implementation, resolve inter-ministry/inter-agency issues, and review major TF trends. Perhaps active involvement by the CT Division of MEA (Ministry of External Affairs) would help secure cooperation of countries used to route TF to India. Sub-committees for critical areas like J&K could review overall CFT efforts there. At field-level, Joint CFT Task Forces can focus on tracking financial flows to identified major terrorist organisations rather than just individual cases.

The JCFT Task Forces should include representatives from relevant agencies in different areas such as BGFs in frontier states, and be able to co-opt experts from domains like Forensic Science/FI sector as needed. Engaging state agencies in conflict-affected areas will greatly enlarge CFT efforts, particularly since state agencies have more information on areas like real estate, commonly used to invest terror funds. NSG had assisted several states to set up CT armed response units. Similarly, relevant states could to be assisted by NIA/DRI/ED to set up CFT units. Just as NSG has set up an NBDC (National Bomb Data Centre), NIA needs to build a databank of CFT cases, and create cutting-edge research capability into emerging methods of TF and to evolve effective counter responses. For this support from agencies like the ED, FIU, NCB is needed. Also engaging the best minds

> **Only coordinated efforts can strengthen financial sector integrity in the interest of national security. How can the wider public be enlisted in CFT efforts? Except for a minority who willingly contribute to TF, most are victims of extortion or threats.**

in IT and data-science to find innovative applications for AML/CFT measures is essential. CFT funding channels are largely outside the government domain. Public and private sector financial institutions even in the non-formal sector like hawala, NGOs and Designated Non-Financial Businesses and Professions (DNFBPs) need to be part of a 'whole-of-nation effort'. Presence of regulatory bodies like RBI would help ensure that policy and compliance governing FIs supports the overall CFT campaign. All have a common interest in preventing misuse of the financial system by ML and TF. Only coordinated efforts can strengthen financial sector integrity in the interest of national security. How can the wider public be enlisted in CFT efforts? Except for a minority who willingly contribute to TF, most are victims of extortion or threats. Treating them as perpetrators/accomplices can only negatively impact CT efforts. Moreover, deterrence alone is unlikely to work. Perhaps an anonymised system of providing details of funds paid under duress to terror outfits could be explored. Also, incentives to those who *provide details that lead to major detection/recovery of terror funds.*

Conclusion

Improving armed capability is necessary to combat terrorism. So is enlisting an 'all-of-government' approach and winning public support. On the other hand, classical military strategy often explores ways to interdict the Line of Communications of an adversary, so as to choke vital supplies. Since funding is critical to sustaining terrorist organisations, effective structures, processes and capacity to deal with terror funding will be worth the effort. Results achieved in the past few years endorse this as a 'smart' approach to countering the terror threat to national security.

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Section III

Pakistan – China

Unravelling the Chinese Thinking on Muti-Domain Operations

Major General Mandip Singh, SM, VSM (Retd)@

> *"With the rapid development of new and high technology with information technology as the core, the ground battlefield under informatized conditions is no longer restricted to the battlefield in the geographical sense."*
>
> – Ye Huabin & Ai Zhengsong, 'How to Conduct Close Combat in the Information Age'
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Abstract

The article draws attention and educates on three emerging domains in modern warfare where frantic developments in emerging technologies is gaining relevance in future battlefield studies. These are space, cognitive and electro-magnetic domains. The article attempts to unravel the Chinese thinking on multi-domain operations (MDO). The article concludes that the Chinese are putting in time, effort, human capital and funds to build up MDO capability. Funds are not a constraint for the PLA; hence a challenge faces us to understand what MDO in the Chinese context are likely to be and thereafter plan and build countermeasures.

General

Military thinkers across the world have professed their views on how they see the future battlefield. In retrospect, many have been correct and many almost there, but one thing is real — it's constantly changing and it's driven by changes in technology. Increasingly, information and by extension intelligence, surveillance and reconnaissance is the key to success. If a commander has an information advantage, his decision making is quicker in the classic OODA loop. This enables the commander to create decision dilemmas for the adversary. The real challenge that has emerged is leading the loop in a multi-domain environment — operations conducted simultaneously across six known domains of warfare today — which have made command & control completely dependent on the level of technology imbued by the military vis-a-vis the adversary.

What are Multi-Domain Operations?

The U.S. Army's Training and Doctrine Command (TRADOC) describes MDO as employment of a joint force comprising all services [Army, Navy, Air Force, Marines, and Space Force] possessing the capability to defeat 'near-peer adversary capable of contesting the U.S. in all domains [air, land, maritime, space, and cyberspace] in both competition and armed conflict."[1] It further states that MDO empowers commanders "for executing simultaneous and sequential operations using surprise and the rapid and continuous integration of capabilities across all domains to present multiple dilemmas to an adversary" [2] to exercise complete control over the battlespace.

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David Patrikarakos explains the concept of expanding battlespace in his book *War in 140 Characters: How social media Is Reshaping Conflict in the Twenty-First Century,* thus:

> "Unconventional forces may strike in grey zone operations long before conventional troops officially go to war if they ever do. The first blow may be struck by proxies like the Russian-backed Ukrainian rebels, deniable forces like the Little Green Men in Crimea or Chinese state-owned fishing vessels in the South China Sea, non-military government agencies like the Chinese Coast Guard, or 'lone wolves' inspired to act by social media but with no connection to the enemy. It may come from cyber-attacks, whose origin is notoriously hard to figure out, and which may involve months or years of careful preparation but then take effect in seconds."[3]

MDO in the PLA

An article in the Global Times by Liu Xuanzun, "PLA Rocket Force Holds Live-Fire Drills, Testing New-Type Conventional Missiles," on 21 August 2021, states: "Analysts predict that a potential PLA reunification-by-force operation on the island would start with electromagnetic and cyber warfare, followed by intense missile attacks, and air and sea assaults, before amphibious landing begins." The organisation driving military scientific research in the PLA is the CMC Steering Committee on Military Scientific Research, responsible for laying down priorities and disseminating strategic directions to the programmes. According to Elsa B Kania of the "Centre for a New American Security", "[t]he CMC Science and Technology Commission (S&TC) has also been elevated to lead and guide military technological innovation and to promote military-civil fusion. The S&TC oversees a number of plans, programs, and expert groups of top scientists for priorities that include human-machine fusion intelligence and biotechnology."[4] While China intends to fight future wars in multiple domains, for the purposes of this paper, the traditional land, sea and air are not being discussed being well established and recognised. However, this article is intended to draw attention to three emerging domains in modern warfare where frantic developments in emerging technologies is gaining relevance in future battlefield studies. These are space, cognitive and electro-magnetic domains.

> The organisation driving military scientific research in the PLA is the CMC Steering Committee on Military Scientific Research, responsible for laying down priorities and disseminating strategic directions to the programmes.

Space Domain

The Chinese have been at the forefront of exploiting space as a critical domain in future warfare. According to *the Textbook for the Study of Space Operations*, published by the Academy of Military Science (AMS), "Whoever is the strongman of military space will be the ruler of the battlefield; whoever has the advantage of space has the power of the initiative; having 'space' support enables victory, lacking 'space' ensures defeat".[5] The Chinese view space operations to be of three types:

> ➢ **Space Based Information Support Operations.** Space information operations are those that support acquisition of information from space using a complex system of multiple satellites that provide reconnaissance, early warning and navigational positioning, communication relay, navigation, positioning of friendly units in land naval and air operations. Counter space operations to prevent the adversary from degrading own space information systems is also part of "space information assisting support' operations.[6]

> ➢ **Space Deterrence.** The Chinese view unhindered space operations as essential for human society and its failure or incapacitation can "create psychological fear to a certain extent, and have an influence on national decision makers and associated decision-making activity".[7] Even in peace time, the development of space systems as well as space capability can act as a deterrent.

➢ **Space Based Information Support.** As part of its space-based information support, China now has a global, 24-hour, all-weather earth remote sensing system and a global satellite navigation system. The remote sensing satellites are of six types — Yaogan, Gaofen, Huanjing, Haiyang, Jilin, and Tianhui — with varying payloads to include ELINT, electro-optical sensors (EO), synthetic aperture radar (SAR), staring camera, and stereoscopic imagers.[8] The satellite navigation system is based on a 35 satellite constellation called *Beidou Navigation System* (BNS) with accuracies of upto 1 meter with the aid of ground-segment augmentation.[9] In addition to earth remote sensing and satellite navigation, China also has a well-conceived civil, military, and commercial communication satellite programme.

➢ **Space Attack and Defense Operations.** These are offensive and defensive operations in space with the military objective of controlling space using a series of weapons like missiles, satellites, rockets etc. these could be ground to space, space to space or even space to ground attacks. The Science of Military Strategy talks of four types of space warfare:

❖ Satellite attack and defence operations using ground, air and space-based weapons and platforms to attack enemy satellites and protect friendly satellites.

❖ Space anti-missile operations, using space-based laser or kinetic energy weapons (KEWs) to intercept and destroy enemy missiles passing through space.

> Perhaps the most significant development in the Chinese RMA has been the test of two new types of hypersonic weapons in Jul-Aug 2021. Both tests involved firing a weapon payload into a low earth orbit (LEO) which travelled around the globe, possibly completely, and then released a hypersonic glide vehicle (HGV) into the atmosphere to hit a target.

❖ Space operational platform attack and defence warfare exploiting space planes and space stations.

❖ Space based attack operations against ground targets using Lasers, particle beams and KEWs from space platforms to destroy ground/sea targets.

The strategic military direction for space operations is subsumed under the larger military strategy of active defence and the principle of "we will not attack unless we are attacked".[10] Space-based operations is the responsibility of PLA Strategic Support Force (PLASSF) and all space assets including launch vehicles and launch sites are under the Space Systems Division (SSD) of the PLASSF. The PLA space attack and defence operations employ an array of kinetic-energy, directed energy, co-orbital, EW, and cyber weapon programs that appear intended to threaten an adversary's space assets from the ground to geosynchronous orbit. Amongst the kinetic energy (KE) weapons is the anti-satellite or ASAT weapon whose test carried out in 2007 and 2014. Ballistic missile defence (BMD) tests were carried out in 2010 and 2013. The use of DEWs to paint an adversary's satellites using lasers was demonstrated as early as 2006.[11] Important co-orbital operations were attempted, the first in 2013 when three satellites conducting close proximity operations attempted to grab a satellite from its orbit using a robotic arm, the launch of Aolong-1 in June 2016 to clear space debris as well as testing refuelling of satellites in space.

Orbital Glider Release System (OGRS)

Perhaps the most significant development in the Chinese RMA has been the test of two new types of hypersonic weapons in Jul-Aug 2021. Both tests involved firing a weapon payload into a low earth orbit (LEO) which travelled around the globe, possibly completely, and then released a hypersonic glide vehicle (HGV) into the atmosphere to hit a target. Not that the technology is new because Russia had way back in 1967 deployed the Fractional Orbital Ballistic System (FOBS). However, after the signing of the Strategic Arms Limitation Treaty (SALT) in 1979, Russia was forced to abandon the project as it violated the terms of the treaty as well as the Outer Space Treaty of 1967 that expressly

stated that parties must 'undertake not to place in orbit around the earth any objects carrying nuclear weapons'.[12]The Chinese test is different in that, while fractional orbit involved partial or fractional orbit around the earth, the Chinese tests involved full orbit around the earth which could be almost like a permanent deployment.[13] The advantage that accrues from OGRS is that it can defeat the US anti-ballistic missile defences which are oriented towards missiles coming from the direction of North Pole. OGRS now gives China the capability to even threaten the US mainland via the South Pole. HGVs have an advantage over ballistic missiles in that their speeds and manoeuvre capability in the atmosphere makes them extremely difficult to intercept.[14]

New Missiles

Three versions of missiles, developed in recent years are of concern, viz:

➤ The CM-401 Anti-ship ballistic Missile (ASBM) which poses a risk to warships due to high speeds, varying trajectory and angle of attack.

➤ The DF-21 series of two stage, road mobile, solid fuel MRBM which can attack moving ships at sea at ranges up to 900-1000 miles.

➤ The DF-26 China's first conventionally-armed ballistic missile capable of striking Guam. With a range of 3,000–4,000 km, the DF-26 brings most U.S. military bases in the eastern Pacific Ocean into range from China.[15]

> **The cognitive advantage weighs the experience-based learning or experiential learning in present day warfare as slow, untimely and even fatal in the modern battlefield**

Hypersonic Glide Vehicles

In 2018, the Chinese tested the Xingkiong multi-stage missile capable of top speed of Mach 6 (4,603 miles per hour). Coming after the WU-14, an HGV capable of speeds up to Mach 5-10, its ability to overcome most air defences and radars makes it a formidable threat and competition to the US and Russian HGVs. The threat of HGVs coupled with the array of ASBMs & ASCMs has driven huge interest in counter weapons. While detection by ground-based radars is limited, Over -the -Horizon (OTH) radars are more effective. The possibility of deploying space-based sensors to detect HGVs is also being explored by advanced militaries. In so far as engagement is concerned, ground-based interception using kinetic means is difficult due to the HGV's manoeuvrability. Even space-based interception is being contemplated but it has its inherent issues of weaponisation of space and high-tech costs. Perhaps the most effective method is interference using jamming and spoofing, although these techs are in the nascent stage.[16]

Cognitive Domain

In a commentary in the *Quishi,* a leading journal of Chinese Communist Party, Cindy Hurst explained that "the scope of military struggle in humankind will inevitably extend from the natural, technological, societal realms to the cognitive realm, thus shaping (China's) three major warfighting dimensions."[17] This has brought the cognitive domain into focus in the Chinese scientific community. The *Jiefangjun Bao*, a military newspaper of the Central Military Commission, takes the thought even further and talks about cognitive advantage. The cognitive advantage weighs the experience-based learning or experiential learning in present day warfare as slow, untimely and even fatal in the modern battlefield. For e.g., an experienced NCO could estimate engagements and anticipate an artillery shell and its kill area. Experienced soldiers could wargame or predict situations based on past knowledge. The PLA now feels that in an era of intelligentisation, "discovery means destruction" and human-machine integrated sensing becomes paramount to survival and victory. In other words, human-machine teaming and AI is essential to supplement or improve the perception of soldiers as experience or human perception is way too slow to detect and act in a digital battlefield.[18] The article is revealing, in

that it looks at the futuristic developments in the PLA's MDO by supplementing human thinking with computer vision, augmented reality (AV) and human-machine interaction.

The other aspect of the cognitive domain is psychological conditioning. The PLA believes unless soldiers are conditioned to be mentally strong, psychologically tolerant and balanced they are unlikely to succeed in the modern battlefield. Again, the PLA looks at AI based learning by creating high-stress battlefield models to train their troops.[19] In recent years the psychological conditioning of Chinese troops, especially the new recruits, has come under scrutiny with many being found mentally and physically weak, incapable of taking the stress of military service. The developments in the cognitive domain would assist in "immersive relaxation training, battlefield psychological adaptability, psychological tolerance, and psychological stability training." In fact, going ahead the PLA intends to use technology driven testing like facial expression, facial recognition and eye contact to identify a candidates' mental health and behavioural characteristics, thereby weeding out the weak & the meek, improving combat effectiveness, readiness and survival rate during and after battle.

The PLA is also working simultaneously on "mental dominance", a feature which will be critical in hastening decision making through reasoning at speeds that are compatible with the incredibly fast paced battlefield. The aim is to "undermine the adversary's will and resolve, undermine perception and command capabilities to weaken fighting spirit, and manipulate decision-making".[20] Even in the domain of Information Warfare, the ability to subvert and manipulate social media and thus "guide" public opinion is an area of interest to the PLA thinkers. It is, however, known to the PLA that the need to exercise utmost caution is necessary as the such options are also increasingly vulnerable to subversion by own forces due to the proliferation of 'deep fakes', false & corrupted media posts which can be counter-productive within own friendly forces.[21]

> **The restoration of dignity worked on the principle that the common Kashmiri citizen wished to lead a simple dignified life with family, but the constraints of the security system-imposed restrictions such as checkpoints, searches and other population control measures impacted their desire.**

Information Operations (IO)

The PLA has a very detailed document on Information Operations titled "Lectures on Joint Information Campaign Operations" translated by China Aerospace Studies Institute that clearly identifies China's eight 'angles 'of conduct of Information operations:

➢ From the angle of operations, seizing control of information power is the direct purpose of information operations (control of IO).[22]

➢ From the angle of battlefield, it looks at battlefield of a mechanised war pattern, i.e., a mechanised environment.

➢ From the angle of combat objective, it looks at damage or destruction of enemy information detection, transfer, processing or control systems.

➢ From the angle of operational category, it looks at operational reconnaissance, information attack and information defence.

➢ From the angle of operational type, it looks at 'computerised electronic integrated warfare" or *wangdian yiti zhan*. (Integrating EW in the IW domain).

➢ From the angles of operational method, it looks at avoiding electronic jamming, deception, virus invasion, computer hacking, anti-radiation attack and mechanisation information attacks (cyber-attacks).

> ➤ From the angle of operational activity, it looks as an operational environment that is integrated joint operations in a multi-dimensional battlefield that integrates all dimensions creating an integrated command information system.

> ➤ From an angle of position and effectiveness of information operations, organic integration with other activities that are being conducted in the theatre to be effective is essential for success.[23](Joint operations).

Perhaps the most effective of all domains that has been impacting the outcomes of recent wars has been social media. Patrikarakos was a war correspondent in the 2014 Russia-Ukraine war and he observed that "I began to understand that I was caught up in two wars: one fought on the ground with tanks and artillery, and an information war fought largely, though not exclusively, through social media. And perhaps counterintuitively, it mattered more who won the war of words and narrative than who had the most potent weaponry."[24] The Chinese use an array of initiatives to influence opinion in target countries. China utilises aid, cultural programming, and the media to boost its global image. China Global Television Network (CGTN), a major player, is the face of China overseas. China also uses state-owned media to train foreign journalists, especially from developing countries.[25]

Electro-Magnetic Domain

The PLA concept of Integrated Network Electronic Warfare (INEW) aims to bring cyber and electronic warfare under one umbrella. After the creation of the PLASSF, the scope was expanded to include space domain as well. The PLASSF supports all four services of the PLA — Army, Navy, Air Force & Rocket Force as well as all domains of warfare. The Strategic Support Force is capable of conducting electronic warfare, cyberspace operations, space and counter-space operations, military deception and psychological operations in conjunction with PLA Rocket Force as well as the other three services of the PLA. The PLA EW strategy focuses on radio, radar, optical, infrared and microwave frequencies, in addition to adversarial computer and information systems.[26]

> **The Chinese use an array of initiatives to influence opinion in target countries. China utilises aid, cultural programming, and the media to boost its global image.**

Electronic Warfare Capability (EW)

In 2015, the PLA raised the PLA Strategic Support Force (PLASSF) which was given the responsibility of three major domains of PLA warfighting – Space, Cyber & EW. The EW capability has been unknown to most militaries being secretive and rarely discussed or even on display in parades and displays. Hence this paper uses an interesting study of EW capability on the islands in the South China Sea as a guideline for PLA's SSF capabilities in the EW domain.[27]

Ground Based EW Units.

The Ground based EW units are generally vehicle based. Typically an EW Command & Control Vehicle is linked to a number of vehicle based recce outposts, each covering a different section of the EM spectrum, i.e., creating interference or jamming in the MM wave, KU/X band, C, L or S bands. This gives the PLA units a high level of tactical control of the EM spectrum depending on the power and line-of-sight available. Along the LAC it would be prudent to assume that aside from vehicle-based capability, fixed platforms would be available to cover EW requirements in peace-time as these fixed platforms would have both electric power as well as optical fibre laid to transmit data. COMINT and ELINT units are typically co-located for monitoring communications and radar signals besides building libraries on non-communication signatures of adversary equipment. SATCOM geolocation and surveillance is typically noted by a string of radomes deployed on outposts or along the LAC. These radomes are deployed in an array to intercept space-based satellite communications as well as upward and downward links of enemy aircrafts, UAVs and other airborne

vehicles. These radomes are also known to have phased array of antenna for geo-location or HF Direction Finding and other passive ISR capabilities.

Unmanned Combat Platforms

The use of unmanned platforms in combat have been a topic of discussion in Chinese circles in recent years. The employment of Unmanned Aerial Vehicles (UAVs) is already well established and China is the world leader in production & supply of UAVs. But Unmanned platforms with short range battle field missiles like the HJ-10 ATGM or the Blue Arrow Laser guided missiles have been tested. Unmanned platforms employed as swarms or on the ground for specialised battle tasks like mine recovery, bomb disposal, recce & surveillance, remote detonation etc are also envisaged.[28]

Electromagnetic Pulse weapons (EMP)

While open-source information on PLA's EMP capability is scarce and limited, there are reports in various papers and journals that the PLA is looking at EMP weapons. There are also reports of PLA EW Academy producing High Power Microwave (HPM) bombs which when detonated at an altitude can produce directed energy that can neutralise computers and electronic devices. Researchers from the PLA Air Force Engineering Institute have argued that future wars will involve EMP weapons, HPM weapons and high-altitude EMP weapons.[29]

Conclusion

The PLA has undergone a major Revolution in Military affairs (RMA) and building an ability to operate in multiple domains is a major part of this RMA. Terms such as local wars under 'informatisation' and 'Intelligentisation' are nothing but ability to operate in domains other than the classic land, air & sea. With reorganisation into Combined Arms Brigades in the PLAA, Air Brigades in the PLAAF and Marine Brigades in the PLAN, one should expect MDO to percolate down to Brigade level. This capability calls for

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huge commitment of resources, capability development and capacity building especially human capital at brigade and equivalent levels. Funds are not a constraint for the PLA but experience, equipment quality and human resources are a challenge that PLA would need to address. All this will take time, providing an opportunity for the Indian Army to build on the capabilities to defeat the PLA's control of space, electro-magnetic and cognitive domains — if we are well aware of them and their vulnerabilities.

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13   These tests suggest that the People's Liberation Army Rocket Force, conducted these tests. China has not officially confirmed these tests, and official spokespeople have said that the tests were related to the development of reusable spacecraft with civilian applications.

14   Jeffrey Lewis, "China's Orbital Bombardment System Is Big, Bad News—but Not a Breakthrough, *Foreign Policy*, 18 October 2021.

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16   Sergey Batsanov & Kevin Miletic, "How to Counter Hypersonic Weapons", Pugwash Briefing Paper #8, pp4.

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20   Elsa B Kania, Minds at War China's Pursuit of Military Advantage through Cognitive Science and Biotechnology, PRISM 8, No 3, pp 83-90.

21   Ibid. In her argument, Elsa B Kania believes that in future conflict, the battlefield is expected to extend into new virtual domains. Consequently, success on the future battlefield will require achieving not only "biological dominance" but also "mental/cognitive dominance and "intelligence dominance".

22   Yuan Weixian, "Lectures on Joint Campaign Information Operations", National Defense University Press, translated by China Aerospace Studies Institute (CASI) as part of Project Everest series, pp 5-7.

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Pakistan: Familiar Dilemmas and New Situations

Shri TCA Raghavan, IFS (Retd)@

Abstract

This article takes a wide-angle view of Pakistan focusing on its relations with Afghanistan, India and its internal dynamic. Over the course of 2021-2022 there have been some changes of significance in certain longer and shorter-term trajectories of Pakistan and in both these sets of changes there were continuities. This sum of continuities amidst change sum-up Pakistan's 2021 experience and are the stage for developments that will follow in the future.

General

The major change in 2021 was not in Pakistan but in Afghanistan and but it did tantamount to a major break in continuity for Pakistan itself. A chaotic chain of events of July-August 2021 in Kabul saw the Taliban resume power. This obviously has implications wider than for just Pakistan and Afghanistan. These implications stretch from perceptions of US power, credibility and competence and equally as to how other powers deeply invested in Afghanistan were also deluded by an illusion of permanence that its post 2001 Architecture was embedded in. For Pakistan itself the change was profound and open to different readings and sentiments but very clearly the future is going to be different from the past two decades of Af-Pak experience. If in the second half of 2021 these external factors dominated, the focus was very much domestic as 2021 ended and in 2022 as Pakistan's old ghost of civil military frictions asserted itself. Prime Minister Imran Khan's denouement dramatised and illustrated this process.

Impact of the New Order in Afghanistan

After the dramatic collapse of the old order in Kabul what predominantly emerged in Pakistan in terms of analysis and sentiment was a mix that ranged from quiet satisfaction to heady triumphalism over the turn that events have taken. Firstly, there was a sense of achievement that a long and risky strategy to install a 'friendly' government in Kabul had paid off. Then there was a sense of vindication that US policy — long disliked in Pakistan — has been exposed with regard to competence and credibility. And thirdly, and perhaps most importantly, for some is the gratification at the erasure of the Indian presence in Afghanistan which had long caused as much psychological envy as strategic discomfort and anxiety.

While the above mix predominates it is also the case that there are contrarian voices of disquiet and even prophets of doom. These point to the risks of Taliban blowback in Pakistan or to the enhanced possibility of a catalysing of Pashtun nationalism across the Durand line. There is also apprehension about the future costs that Western and US

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disapprobation will impose specifically on Pakistan as a 'scapegoat' for their own failures in Afghanistan. And finally, there is the concern over the possible risks arising from the empowerment that radical Islamic groups in Pakistan feel and derive from the Taliban victory although such empowerment is also welcomed with regard to the Kashmiri outfits. But these doubts are fewer and principally confined to the 'usual suspects' and dissenters, not on the whole representative of the mainstream view. The overwhelming mood remains that such problems as may come up can be handled and there is a good chance that Afghanistan may finally have in its cusp a stability that has been so elusive so far and provide Pakistan the surety that it has long sought on its borders to the west. In Pakistan, 'stability' in Afghanistan is seen also as synonymous with and inseparable from a government 'friendly' to Pakistan.

There is also a discernible and ever-growing concern over the slow pace which international aid efforts have gathered and the accompanying anxiety that formal international recognition for the changed situation in Afghanistan will be slow in coming. But on the whole the overall position even with regard to these issues remains one of confidence. To an extent the reason for this confidence comes from the major difference in Afghanistan itself as compared to the 1990s. The Taliban had seized power in an isolated and war-torn economy and society in 1996 quite unlike the case today. The expectation in Pakistan is that this time around Afghanistan's external interface with the wider world will be a qualitatively different experience on account of the changes that have taken place in the last quarter-century. While the country has numerous structural fragilities and a massive aid dependency it is also much younger in its demographic profile, more educated, more urbanised and finally much more connected to the external world. The Russian, Iranian, and the Central Asian position is also markedly different and finally, what has changed most dramatically is China's role and position in the region.

> **The overwhelming mood remains that such problems as may come up can be handled and there is a good chance that Afghanistan may finally have in its cusp a stability that has been so elusive so far and provide Pakistan the surety that it has long sought on its borders to the west.**

These changes breed hope in Pakistan that this time around its quest for a stable order in Afghanistan with a government 'friendly' to it may be more successful. Whether that will happen remains a question and much depends on how much, if at all, the Taliban mindset has changed and evolved in the past two decades. Pakistan is also the country, after Afghanistan of course, likely to be impacted the most by the answer that emerges to this question.

Relations with India

If the situation in Afghanistan represented a marked change in Pakistan's external relations there appears greater continuity on the east and its relations with India. Since early 2016 there had been a virtually uninterrupted deterioration in bilateral ties with India, with a progressive downsizing of cultural, economic and finally political relations. The milestones in that process are well documented: terrorist attacks on an Indian Airforce base in Pathankot (January 2016), on a military cantonment in Uri (September 2016) and on a convoy of security personnel in Pulwama (February 2019). The latter two events had seen vigorous counter measures by India. The Uri attack was responded to by a cross LOC military operation by the Indian army which entered the military lexicon and popular imagination in India as the 'surgical strike' response to Pakistan's provocation. The Pulwama terrorist attack saw an even more robust response confined not to a cross Line of Control (LOC) operation but an air strike deep inside Pakistan. The latter's response in turn saw aerial clashes between the two air forces — unusual even in the adversarial India-Pakistan context given that this aerial conflict took place in 'peace time'.

But notwithstanding this comprehensive downswing in relations the trajectory of events did not remain continuously linear for long. An announcement on 22nd February 2021 by the Indian and Pakistani army headquarters that there had been an agreement on enforcing the November 2003 ceasefire on the LOC suggested that a thaw, however small, was underway. The attention this drew in both countries underlined the significance of the development. There was

inevitable criticism and carping from 'nay persons' on both sides. In India they wondered at this erosion of the well thought out and principled position that 'Talks and Terror cannot happen together'; in Pakistan the criticism from some quarters was equally fierce and centred over the question 'What about Kashmir'? Such critical views have always emerged in the wake of all India Pakistan initiatives to reset relations on a more positive note. To an extent strategic mistrust on both sides is so deep and so old that any prospect of a situation other than that of very high tensions or an undeclared but ongoing low intensity conflict appears alarming in its novelty to many! Clearly while analysts will long go into the reasons why there was and what lead to a convergence leading to the ceasefire announcement, the fact is that for both India and Pakistan in early 2021 dialling down of bilateral tensions appeared to be in their respective interests and perhaps for entirely different reasons.

The reaffirmation of the ceasefire is not however embedded in a broader set of efforts to stabilise or even improve bilateral ties. Diplomatic ties remain minimal with no High Commissioners in place; trade remains off the radar after Pakistan's ban following the legislative changes with respect to Jammu and Kashmir of August 2019; travel links remain in suspension and finally conscious policy converged with the impact of the pandemic to restrict inter country travel to less than a bare trickle. But even amidst this overall comprehensive negative picture there are signs that everything is not static. The Kartarpur Sahib corridor was reopened and the resumption of pilgrim traffic there again gave the faintest of hints of a thaw developing. This sign was reinforced by other positive statements on easing of conditions for pilgrims to travel. Pilgrim traffic has been one of the oldest staples in India Pakistan relations for signalling that both governments are keen to not let the overwhelming negativity of their relationship descend too far. More recently, an errant missile launched by India, the full details of which are not yet known, saw an uncharacteristically restrained and mature response adding to the small list of positives in an otherwise bleak time for India Pakistan relations. We will see over the course of 2022 whether these signs suggest anything more than some random developments.

> **Pilgrim traffic has been one of the oldest staples in India Pakistan relations for signalling that both governments are keen to not let the overwhelming negativity of their relationship descend too far.**

Internal Situation in Pakistan

Internally in Pakistan, the continuities are dominant. The economy's downward slide has been uninterrupted and the symptoms of this are numerous. Trade imbalance, stagnant exports, worsening exchange rate and most of all high inflation. The longer-term structural weaknesses of low business confidence and poor public finances that underwrite the current economic straits are equally evident and have been so for some time. The former PM Imran Khan's government's weakness had been most evident in its handling of the Finance portfolio and the political fallout of this has been intense. There have been other problems and perhaps one that was equally serious was the perception that the smooth interface of Imran Khan with the military has run its course. The events of March-April 2022 are indicative of this.

The growing public disaffection on account of economic pain plus the perception of turbulence in the civil military interface had given a momentum push to the opposition, as is to be expected. Since the 1990s, a key test for any incumbent Prime Minister is how the opposition is tackled and the extent to which the army is willing to cooperate to defang or at least blunt it. In brief the Imran Khan's government also faced this tester to face at a time when its interface with the Army appeared weaker than at any time since it came to power. The final outcome was therefore inevitable.

In a sense, a full cycle appears to have had been completed since August 2019 when the incumbent Chief of Army Staff General Qamar Javed Bajwa was given a three-year extension of tenure. In the last quarter of 2021 as the controversy about the appointment of a new Director General ISI swirled what was clear was that the harmonious phase of PM Imran Khan's relationship with the Army was now coming to an end. There are numerous explanations given and in the rumour mills that surround Civil Military relations in Pakistan each is as good as the other. But perhaps

given the recurrent manner in which this issue surfaces in Pakistan it is also useful to keep the structural reasons and basis for civil military tensions in Pakistan in mind and also see the exit of Imran Khan in that wider context.

Useful also is to keep in mind the fact that since a new COAS is due to be appointed later in the year how this issue will interface with the ongoing domestic politics remains an open one. Speculations on the issue have only begun and will continue with growing intensity as the year progresses. This again is not new for Pakistan.

The new coalition led by Prime Minister Shahbaz Sharif inherits a vast portfolio of problems with the economy being the principal challenge. But he will also have an unwieldy coalition to manage. Most of all an Imran Khan out in the open claiming that a foreign conspiracy aided by domestic fifth columnists unseated him will be the central issue. Questions over the longevity of this government will dog it till the election are finally announced.

Finally, is the issue of the extremists and in particular the *Tehrik i Labiak* and the *Tehrik i Taliban Pakistan*. In a sense these represent opposite ends of an ideologically and intellectually divided spectrum from the *Barelvi* to the *Deobandi*. Both occupy considerable space in the civil society and media discourse on what ails Pakistan today. The frequency of the attacks being carried out by the TTP have increased although these are much less than what Pakistan had witnessed a decade or so earlier and up to 2015. The Taliban reaffirmation in Afghanistan certainly increases the size of the question mark regarding future TTP activities but it does appear that the State in Pakistan on the whole appears more confident of dealing with the still imperfectly integrated tribal areas on the Pakistan-Afghanistan border than at any time in its recent past. Certainly, this confidence stems from the inroads the Army has made in the Tribal areas in the past 6-7 years. Time will tell whether this confidence is misplaced or otherwise.

> **The Tehrik i Labaik is in general viewed by the State not so much as an existential threat or a major disrupter or even a major political force but rather as an effective tactical instrument to keep others in check.**

On the other end of the ideological spectrum is the *Tehrik i Labaik* and it has repeatedly demonstrated its capacity for mass mobilisation aimed at disrupting normal life in Central Punjab including in the entire region around Islamabad and Rawalpindi. Here again the State appears confident of dealing without too much difficulty with this Barelvi resurgence. The *Tehrik i Labaik* is in general viewed by the State not so much as an existential threat or a major disrupter or even a major political force but rather as an effective tactical instrument to keep others in check.

Finally, to this cocktail can be added a familiar ingredient — the situation in Baluchistan. While there has been a continuation of past trends of targeted attacks by different insurgent groups at no stage has this represented a real threat of any magnitude to the authorities. In fact, the change of architecture in Afghanistan suggests that Baluchistan will be an area where the Pakistan state will gain quickly as a government friendly to Pakistan in Kabul may very negatively impact the small pockets of Baluch insurgency.

Crystal Gazing Pakistan

If these different trajectories of continuity and change are aggregated where does that leave Pakistan in 2022. Certain trends are obvious. First and foremost, the change in Afghanistan has achieved something that it has long sought and taken great risks to attain — a friendly government in Afghanistan. To what extent this major shift, from a two-decade long period of strategic anxiety for Pakistan, will impact on its highly securitised mindset will form a central theme for 2022, although how domestic contestations will impact this shift remains to be seen. Secondly, the situation in respect to India. Here, despite an overwhelming negativity, there are some small positives that can be built upon. Will the situation in both countries permit this is, therefore, the thought that remains? One area of obvious action for it remains taking action against India centric terrorist groups. Here again, while the historical experience has not been a positive one,

the shift to its advantage in Afghanistan places an onus on Pakistan to move ahead while simultaneously creating some space to do so.

Finally, Pakistan's chaotic internal situation. Speculation about the longevity of the new government, of PM Shahbaz Sharif, about Imran Khan's and about Civil Military relations in the context of the new COAS to be appointed before the end of the year, are the stuff of daily Pakistan reportage, analysis and discussion. These will inevitably dominate the year as it progresses. Beneath these, are the more structural issues of the difficult choices Pakistan faces if it seeks to strike a minimum balance between its soaring geo- political ambitions and rhetoric on the one hand, and its real needs and capacities on the other.

Conclusion

Pakistan's past struggles with national security — both on the ground and at the doctrinal level — are well known. Pakistan's first comprehensive National Security Policy (NSP) gives some insight into the Government's thinking. Aiming to be comprehensive, the NSP looks at security in a holistic and citizen specific sense. It not only looks at the traditional domains of defence, military and strategic issues but tries to be comprehensive by including different dimensions such as the economy and development, environment, the social fabric etc. As far as Pakistan is concerned this can be seen as a step forward given the fact that prolonged periods of direct military or hybrid military civil governance has skewed the notion of national interest. In Pakistan National interest is identified as national security alone rather than as a conglomeration of economic, social, political, human and security interests. This mindset elevates security or strategic interests above all other interests and prioritises that over all other interests — economic, social or human — which can be sacrificed to achieve a particular security or strategic goal. Pakistan has paid a high price for this excessive securitisation of notions of national interest. The results are all too visible in the current state of its economy and fragile internal security. Some in Pakistan have argued that the new National Security Policy by seeing national interest in wider terms of citizens and human welfare, social harmony and economic development is a step forward in advancing a less securitised discourse in Pakistan. Whether this is really so remains to be seen and most on the outside remain skeptical.

> **Pakistan's first comprehensive National Security Policy (NSP) gives some insight into the Government's thinking. Aiming to be comprehensive, the NSP looks at security in a holistic and citizen specific sense.**

Section IV

India's Strategic Neighbourhood

India's Neighbourhood First Policy: Challenges and Prospects

Shri Pinak Ranjan Chakravarty, IFS (Retd)@

"You can Change Friends, but not Neighbours"

—*Former Indian PM Atal Bihari Vajpayee - 2003*

Abstract

India's sub-continental neighbours have always had a special niche in India's foreign policy. Despite being separated by political borders, the sub-continent binds the people living in this geography via historical and civilisational links. This 'intimacy' influences foreign policies of all countries in varying degrees. India's "Neighbourhood First" policy enunciated by PM Narendra Modi in 2014 is a more robust version of the neighbourhood policy followed by earlier governments. It, however, faces challenges, inter alia, from the China-Pakistan axis. India's traditional links and more active policy on connectivity and development partnership has sought to counter China's influence but has also enabled neighbours to leverage the India-China rivalry to derive benefits from both sides. This article analyses India's 'Neighbourhood First' policy in this context.

India's Foreign Policy

Geography is an immutable overhang over a country's foreign policy and the neighbourhood is the first arena for external engagement. The significance of the neighbourhood has been a central theme in India's strategic thinking since *Kautilyan* times, when the strategic aspect of the neighbourhood was enunciated in the *Arthashastra* as an important element of statecraft.[1] When PM Narendra Modi assumed office in 2014, he articulated the "Neighbourhood First Policy", underscoring once again the enduring salience of the neighbourhood. PM Modi invited all SAARC leaders to be present at his oath-taking ceremony in 2014. He has travelled extensively to all neighbouring countries to bolster ties. Ties with neighbours, barring Pakistan, have improved. PM Narendra Modi in his address at the general debate of the 69th session of the United Nations General Assembly, September, 2014 had stated that "A nation's destiny is linked to its neighbourhood. That is why my government has placed the highest priority on advancing friendship and cooperation with her neighbours".[2]

The operational aspect of India's foreign policy is to expand the range of policy options which when exercised will deliver the most favourable outcomes in pursuit of India's national interests. This also requires developing close synergy and coordination with domestic policies. One consistent challenge facing India, in the conduct of her foreign policy, is the continuing gap between strategic aspirations and economic and military capabilities. In the changing international order, it is India's firm belief that her foreign policy aspirations are best served in an international order with multipolar or plurilateral characteristics, which give a greater range of options to India.

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India's Neighbourhood Engagement

Geography has bequeathed India distinctive features. India, comprising 80% of land area, population, GDP and other socio-economic indices, is the largest country in the sub-continent. India shares land borders with five SAARC countries and maritime borders with two. Except for Afghanistan and Pakistan, no other country shares a land border with another SAARC country. Afghanistan, Bhutan and Nepal are landlocked, Sri Lanka is an island and the Maldives is an archipelago. Asymmetry, legacy of colonialism and partition, generate deep-rooted sensitivities, fears and complexes. Asymmetry gives India advantages but also makes her neighbours wary of her intentions. The refrain of a 'Big Brother' is a constant reminder of this asymmetry. India's democracy, state institutions, economic growth, soft power and social developments also influence India's neighbours. Bollywood's appeal transcends all frictions and remains a strong cultural adhesive.

A unique aspect of India's ties with her neighbours has been the dynamics of domestic politics in each neighbouring country. The impulses for seeking India's support in domestic politics and counter balancing India with external powers, is a reality of geopolitics. India's policy makers, therefore, have to balance soft and hard options, along with balancing bilateral, and plurilateral options. India has adopted a non-reciprocal approach for integrating markets, capacity building, investments, educational and cultural exchanges. As a first responder for disaster management, counter-terrorism cooperation and development cooperation India remains an important interlocuter for her neighbours.

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Afghanistan

The American withdrawal from Afghanistan was a strategic setback for India. India had engaged the Karzai and Ghani governments and invested in development partnership, valued at USD 3 billion, covering several hundred projects. India's relations with the Taliban had soured in the aftermath of the hijacking of an Indian Airlines flight to Kandahar in 1999 and Taliban's collusion with Pakistan's intelligence agency, ISI.

After the Taliban takeover, India closed her Embassy and Consulates and withdrew all official personnel. After this initial reaction, India has overcome initial hesitation and opened channels of communication with Taliban. India was criticised for not keeping her options open, even after it became clear that the Americans were quitting Afghanistan. Lacking international recognition, the Taliban government is facing economic meltdown and an abysmal humanitarian situation. One fallout is the surge in opium and heroin exports by Afghan-Pakistan drug cartels, with rising seizures at Indian ports and borders. India has reached out to Russia, Central Asian States and Iran to develop a common strategy to deal with the Taliban. All these countries are concerned about the export of terrorism by international extremist groups like the ISIS, Khorasan-K and others which have bases and supporters in Afghanistan.

India has offered 50,000 tonnes of wheat, COVID vaccines and life-saving medicines. While medical aid has reached Kabul via air, wheat shipment was delayed awaiting Pakistan's final decision on terms and condition. In Feb 2022 the first shipment of 2500 tonnes were dispatched by 50 trucks. Iran has offered facilities at Chahbahar to send the wheat shipment. India's assistance has been welcomed by the Taliban. These initial steps are indicative of a policy of cautious and limited steps to sustain the goodwill that India enjoys among the people.

The Taliban's close nexus with Pakistan is likely to continue despite occasional friction over the Durand Line (Afghan-Pakistan border). The ISI-backed Haqqani faction is an important player in the Taliban government. China and Pakistan are coordinating their moves on Afghanistan. China has provided aid to the Taliban and is keen to absorb Afghanistan into its strategic BRI network. Meanwhile, Pakistan's attempts to convince the world to recognise the Taliban government as a *fait accompli* and open humanitarian aid flows has not succeeded.

Bangladesh

India-Bangladesh ties are the best ever in 50 years. Bilateral ties have been described as a model for other countries and having entered a golden phase. Two major irritants, the Maritime Boundary dispute and the Land Boundary demarcation, were resolved in 2014-15. Thereafter, relations with Bangladesh have been transformed, reaching new levels of trust and expanded sectors of cooperation. Bangladesh is India's largest trading partner in SAARC, with an annual turnover of around $10 billion. Investments are or the order of $3 billion. India's development partnership programme has grown to over $ 8 billion. To celebrate Bangladesh's 50 years of independence, PM Modi visited Dhaka to attend the celebrations on March 26, 2021 and President Ram Nath Kovind was the Chief Guest for *'Bijoy Dibosh'* (Victory Day) on 16th December, 2021.

Connectivity has become a defining feature in bilateral ties. "Pre-partition trans-border railway nodes are being reconnected, pipelines supplying hydrocarbons form India, transhipment of goods via Chittagong to Agartala and cyber connectivity extension from the undersea cable gateway at Cox's Bazaar to Agartala, building conventional and nuclear power plants, supplying power via connected electricity grids and greater people-to-people movement makes Bangladesh India's major development partner in the subcontinent."[3] Bangladesh will continue to remain a pivot for India's 'Look East Policy', and trans-regional and sub-regional groupings like BIMSTEC and BBIN. The impressive growth of Bangladesh's economy will move her into the category of a developing country from its current designation as a LDC (Least Developed Country). status. India and Bangladesh are negotiating a CEPA (Comprehensive Economic Partnership Agreement), to enable Bangladesh retain trade privileges as an LDC.

> **Bangladesh will continue to remain a pivot for India's 'Look East Policy', and trans-regional and sub-regional groupings like BIMSTEC and BBIN.**

River water sharing, migration issues, border management and communal violence against Hindus in Bangladesh will remain continuing challenges. The rise of extremist Islamist organisations in Bangladesh is a worrying development and can cause domestic upheaval and damage bilateral ties. Last year's communal violence against Hindus during the last Durga Puja festival, on the blatantly manufactured pretext of blasphemy, was a renewed reminder of the damaging activities of the Islamists.

The smuggling mafia in both countries create situations that provoke shootings at the border. A multipronged approach is required for border management and elimination of violence along the border. The Rohingya refugees, numbering around a million, is a festering problem with potential for incubating violence and migration. The military coup in Myanmar has made a resolution of this issue more difficult.

Bangladesh's cooperation in counter terrorism and intelligence sharing has helped in combatting terrorism. The recent American sanctions and cancellation of visa of some Bangladeshi officials in the security forces who have been instrumental in eliminating terrorists, have complicated matters between the two countries. Human rights groups and PM Sheikh Hasina's opponents, mainly the opposition BNP and the Jamaat-i-Islami, have a role in lobbying the Biden Administration.

Bhutan

Bhutan continues to be close ally. PM Modi's first foreign visit was to Bhutan, underlining the unique and special relationship shared by the two countries. Apart from a shared strategic perspective on security, development of hydropower in Bhutan has been a central pillar in bilateral ties. Hydropower has become a win-win partnership: surplus power is exported to India, providing Bhutan a steady and increasing revenue and providing Indians an assured supply of clean power. There is vast potential to be realised as out of Bhutan's estimated potential of 30,000 MW (20,000 MW

is technically and economically feasible), only about 1400 MW has been harnessed. Both governments have set the target of 10,000 MW of hydropower capacity by 2020; and have identified 10 hydropower projects to meet this target."[4]

Maldives

Bilateral ties suffered considerably during President Abdulla Yameen's government from 2013 to 2018. Yameen's pro-China policies led to serious bilateral differences. Elected in 2018, President Ibrahim Solih declared an "India first" foreign policy, resetting ties emphatically. Solih also declared publicly that the Maldives "makes no apology" for close ties with India. A defence cooperation action plan was signed in April 2016. PM Modi has stressed that Maldives' stability and security is directly linked to India's national interests and supported the efforts to strengthen democratic institutions in Maldives. Other agreements on tourism, taxation, conservation and access to the SAARC satellite have also been signed. After acquittal on corruption charges, Yameen, has launched an "India Out" campaign, keeping in mind forthcoming Presidential polls in 2023. This campaign is targeted at India's minimal military presence. Solih and the ruling coalition partners have challenged Yameen's anti-India campaign. Other major parties have also opposed this campaign and some activists have been arrested, after strong statements issued by various parties and President Solih's office.

India's quick assistance in rushing COVID testing kits and vaccines and infrastructure projects on various islands of the archipelago nation have generated goodwill among the people. Indian tourists still provide the bulk of revenue from this sector. China has banned her nationals from visiting as tourists because of COVID. India's liberal visa regime and medical care for Maldivians are factors that mitigate attempts, to whip up anti-Indian feelings by Yameen and his supporters. China's foreign minister visited several island nations in the IOR, including Maldives and Sri Lanka during January, 2022. China has been active in leasing several islands, some in perpetuity, under special laws passed by the Yameen government. Opposition leaders have accused China of trying to set up a military bases, a charge denied by China. There is, however, no doubt that China is stepping up efforts to acquire islands in the IOR to set up dual-purpose establishments which can be used for military operations.

> **After acquittal on corruption charges, Yameen, has launched an "India Out" campaign, keeping in mind forthcoming Presidential polls in 2023. This campaign is targeted at India's minimal military presence.**

Myanmar

In Myanmar the internal situation has deteriorated considerably, with the military coup extinguishing whatever limited democratic structures that were created. Civil-military conflict and restive ethnic minority groups are challenging the military junta. While India has called for an early return to democracy and release of political leaders, security interests continue to influence bilateral ties. India's security interests are directly impacted by the turmoil in Myanmar. Insurgent groups from north-eastern states have become bolder and launched attacks from Myanmar camps on Indian security forces. India has avoided condemning the military coup and promised to continue development projects funded by India. Engagement with Myanmar's military junta was renewed during the visit Indian Foreign Secretary's visit during December, 2021. The ASEAN outreach to the military government has elicited India's support.

China is the other factor as China's influence has grown with infrastructure projects which seeks to replicate an economic corridor, CMEC, into the Bay of Bengal. India had gifted a decommissioned Indian Navy submarine to Myanmar to counter China's influence over the military. Myanmar's military junta, playing China against India, also received a submarine from China.

Myanmar's military junta has decided not to hold elections in the short-term and any return to democracy seems unlikely. The military government's brutal crackdown has forced refugees to flee into India, creating humanitarian

problems. India's security cooperation with Myanmar's military against Indian insurgent groups has given Myanmar added leverage to moderate India's policies. Myanmar has cooperated in capturing Indian insurgents involved in attacks in India and handed them over. India's has, therefore, avoided any strident approach on human rights violations being perpetrated by the military junta. India's approach to Myanmar has come under criticism from expatriate and human rights groups.

Myanmar is India's only neighbour which is a member of ASEAN. She remains crucial in India's "Act East Policy". The Trilateral Highway Project from India via Myanmar to Thailand will be an important connectivity with ASEAN. Several other projects have received funding assistance from India including the Kaladan project which connects Manipur with Sittwe port in Myanmar. India will have to walk the tightrope between her desire for the restoration of democracy and engaging with the military junta for security considerations and balancing China's attempt to make Myanmar a client state.

Nepal

PM Modi became the first Indian PM in 17 years to visit Nepal in 2014. New infrastructure, irrigation and energy projects were announced to send a message of constructive cooperation. India's disaster relief assistance after the massive earthquake in 2015 had helped Nepal immensely. China's role in Nepal is a complicating factor, with Nepal's communist party actively wooing China to fund infrastructure projects, some of which have caused security concerns in India.

> **Myanmar has cooperated in capturing Indian insurgents involved in attacks in India and handed them over. India's has, therefore, avoided any strident approach on human rights violations being perpetrated by the military junta.**

After a fractious phase in domestic politics, Nepal's Supreme Court reinstated the dissolved Parliament and PM Oli, the pro-China communist party leader, had to handover to PM Sher Bahadur Deuba, the leader of the moderate Nepalese Congress Party, with long-standing ties with India. Deuba received support from several Communist MPs. Despite a border dispute with Nepal over Lipulekh-Kalapani, relations remain stable and the new government led by Deuba has given renewed signs of positive progress in bilateral ties, though Nepal's internal politics continue to impinge on bilateral ties. China's intrusive manipulation of politics within Nepal's Communist Party may have run its course.

India-Nepal ties get complicated because of Nepal's domestic issues like the internal protest over the new Constitution which led to a blockade of the border in 2016. India also spoke up against Nepal at the UN Human Rights Council. India gets dragged into domestic issues by competitive politics in which India's support is actively sought by Nepal's politicians.

India is Nepal's largest trading partner. Total bilateral trade in 2018-19 touched US$ 8.27 billion. In 2018-19, while Nepal's exports to India stood at US$ 508 million, India's exports were US$ 7.76 billion. Indian firms are among the largest investors accounting for more than 30% of the total approved foreign direct investments. There are about 150 Indian ventures operating in Nepal engaged in manufacturing, services (banking, insurance, dry port, education and telecom), power sector and tourism industries. "Thousands of people in India and Nepal cross the open border every day to work, buy, sell, and transact businesses. India remains Nepal's dominant trade partner, steadily accounting for approximately 60-65% of all trade with Nepal even as other countries, such as China have made significant inroads in the last few years."[5]

The rising aspiration of Nepal's younger generation makes it look beyond the historic relationship with India. Overall, bilateral ties are complex, multifaceted and also unique. Nepal is the only country from which the Indian

Army sources recruits. "The Gorkha regiments of the Indian Army are raised partly by recruitment from hill districts of Nepal. Currently, about 32,000 Gorkha Soldiers from Nepal are serving in the Indian Army".[6]

Pakistan

Pakistan has become the most recalcitrant neighbour, with not much hope for improvement in ties. Pakistan remains an outlier, relying as it does, on terrorism as her principal instrument of state policy, not only against India but also against other SAARC countries.

PM Modi decided to change the paradigm of India's response after Pakistan's continuing sponsorship of terrorism against India. The new policy, based on retaliation has received overwhelming public support in India. Pakistan has to now factor in retaliation for its state-sponsored terrorist strikes and recalibrate its policy predicated on India not retaliating because of escalation, to the nuclear level. Pakistan's policy of promoting terrorism against is the primary reason for India's position that "talks and terror cannot go together". After repeal of Article 370 of the Indian Constitution, changing the status of Jammu and Kashmir, ties with Pakistan plummeted further. Pakistan downgraded diplomatic ties and trade across the land border stopped, except for one-way transit trade from Afghanistan to India.

Despite impasse in bilateral ties, India has engaged sporadically with Pakistan. There was the renewal of the 2003 ceasefire along the LOC in early 2021. Both sides cooperated in the opening of the Kartarpur Sahib pilgrimage corridor for Sikhs. By opting to supply food aid via Pakistan, India has signalled its preference to engage Pakistan. Pakistan's internal power structure gives the Army overwhelming dominance. It derives benefits from China for its political and corporate interests, by perpetuating hostility against India. Normal relations with India will loosen the army's grip on the levers of power within Pakistan and undercut its strategic anti-India nexus with China. Pakistan's new National Security Policy claims to focus on geoeconomics and hints at peaceful relations with all neighbours and leaves open the possibility of a thaw in ties with India, with the usual caveat on Kashmir.[7] Given

> **PM Modi decided to change the paradigm of India's response after Pakistan's continuing sponsorship of terrorism against India. The new policy, based on retaliation has received overwhelming public support in India. Pakistan has to now factor in retaliation for its state-sponsored terrorist strikes and recalibrate its policy predicated on India not retaliating because of escalation, to the nuclear level.**

Pakistan's track record and its Army-driven power structure, the new policy is unlikely to change the country's approach towards bilateral ties with India. "No civilian government in Pakistan can craft any policy on India, independent of the army. For daring to dream about normal ties with India, prime minister Nawaz Sharif paid a high price. He was deposed as prime minister and hounded out of Pakistan." [8]

Sri Lanka

PM Modi's visit to Sri Lanka in 2015 was after 28 years of a previous Indian PM's visit. PM Modi visited again in 2017 and 2019. Despite disagreements over several issues, mainly related to China's growing footprint and "debt trap" diplomacy over infrastructure projects, both sides have re-emphasised their desire for closer ties. The India-Sri Lanka FTA which came into force in 2000, has also quadrupled trade to around USD 5 billion. India's development partnership is around USD 3 billion. The Rajapaksa clan [three Rajapaksa brothers hold positions of President, PM and Finance Minister] which returned to power has shown a willingness to engage constructively with India, though India's distrust of the regime is quite evident, given its pro-China tilt.

Sri Lanka's parlous economic situation has made it vulnerable. The economic crisis in Sri Lanka was inevitable given the policy decisions taken by the Srisena-Wickramsinghe government and their Rajapaksa successors. Sri Lanka's economy is highly dependent on tourism and expatriate remittances. The 2019 terrorist attacks and COVID pandemic impacted on revenue from tourism and the decision to convert the country's agriculture into organic farming caused

the economy to implode. The dispute with a Chinese company over supply of "contaminated" fertiliser led to a serious spat. To mollify China, Sri Lanka agreed to a resolution, favouring the Chinese company, after China's threat to escalate the dispute for international arbitration and blacklisting of the Sri Lankan Bank handling the transaction. Sri Lanka's outreach to India is also linked to China's threats. While agreeing to provide financial and medical aid, India also drew red lines on security which led to cancellation of a Chinese funded solar power project on three islands in the north of Sri Lanka, close to the Indian coast. Chinese companies are all linked to the CCP or the PLA and provide cover for espionage and intelligence gathering. China's foreign minister reacted to this by commenting that third parties should not interfere in bilateral issues, a typical Chinese cliché. Sri Lanka is in no position to repay loans extended by China and will bend before China's demand for more concessions.

While providing financial aid, currency swap and medical assistance, India has extracted concessions like the award of the West Terminal Colombo port project and the modernisation of the 2nd World War era Trincomalee oil storage tanks. The latter is close to the Indian coast. Sri Lanka has been far too accommodating of China's investments and India has been concerned about delays and obstacles on Indian investments.

Conclusion

Global geopolitics and geoeconomics have been impacted considerably by the rise of China. The current international order is also under stress by the COVID pandemic. China's rise has caused a power shift from the West to the East. The world has developed a dependency on China's economy. Even during the pandemic and stress on bilateral ties, India's trade with China has risen to over USD 125 billion. China's economic heft and military modernisation are fuelling an aggressive and expansionist agenda.

> **China's money and Pakistan's religious leverage merge for promoting anti-Indian campaigns. The foremost geostrategic challenge for India in the neighbourhood is to counter the machinations of the China-Pakistan axis.**

China and its BRI has introduced a new dynamic in India's neighbourhood. All neighbouring countries, except Bhutan, have signed on to the BRI, with the CPEC in Pakistan being the mega project, with maximum Chinese investment. The strategic aspects of the BRI in India's neighbourhood are to bind countries to China economically and militarily, undermine India's influence and create bases in the IOR to protect its trade routes. China's offer of funds for projects has been an attractive carrot for development projects. Inevitably, these countries take advantage of the India-China rivalry in deriving benefits from both sides, though China's 'debt trap' diplomacy has made these countries more cautious about India's red lines on security and debt traps.

India's neighbourhood first policy, has been impacted adversely, mainly because of the China-Pakistan strategic nexus to undermine India's bilateral ties with her neighbours. China's money and Pakistan's Islamic network are working in tandem. Islamist groups in Bangladesh and Maldives are influenced by Pakistani Islamists and radical Islam. China's money and Pakistan's religious leverage merge for promoting anti-Indian campaigns. The foremost geostrategic challenge for India in the neighbourhood is to counter the machinations of the China-Pakistan axis.

The benefits or logic of regional cooperation are obvious but it is also a fact that creating the structures for regional cooperation are also exceptionally challenging. India has taken several asymmetric steps in giving market access to its neighbours which helps regional integration in a mutually beneficial manner. India's initiatives like SAGAR [Security and Growth for all in the Region] is to counter China's strategy of dominating IOR. India has intensified her development partnership efforts and committed more funds to regional infrastructure, energy, education, cultural exchanges and public utility projects. India has to dispel the perception of 'delivery' deficit on such projects to balance China's determined bid to 'contain' India's influence in her neighbourhood.

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Sino-Bhutan Boundary Issues: Implications and Response

Lieutenant General KJ Singh, PVSM, AVSM, VSM (Retd)@

Abstract

Bhutan, one of the tiniest and certainly most peaceful neighbours of China, is grappling with salami slicing tactics of an aggressive and expansionist China. Originally conceived to be a buffer state between Tibet and India, Bhutan is confronted with challenges of sharing an unresolved border with mighty China. Despite 37 years of border talks and a proposal of package deal, progress is painfully slow. China is focused on its quest to broaden the narrow base of the Chumbi Valley to pose a threat to India through the Siliguri Corridor to India's north-eastern jugular. This has significant strategic ramifications for India. Most parts of the disputed territory being under the People's Liberation Army (PLA) control, Bhutan is faced with a 'fait-accompli' situation.

Introduction

Bhutan and China as neighbours are a very apt manifestation of the biblical David and Goliath analogy. Notwithstanding history, the reality is that a giant or dragon is in 'wolf-warrior' mode and is unlikely to yield. The unresolved border has acquired strategic heft in a 'Thucydides trap' developing between aggressive China and aspiring India. The border was in international focus during Doklam crisis in 2017. The current stand-off on the Line of Actual Control (LAC) has once again raised sensitivities and makes a compelling case for early resolution.

Chinese Border Disputes

China has borders with 24 countries, both terrestrial and maritime. It has a land border with 14 countries and claims to have settled boundary issues with all except India and Bhutan. However, these claims have to be viewed realistically, in the context that most disputes have been either put on the backburner or settled — on terms laid down by Beijing. It is also relevant to recount that the PRC launched aggression against India in 1962; waged a six-month long border conflict with the USSR in 1969 and attacked Vietnam in 1979. It is currently engaged in an unresolved stand-off with India in Ladakh. Despite Chinese assertions, boundary issues with Nepal and Kazakhstan flare up intermittently. In the maritime domain, China is having serious issues with all its neighbouring littorals. It is engaged in serious issues with Philippines, Taiwan, Vietnam, Brunei, and Malaysia in South China Sea and with Japan in East China Sea.

Most experts opine that Chinese use border disputes to build pressure on smaller neighbours. They have mastered the art of filibustering and endless parleys to tire out the other party. They are also making use of imaginative cartography by articulating multiple claim lines backed up by selective use of treaties in what is being termed as 'lawfare'.

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Geo-strategic Context

Bhutan with an area of 38,000 sq km is a very sparsely populated, hilly, land locked state with 750,000 people. It is just smaller than Denmark in area but with one-seventh of its population. Its capacity to police and manage its disputed borders is very limited. Bhutan, envisaged as a buffer state between India and Tibet, with no border with China, was confronted with geo-strategic shock, when Tibet was amalgamated with China in 1951. Bhutan follows an insular cum gateway approach to preserve its ecology. Even tourism is regulated under minimum impact with maximum revenue, limited to high value tourists. Bhutan's USP has been Gross National Happiness (GNP). For China, it is one of the tiniest and certainly most benign neighbours. It has been dealing with the outside world through its reliable ally, India, and doesn't maintain diplomatic ties with China. Indo-Bhutanese ties are based on Treaty of Friendship. Bhutan's border with China is bounded by two tri-junctions with China and India and extends 477 km or 295 miles.

In the East, the border starts from Mount Gipmochi (location of which is contested) and was highlighted through differing interpretations during Doklam crisis in 2017. The border extends northwards over partially disputed Jomolhari range, turning eastward near Mount Masang Gang, including a large unresolved stretch and turns south-eastward, in proximity of Singye Dzong, a provincial capital, ending at tripoint. The Eastern stretch including Sakteng wildlife sanctuary, traditionally considered settled, has been claimed by China, thereby expanding the scope of resolution. Most of border with India is open but transit is channelized through Phunsetlong/Jaigaon, Gelephu and Samdrup Jongkhar. Access from Bhutan to China is regulated through a secret road trail at Tremo La, which connects Tsento Gewog and Phari.

> **Geo-strategic heft and edge is imparted to the border issue due to relative location of Chumbi Valley vis a vis Siliguri Corridor, gateway to North-eastern states — also called the seven sisters and one brother.**

Geo-strategic heft and edge is imparted to the border issue due to relative location of Chumbi Valley vis a vis Siliguri Corridor, gateway to North-eastern states — also called the seven sisters and one brother. This corridor, which is 22 km at its narrowest, is also described as 'chicken's neck' or 'north-eastern jugular'. It also can act as springboard for forays in Nepal and Bangladesh.
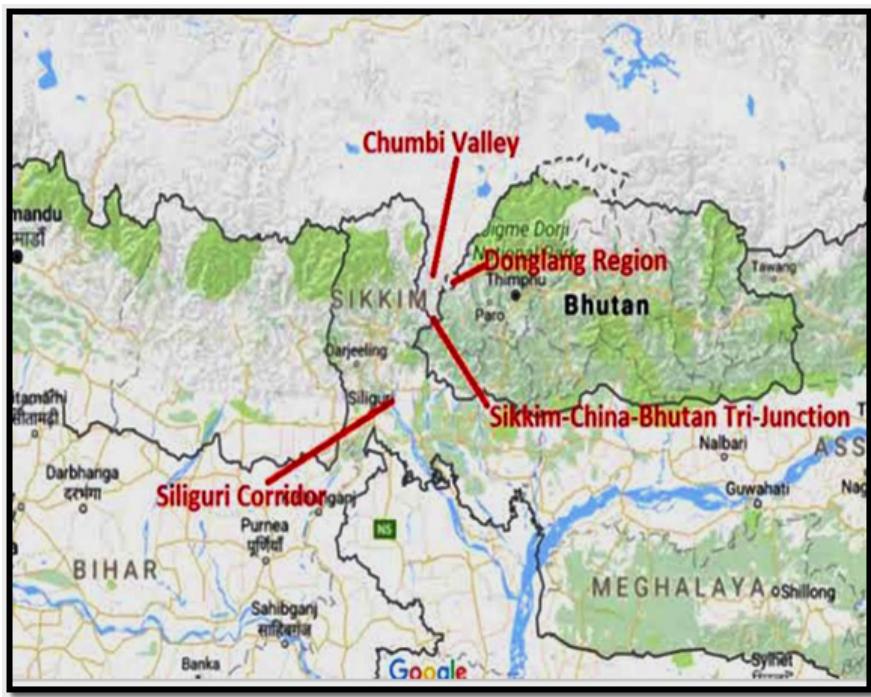
Map-1. Chumbi Valley and the Siliguri Corridor

Historical Perspective

Bhutan's border with Tibet has never been officially recognised or demarcated and is largely, a fall-out of inherited colonial legacy of British rule. It has been a complex construct based on exchanges between Tibet, Sikkim, Nepal and British India. Chinese claims date back to Manchu dynasty in 1910-11, when pre-People's Republic China (PRC) regime, staked territorial claim on parts of Bhutan and Tibet. These were reiterated by Chinese Communist Party (CCP) in 1949, on establishing PRC. Theoretical construct was outlined in Mao Zedong's diktat expounded in party treatise 'The Chinese Revolution and the Communist Party' in 1939, 'the correct boundaries of China would include Burma, Bhutan and Nepal'.

Mao emphasised this in his expansionist 'Five Fingers of Tibet' policy. Citing Tibet as the palm, fingers included Ladakh, Nepal, Sikkim, Bhutan, and Arunachal. In Chinese conception, all these are part of greater Tibet, annexed under unequal treaties. This claim was reinforced with imaginative cartography, including maps as part of publication, 'A Brief History of China', published in 1959. Large portions of Bhutan as well as territories of other countries were included within the ambit of Chinese claims.

Annexation of Tibet in 1950-51, followed by the 17-point agreement, forced on a hapless Tibetan regime, resulted in withdrawal of Indian and Bhutanese representatives from their missions in Lhasa. This was followed by rebellion in Tibet in 1959, flight of Dalai Lama to India and approximately 6,000 refugees seeking asylum in Bhutan and many more in India. Bhutan fearing being swamped by migrants, closed its borders. The PLA occupied several adjoining Bhutanese exclaves in western Tibet in July 1959. These included Darchen, Gartok and several other villages near Mount Kailas — under Bhutanese rule since the 17th century for 300 years — which had been given to Bhutan by Ngawang Namgyal in the 17th century.

> **Mao emphasised this in his expansionist 'Five Fingers of Tibet' policy. Citing Tibet as the palm, fingers included Ladakh, Nepal, Sikkim, Bhutan, and Arunachal. In Chinese conception, all these are part of greater Tibet, annexed under unequal treaties.**

Diplomatic Ties

Fearing Chinese expansionist forays including repeated incursions and denial of traditional grazing rights, Bhutan established military relations with India including having Indian Military Training Team (IMTRAT) in Bhutan. Bhutan also had established joint check posts and permitted access through its territory for joint defence contingencies. In this situation of inequality, instead of Balance of Power, it is realistically Balance of Terror due to aggressive salami slicing by PLA. Bhutan officially still maintains a neutral stance in order to retain balance in the triangular matrix.

India represented and negotiated Bhutan's concerns in talks with China over the broader Sino-Indian border conflicts till 1970. Bhutan joined the United Nations Organization (UNO) in 1971. Like India, Bhutan has followed 'One China policy' and voted for PRC replacing erstwhile Republic of China (ROC) in UNO and more importantly as veto-wielding member in Security Council. The first outreach was an invitation to Chinese envoy in New Delhi for coronation of K-5, Jimmy Singhe Wangchuk. The steering role of K-4, as elder statesman is based on his knowledge, and he remains the key enabler for Bhutan.

Disputed Territories

Bhutan's perception of disputed areas was outlined in official statements by the King in the National Assembly. He listed four disputed areas between Bhutan and China. In west, it includes approximately 89 sq km in Dolam (increasingly referred to as Doklam) plateau. Sinchumlumpa and Giu, (approximately 180 sq km) make it 269 km of unresolved stretch bordering Chumbi valley.
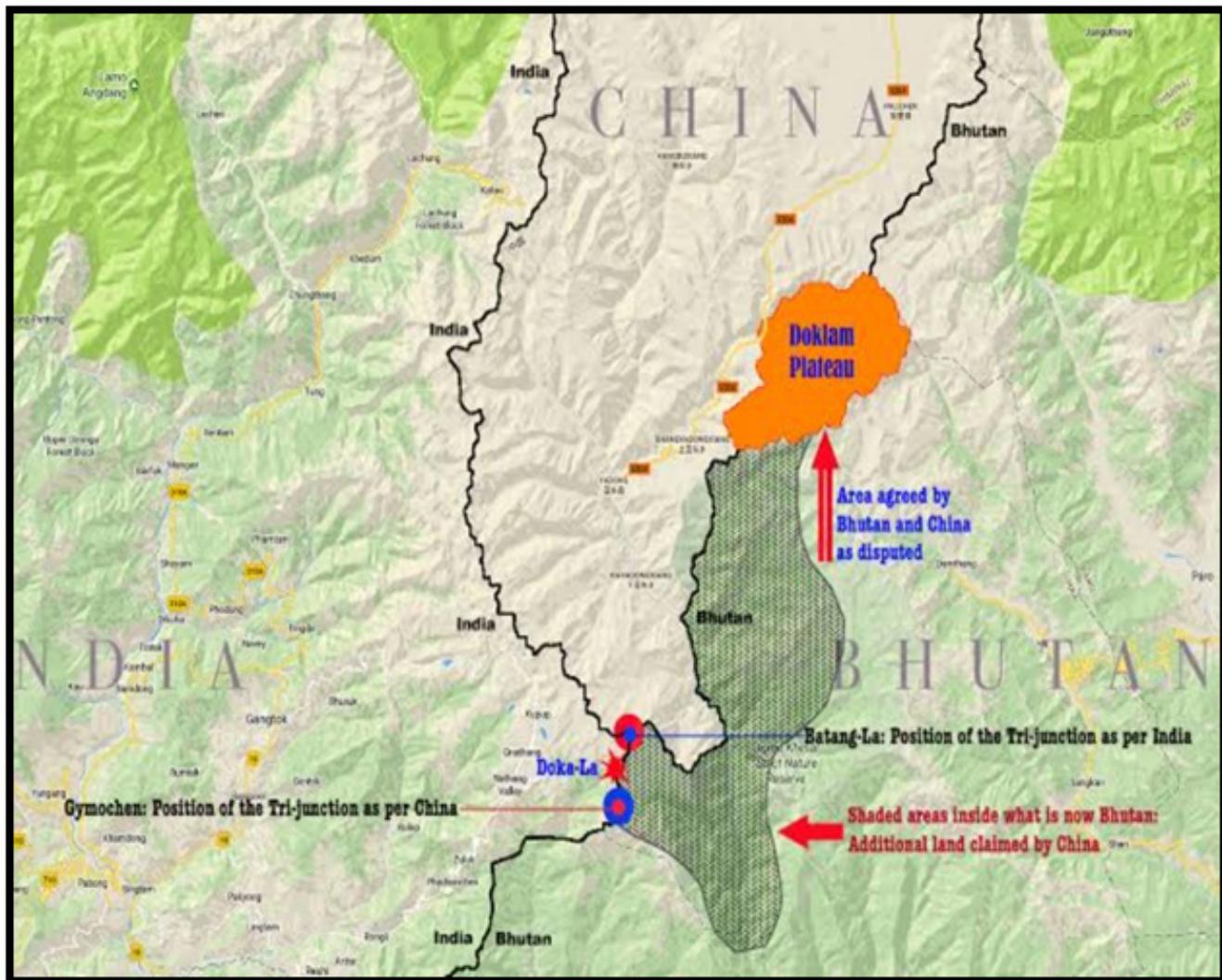
Map 2. Disputed Areas in the Chumbi Valley

Chumbi valley is a dagger shaped narrowing wedge between India and Bhutan. The southern narrow portion of the valley, the Doklam plateau, with its strategic significance has the potential to pose a threat to the tenuous Siliguri corridor. The corridor is termed as a jugular, connecting Northeast India with the rest of India. The Chinese quest is to widen the extremely narrow base of valley. The dispute is indexed to location of Mt Gipmochi and correct interpretation of watershed of rivers like Amo Chu. It is a complex bevy of crest lines and heights Gamochen, Batangla and Sinchela. The most sought after is Zompelri (Jampheri) ridge, providing launch a pad for reach to the Siliguri Corridor. A balanced view is that while it is indeed a threat, yet logistics and terrain make ingress through it a tortuous and slow exercise requiring extensive logistics build up.
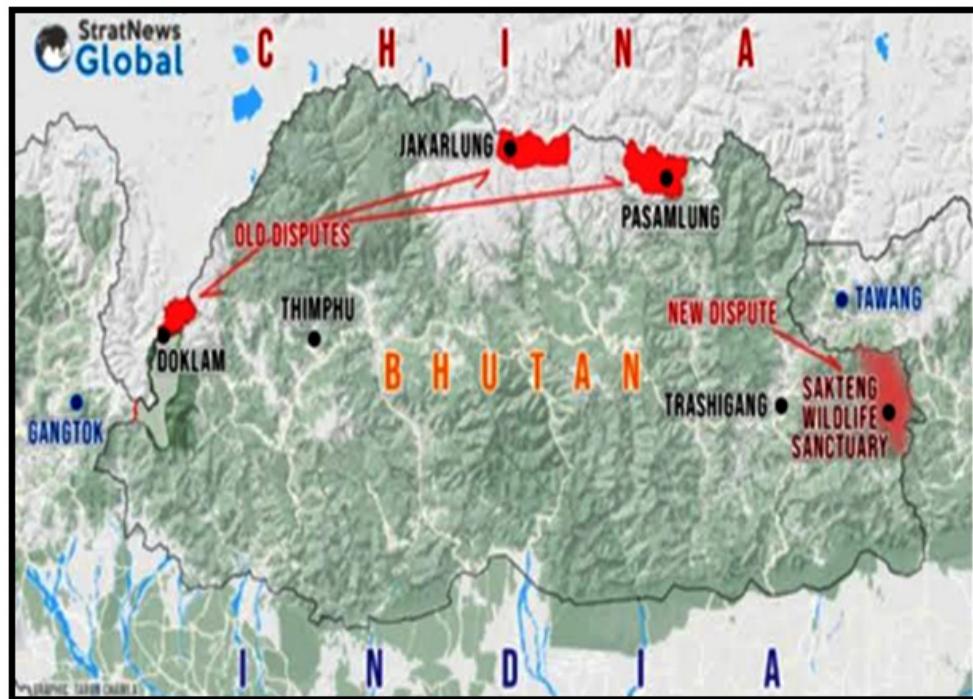
Map 3. Disputed Areas in Bhutan

Unresolved areas in Northern region are in two pockets of Jakarlung and Pasamlung, spanning approximately 495 sq km. In Jun 2020, China sprang a surprise by bringing in a claim on unspecified areas in the eastern region in Sakteng wildlife sanctuary in Tashigang district. This was surprisingly articulated in a virtual meeting of the Global Environment Facility (GEF) discussing grant for Sakteng, wherein China termed it as disputed region. It is moot point that the claim may be to increase leverage as also preclude development of joint infrastructure with India.
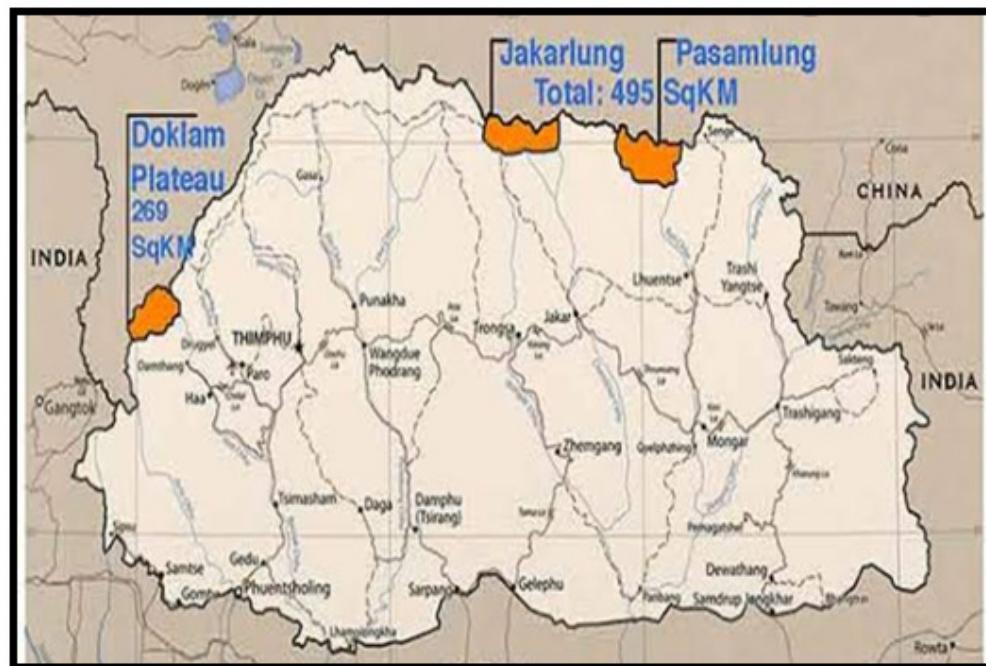
Map 4. Total Disputed Areas

Resolution Process

The foreign ministers of China and Bhutan, Wu Xueqian and Dawa Tsering held parleys in New York in 1983 to formulate mechanism for bilateral ties. Some reports state that these talks happened without taking India into confidence. This resulted in 1984, in annual direct boundary talks. Both countries signed a bilateral agreement for maintaining peace on the border, broadly based on five principles of *Panchsheel*. Peaceful co-existence is proposed to be based on mutual respect for sovereignty and territorial integrity. Both sides signed, "Guiding Principles on the Settlement of Boundary Issues" in 1988.

China proposed a "package proposal" in 1990 in the seventh round of talks. It proposed to concede its northern claims (495 sq km), in exchange for Bhutan agreeing to China's western claims, including 89 sq km of Doklam. This is in line with Chinese quest for strategic reach through Chumbi Valley.

Bhutan in 10th round (1995) appeared willing to accept the package deal. However, Bhutan retracted in 1996, allegedly under Indian influence. China and Bhutan signed an "Agreement on Maintenance of Peace and Tranquillity along the Border Areas". China's relentless building of roads on Bhutanese territory, allegedly in violation of an informal 1998 stand-still agreement, provoked tensions again. In the 2002 round of parleys, China presented purported 'evidence', asserting ownership of disputed tracts of land; after negotiations, an interim agreement was reached.

Foreign Minister Damochi Dorji visited Beijing in Aug 2016 for the 24th round of boundary talks with Chinese Vice President Li Yuanchao. Both sides indicated willingness for settling the boundary issues. The entire process hit a major roadblock with Doklam stand-off in 2017, when India objected to PLA attempting to build a road to Zompelri (Jompheri) ridge. Soon after the resolution of Doklam crisis, China intensified efforts to build dual purpose villages on Mochu river, military and logistics infrastructure including habitation, helipads, dumps, and communications. Robert Barnett and his team of China experts claim that, since 2015, PLA has been building military infrastructure, habitation, and communications in disputed areas of northern Bhutan as well. Bhutan-China Memorandum of Understanding (MOU) of Oct 2021 is based on three-step road map for a settlement. The stages are likely to be firstly, establishing framework; secondly, confirming and focusing on identified disputes including exchange of maps and finally, resolution stage. Ironically, the disputed territory, especially in Western region, is already under PLA control, making it a 'fait-accompli' situation. Major concessions by China specially in Western sector of Chumbi valley are unlikely. China, when asked to be considerate to its smaller neighbour reportedly gave a response that, China has two dozen bordering states and cannot give such concessions. In this context it is clear that China with its aim to establish its hegemony by keeping India under check, wants to expand its hold on the Chumbi Valley to pose a threat to Siliguri Corridor.

> **India needs to balance its core interests with the reality of Bhutan's compulsions. It will be appropriate to guide Bhutan to seek the best deal, especially in limiting Chinese ambitions in Doklam plateau.**

Way Forward

Bhutan is faced with the challenge of a walking tight rope between an increasingly aggressive China — in 'wolf-warrior' diplomacy mode — and time-tested ally India. While India would like to safeguard its interest, yet Bhutan may at some stage yield to Chinese package deal offer and even allow it open an embassy. India needs to balance its core interests with the reality of Bhutan's compulsions. It will be appropriate to guide Bhutan to seek the best deal, especially in limiting Chinese ambitions in Doklam plateau. India should also remain invested in capacity building in Bhutan specially in the security domain to limit Chinese footprint in security, economy and communications. It will be ideal if India maintains joint defence capabilities and joint border check posts, even enlarging their scope. India has first mover advantage and

needs to enhance scope of relationship with a 'win-win' attitude. Autonomy and balancing are sensitive issues and can be built by long term trust and a healthy respect for mutual interests, eschewing 'big brother' attitude. Above all, India will have to keep a sharp eye to monitor progress in border talks to ensure that it's sensitivities and strategic interests are kept in mind.

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The Future of Talibanised Afghanistan: Implications and Options for India

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Abstract

India has been repositioning its diplomacy after the Taliban victory in Afghanistan. It has responded creatively and engaged with the Taliban mainly to render humanitarian assistance to the Afghan people, without accepting the Taliban's vision. India is desisting from recognising the Taliban government while holding it accountable for fulfilling the commitments it has made. The most important amongst them is on enabling the remaining foreign nationals and Afghans wishing to leave their country to do so, for humanitarian assistance to reach the intended beneficiaries, creating an inclusive and broad-based government, and ensuring that Afghan territory is not used for terrorism.

Introduction

After the Taliban victory in Afghanistan, India has repositioned its diplomacy. Given India's two-decades-long development partnership with Afghanistan and their shared culture and history, India has been creatively trying to preserve the connection between their people. At present, the assistance from India is mainly humanitarian. In December 2022, India airlifted half a million doses of vaccines and 1.6 metric tonnes of life-saving medicines to Afghanistan and sent a further shipment of 5 tonnes of essential medicines the following month. The supply of another half a million doses of vaccines is underway, as also 50,000 tonnes of wheat by road through Pakistan.

Engagement with the Taliban regime does not mean accepting its vision of Afghanistan, the region, and the world, nor does it imply recognition of the Taliban regime. In December 2021, the Taliban regime made a formal démarche through the United Nations asking foreign countries to recognise the Islamic Emirate, claiming that it had met the required international standards.

India has called for an inclusive political dispensation in Afghanistan representing all sections of Afghan society and has reiterated that such a move would gain international acceptability and legitimacy. This is the message reinforced by Indian representatives in the United Nations Security Council debates on Afghanistan since the takeover by the Taliban regime. Besides stressing that legitimacy for the new government in Afghanistan will come from a negotiated "broad-based, inclusive and representative" political settlement, they have called for respect for the "voices of Afghan women, aspirations of Afghan children and the rights of minorities." They have underlined the message in the United Nations and other international forums that India's development assistance has been focused on the welfare and well-being of the people of Afghanistan.

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The Current Situation

Two events associated with the Taliban takeover remain in the public imagination: the running away of the incumbent President, Ashraf Ghani, and young men dropping on the Kabul airport tarmac from the fuselage of departing U.S. aircraft, manifesting the foreboding of Afghans about what to expect in the coming years. The outlook on Afghanistan is dismal. Its public institutions are bereft of talent, which has either fled or are in hiding. Its banks are failing and liquidity has shrunk. Its foreign currency reserves of $9.5 billion are frozen. External assistance and investments are at a standstill. Construction, logistics, and transportation have collapsed, decimating employment.

Half a million internally displaced Afghans are facing starvation. According to the United Nations Development Programme, 97 per cent of Afghans will face poverty by mid-2022. The World Food Programme estimates that a third of them are already going hungry. The UN Resident and Humanitarian Coordinator said in March 2022 that the Afghans are facing a food insecurity and malnutrition crisis of "unparalleled proportions."

There have been many more signs of harsh measures curtailing the liberty of Afghans. Foreign media is being shut down. The human rights conditions have deteriorated. Observers, such as the Human Rights Watch, testify execution of many former Afghan armed forces members. There are reports of arbitrary detentions, abductions, selective assassinations of potential political opponents, and even ethnic cleansing of Hazara, Uzbek, and Turcoman residents by evicting them from their lands and homesteads. Journalists are beaten and terrorised. All foreign programmes, including popular Bollywood films, are banned. Public protests are forbidden.

> **The outlook on Afghanistan is dismal. Its public institutions are bereft of talent, which has either fled or are in hiding. Its banks are failing and liquidity has shrunk. Its foreign currency reserves of $9.5 billion are frozen. External assistance and investments are at a standstill. Construction, logistics, and transportation have collapsed, decimating employment.**

According to the report of the United Nations Secretary-General on the situation in Afghanistan and its implications for international peace and security dated January 28, 2022, "Despite announcements of general amnesties for former members of the government, its security forces and those who worked with international military forces, UNAMA continued to receive credible allegations of killings, enforced disappearances and other violations regarding those individuals".[1]

With spring in their steps, middle and high school girls went to their schools after a gap of seven months on March 23, only to return home. Weeping female students reluctantly filed out of their classes to an uncertain future. When the Taliban assumed power, it promised to allow the education of girls as part of its image makeover effort. It has now reneged on this commitment. Afghan girls above the age of 12 are unlikely to return to school early. Women are missing in markets and mosques, nor are they visible in government offices. Most employment for women has shut down. They have a looming threat of being beaten if they do not conform to the behaviour imposed on them in addition to being forcibly married due to poverty, indebtedness, or sheer intimidation. Beauty salons have been closed. With barbers proscribed from shaving, beards are beginning to lengthen and non-bearded employees are being barred from entering government offices.

The Taliban Government

Since the Taliban takeover, the dominant view was to give its regime time to settle. But instead of heeding requests for inclusivity, the Taliban decided to do the opposite: to have a Pashtun-heavy government with only token representation for the other ethnicities, and no women. The Taliban has abolished the Ministry of Women's Affairs and re-instituted the Ministry for the Propagation of Virtue and the Prevention of Vice. The sole Hazara representative is a deputy minister for health. Among the Pashtuns selected, most represent the old guard, part of the Taliban's pre-2001 leadership. The growing restiveness against the non-inclusive Taliban regime will inevitably result in instability.

Bereft of visionary leaders, the Taliban regime is a repository of notorious personalities. Five members of its cabinet were prisoners in Guantanamo Bay. Two of them, Interior Minister Khalifa Sirajuddin Haqqani, and the Minister for Refugees, Haji Khaleel-ur Rahman Haqqani, have U.S. Rewards for Justice bounties of $10 and $5 million, respectively. Several Cabinet members figure in the United Nations Security Council 1267 Sanctions Committee list or the European Union's list of terrorists subject to restrictive measures. The Islamic Emirate's Head of Government, Mullah Muhammad Hassan Akhund, ordered the destruction of the Bamian Buddhas. All of them embrace Islamism and are misogynists, ethno-nationalists, and anti-Shia in their orientation.

A U.S. State Department spokesperson claimed on August 27, several days after the fall of Kabul to the Taliban, that the Taliban and the Haqqani Network are two distinct entities.[2] That is perhaps the basis for the specious distinction maintained by the State Department in not listing the former and only the latter in its list of 'foreign terrorist organisations.' But as Steve Coll in his well-researched book, *Directorate S*, mentions, the Haqqani network is an intrinsic part of the Taliban. The network is of special concern to India because of its close ties to the Pakistan Army. Steve Coll writes that the Haqqani network has been "a linchpin" of Pakistan's Inter-Services Intelligence (ISI) for the past five decades.[3]

Mullah Abul Ghani Baradar has been side-lined. Baradar's tutored press conference (when he read out a prepared statement with an armed guard visible in proximity) was to show that he was unharmed in an internecine fracas and the Taliban leadership remains united. He has been kept away from important non-Afghan visitors to Kabul. That is strange for a Deputy Prime Minister and former head of the Taliban's political office in Doha and chief negotiator of the February 2020 Doha Agreement with the United States.

> **The Afghan Taliban might have a national, Afghanistan-focused agenda. Its associate groups, such as Al Qaeda, Tehrik-e-Taliban Pakistan (TTP), the East Turkestan Islamic Movement, the Islamic Movement of Uzbekistan, Lashkar-e-Taiba, and Hizb-ul-Mujahideen do not.**

Intense factionalism plagues intra-Taliban politics. This was evident even when the Taliban government was being composed after the stunning defeat of the U.S.-backed Ghani government. Qayyum Zakir and Sadr Ibrahim, the heads of its military commissions in eastern and western Afghanistan respectively, had physically occupied the defence and interior ministries. They were ousted on September 7, 2021, Maulawi Yaqoob and Khalifa Sirajuddin Haqqani took over the two ministries. Qayyum Zakir and Sadr Ibrahim were initially anointed as the acting defence and interior ministers two weeks earlier. After their brief exit from these positions, they were re-accommodated as the acting deputy defence and interior ministers on September 23, 2021. The fractures in the Taliban's leadership include those between the Kandahar group and the Haqqani Network, its field commanders in Afghanistan and those living in Pakistan, and the members of its political office in Doha that negotiated the Agreement with the United States and the Taliban hardliners.

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The Victory of the Taliban

The Afghan Government folded up, not because the Taliban was dextrous, brave or adopted smart strategies, but because of American ineptitude, Afghan incapacity caused by faulty institutional support, a foisted and corrupt leadership, and sanctuary, sustenance, and support of the Taliban from Pakistan. As the Afghan poet, diplomat, and Mujahideen collaborator of Commander Ahmed Shah Massoud, Massoud Khalili, frequently points out, the United States was busy battling the smoke in Afghanistan, not the fire in Pakistan. Indeed, the United States showed persistent tolerance for Pakistan's deep deception. Even at the height of the U.S. counterinsurgency operations and the killing of American troops in Afghanistan, one of its best generals and the Commander of the U.S. forces in Afghanistan, Stanley McChrystal, seemed helpless — concerned but resigned. The U.S. Government had stopped looking for a victory that had proved elusive and sought a safe exit at any cost, even handing the fate of Afghanistan to Pakistan.

Pakistan's Role

The key to Afghanistan's future lies in its relationship with Pakistan. Through the 1980s, it became the fulcrum of U.S., Saudi, and China-led efforts to oust the Soviet Union from Afghanistan. It helped establish the government in Kabul in 1992 constituted by the Peshawar-based seven-party alliance. It then installed the Taliban government in 1996. And post-2001, while fire-fighting with the United States in its global war against terrorism, it acted as an incendiarist in sheltering the Taliban and Al Qaeda leadership and nurtured the bruised Afghan Taliban back into a formidable fighting force.

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India expects Afghanistan and Pakistan to have good relations. The same families, clans and tribes speaking a common language and sharing a common religion and culture straddle the two sides of their long and porous frontiers, which most of the Pashtuns do not recognise. Former President Hamid Karzai called the two countries conjoined twins with entwined destinies. That said, India would be content if, irrespective of relations between Islamabad and Kabul, the Afghan people and Government were free to decide the kind of relationships they should have with other countries, including India.

The Taliban leadership will be less under the control of their ISI minders when their families relocate from Quetta, Peshawar, Miram Shah, and Karachi to Kabul and Kandahar. Mullah Abdul Salam Zaef, one of the co-founders of the Taliban, who was the Taliban's Ambassador to Pakistan and was handed over by Pakistan to the United States to be interred in Guantanamo Bay, wrote a long section in his autobiography, *My Life with the Taliban*, about his assessment of Pakistan and the ISI. He calls Pakistan a "two-faced country" and describes how the ISI has "extended its deep roots in Afghanistan like a cancer which puts down its roots in the human body."[4] Select Taliban leaders were either imprisoned by Pakistan or handed over to the United States for incarceration in Bagram, Afghanistan, or the U.S. detention centre in Guantanamo Bay. The restored status-quo-ante in Afghanistan might even lead to the slow unravelling of the state system in Pakistan.

Following the establishment of the Islamic Emirate in Afghanistan, it is the TTP, not Pakistan, that will gain strategic depth. In early 2001, the Taliban's Amir ul-Mu'mineen, Mullah Omar, called upon President Musharraf to "implement Islamic law and give Pakistan an Islamic government".[5] TTP's push for creating an Islamic Emirate in Pakistan is based on the logic that if this could be considered good for Afghanistan, why not for Pakistan? The Afghan Taliban has not attacked the TTP, despite ISI wanting it.

The Quest for a Regional Compact

The foremost need of Afghans is to have sustainable peace and stability. This requires the protection of Afghanistan's sovereignty and independence. Since the late 1970s, countries in its neighbourhood and beyond have not advanced but impeded them. A cooperative regional compact is another way of envisioning a future for Afghanistan. The regional solution was never really given a fair trial and was promoted when it was too late. It could never succeed without bringing Iran as much as Pakistan into the equation, together with the other major regional stakeholders. This was impossible, given the fraught Iran-U.S. relations.

Several regional initiatives were initiated to bring about peace and stability in Afghanistan, starting with the Regional Economic Cooperation Conference that first met in Kabul in 2005. The core idea was to promote Afghanistan as the crossroads of cooperation between Central and South Asia. Afghanistan joined the South Asian Association of Regional Cooperation in 2007 with the same objective. The Heart of Asia – Istanbul Process was launched in 2011. All of these produced meagre results.

There was a degree of convergence among China, Iran, Pakistan and Russia of late. All of them got what they wanted: the exit of U.S. forces from Afghanistan. On what happens in its aftermath, these countries have different views. Although against terrorism, separatism, and extremism, in its dealing with Afghanistan, China defers to Pakistan's policies. Afghanistan's three northern neighbours, Tajikistan, Uzbekistan, and Turkmenistan, want to insulate themselves against the terrorism and narcotics trade rife in Afghanistan. They simply want to avoid the Taliban's contagion effect on their people.

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After the U.S. departure, Iran's interest in Afghanistan is to expand its influence in Afghanistan and regionally. It has traction with some elements of the Taliban that operate in western Afghanistan and has an important asset in the Fatemouyin brigade of the Islamic Revolutionary Guard Corps, which is composed of members of the Shia population of Afghanistan currently sheltered in Iran. They are members of the Hazara community, which constitutes 9-10 per cent of Afghanistan's population of 39 million. Afghanistan faces a difficult national and regional context. Internally, it is ruled by a regime bereft of administrative competence. It is landlocked, surrounded by insecure and unstable neighbouring countries that are suffering from internal problems and have extra-legal power centres due to weak governance. Underwriting the stability of Afghanistan by them is difficult because their polities and economies are fragile.

For over two decades, even before 2001, some countries were exploring the prospect of Afghanistan as a land bridge between Central Asia and South Asia, thereby turning it into a regional trade, transportation, energy, and minerals hub. The two initial projects being considered to promote this were the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline, and Central Asia - South Asia Regional Energy Market (CASAREM) based on extending the Central Asia South Asia Electricity Transmission and Trade Project (CASA-1000), expected to bring Tajik and Kyrgyz hydropower to Afghanistan and Pakistan. The energy resource reserves of the five Central Asian States, Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan consist of 3.2 billion tonnes of oil, 38 billion tonnes of coal, and 6,717 billion cubic metres of gas, enabling them to be major energy supplying countries. In contrast, the South Asia States are energy-hungry. However, the possibility of these projects fructifying is in doubt due to considerations of the cost of underwriting risky investment through an area of perennial turmoil and the political unreliability engendered not just by local factors in each of the countries concerned but by their fraught relations with each other.

The Next Steps in Afghanistan

The main elements composing India's approach towards Afghanistan are the provision of humanitarian assistance; ensuring that Afghan territory is not used to spread radicalism or terrorism; preserving the social and economic gains made over the past two decades; establishing inclusive governance, with the representation of women and minorities; allowing the United Nations to play an important role; implementing the United Nations Security Council (UNSC) Resolution 2593, which noted the commitment of the Taliban not to allow the use of Afghan soil for terrorism, including from terrorists and terrorist groups designated under Resolution 1267; and unified international response to the current situation.[6]

The UNSC adopted, on March 17, 2022, Resolution 2626, renewing the mandate of the United Nations Assistance Mission to Afghanistan by a full year and specifying its priorities, including the coordination of humanitarian aid delivery, observance of human rights, promoting good governance and the rule of law, and facilitating political dialogue. During the UNSC debates, India has reiterated the expectation from Afghanistan concerning the combat against terrorism, support for an inclusive and representative political set-up with the participation of diverse political-ethnic groups in the country, and underlined the importance of upholding human rights, including those of women, children and minorities. The observance of these provisos will determine the future Indian approach to Afghanistan.

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Endnotes

1   Report of the Secretary-General on the situation in Afghanistan and its implications for international peace and security, United Nations General Assembly Document A/76/667, dated January 28, 2022, https://unama.unmissions.org/sites/default/files/sg_report_on_afghanistan_january_2022.pdf (accessed on March 31, 2022).

2   https://www.state.gov/briefings/department-press-briefing-august-27-2021-2/ (accessed on March 31, 2022).

3   Steve Coll, *Directorate S: The C.I.A. and America's Secret War in Afghanistan and Pakistan, 2001-2016,* Penguin Random House, New Delhi, 2018, p. 154.

4   Abdul Salam Zaef, *My Life With the* Taliban, Hachette India, New Delhi, 2016, pp. 114 and 123.

5   Ibid., pp. 120-21. Zaef had this letter translated from Pushto to English at his Embassy before transmitting it to the Pakistan Foreign Office.

6   The Third Regional Security Dialogue on Afghanistan, held in New Delhi on November 10, 2021, reflected these priorities. For the full text of the declaration adopted, see https://mea.gov.in/bilateral-documents.htm?dtl/34491/Delhi_Declaration_on_Afghanistan (accessed on March 31, 2022).

Prognosis of Military Rule in Myanmar: Implications and Options for India

Lieutenant General Shakti Gurung, PVSM, UYSM, AVSM, VSM (Retd)[@]

"Military dictatorship is born from the power of the gun, and so it undermines the concept of the rule of law and gives birth to a culture of might, a culture of weapons, violence and intolerance."

— Benazir Bhutto

Abstract

The coup in Myanmar of Feb 2021 after Aung San Suu Kyi's National League for Democracy (NLD) had swept the polls in the third democratic elections has been a setback for democracy there. The coup has led to widespread violence. The future of Myanmar is uncertain for the moment. The military had visualised arresting the initial violence and disturbance which had not happened. With no central military organisation or leadership, the resistance lacks the 'steam' an urban guerrilla warfare could have had. The situation thus appears far from an impending civil war. This has thrown up security challenges for India. Geo-strategically it is India that needs Myanmar more than it being the other way around. The article looks at options for India. India's concerns with keeping relations with Myanmar on a high pitch are well understood and appreciated by the world at large. India must remember that a weak Myanmar would be detrimental to its interests.

Background

It has now been a year since the military usurped control of Myanmar in a predawn coup on 01 February 2021. After sweeping the polls in the country's third democratic elections in November 2020 with an eighty percent mandate, better than the 2015 win, Aung San Suu Kyi's National League for Democracy (NLD) was set to be sworn in for its second term when the Tatmadaw, as the military is known in Myanmar, struck. Senior General Min Aung Hlaing, the man in charge, has annulled the November 2020 election results, installed the State Administrative Council (SAC) to govern the country and declared himself Prime Minister.[1] The main reason cited by the military is election fraud committed by the NLD. Close to eleven million irregularities had been detected.[2]

Military rule and governance are synonymous in South-East Asia. Military governments have existed in almost all countries in the region which continue to influence political decisions even though not in power. Neighbouring Thailand has witnessed thirty-two coups and even has Prayut Chan-o-cha, a former Army Chief as its Prime Minister since 2019.

After its independence from British rule, Myanmar witnessed a brief spell of democracy for about a decade following which because of its numerous ethnic problems, it plunged into military rule in 1962. This carried on till 1988 when the emergence of an opposition emerged for the first time in the form of Daw Aung San Suu Kyi and her party the National League for Democracy (NLD). From 1988 to 2008 the NLD built itself into a formidable opponent forcing

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the military to review its policies and work towards an exit strategy. 2008 was the year when Myanmar's Constitution was framed leading to the first democratic elections in November 2010.

Understanding the Tatmadaw

The Tatmadaw is an extremely well organised and highly motivated hierarchical force comprising roughly 500,000 soldiers in the rank and file besides an 80,000 thousand police force. For five decades from 1962 to 2010 the Tatmadaw has ruled Myanmar opposing all forms of international pressure for mediation to hand over power to a democratically elected government. As a result, a sense of insecurity from a feeling of possible outside interference has affected the Tatmadaw's mindset making it very insular, stubborn and non-negotiable. The senior officers of the Tatmadaw are from the generation that has seen only military rule and shaking them out of it has to be gradual and not hasty.

Born out of British rule, Myanmar then known as Burma, suffered immensely from foreign occupation especially during the Second World War. Occupation of the Burmese kingdom by the British in the nineteenth century till the country's independence, incarcerating their last king, King Thibaw and his family at Ratnagiri in India, has left an indelible mark in the minds of the Generals and an embarrassment they have not forgotten. That Suu Kyi's husband and children are British citizens only adds to this humiliation and hatred.

The five decades have also been witness to extensive sanctions being imposed by the western world leaving Myanmar few choices to choose its friends from. Arrogant, proud, and posing to be extremely nationalistic, the Tatmadaw was forced to find options for survival, an aspect that made them feel indomitable thereafter. International relations took a beating and foreign assistance especially by the western world began to be viewed with a lot of suspicion.

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The Generals are also worried as to their fate, once democracy is fully restored. Being tried and punished for crimes and human right violations like the Germans and Japanese of the Second World War is what worries them. There being no guarantee for general amnesty, the Tatmadaw will seek to make laws and rules that would ensure their continued domination over Myanmar politics besides ensuring personal protection.

Resistance to the Coup

The Civil Disobedience Movement (CDM) that began a day after the coup, was the first of its kind in the history of Myanmar. In the form of a trade union strike, it mobilised thousands of civil servants known as CDMers from across the country and came as a complete surprise to the military forcing them to change their strategy for dealing with it. The CDM was initiated by the NLD and was designed to be a nonviolent movement on the lines of what Mahatma Gandhi had done during India's fight for independence.[3]

Being influenced by slogans like "CDM" and "don't go to office, break away", the health and education sectors were the first to join it. About ninety percent of health care workers from forty hospitals, medical institutes and COVID 19 testing centres refused to work. This was followed by fifty to sixty percent of teaching staff from schools and colleges across the country. Some civil servants from the military-controlled ministries, defence, home and border affairs also joined the movement[4].

The resistance and opposition to the coup shocked the world over. Six academics from Norway have even recommended it for the Nobel Peace Prize 2022.[5] The Committee Representing the Pyidaungsu Hluttaw (CRPH), a

legislative body consisting of individuals from the NLD who had won the November 2020 elections was set up soon after the coup. The National Unity Government (NUG), its executive body, followed soon thereafter on 16 April 2021.[6]

With the CDM transforming into a revolution, the chant is no longer a return to a pre-coup status, but for a complete makeover of the Tatmadaw into a federal army not dominated by the Burman ethnic majority. The CRPH declared the military a terrorist group on 01 March 2021 which the NUG followed up with a similar declaration on 07 June 2021.[7]

The mandate this new uprising has laid out for itself ends with the defeat of the Tatmadaw. The NUG which had first endorsed only a violent self defence strategy for the resistance force, announced the formation of its armed wing called the People's Defence Force (PDF) on 05 May 2021.[8] On 08 May 2021 the Tatmadaw responded by declaring the CRPH, NUG and PDF, terrorist groups, under the Counter Terrorism Law.[9] With both sides locking horns, peace appears far away for the moment.

The CDM affected the rank and file of the Tatmadaw as well, albeit at a low level. Roughly two thousand soldiers and a few from the officer cadre have deserted so far.[10] Junior ranks have been affected the most being the group to have been recruited or commissioned in the services after transition to democracy began in 2011.

Deserters are reported to be active on social media and have even opened secret groups like 'Peoples Soldiers' and the NUG's 'Peoples Embrace' to subvert the loyalty of serving soldiers.[11] Young commissioned officers who have defected from the Defence Services Technical Academy are claimed to have been given the task of designing and producing local weapons and ammunition. The Defence Services Academy, an equivalent of India's Indian Military Academy, is reported to be running under strength with lesser numbers available to fill its campus.[12]

> **Armed resistance is presently confined to the Chin State by the Chinland Defence Force, Kayah State by the Karenni Nationalities Defence Force, and Sagaing Division by the Kalay Civil Army and is now spreading to Magwe Division as well.**

The NUG has created a command structure which has a Minister of Defence to coordinate activities of the PDF and the ethnic armed organisations (EAO). The EAOs have refrained from joining the resistance so far.[13] The new militias are essentially local PDFs created by EAOs for protecting their ethnic communities. No central coordination of PDFs has been observed with most office bearers of the NUG operating from out of the country.

Armed resistance is presently confined to the Chin State by the Chinland Defence Force, Kayah State by the Karenni Nationalities Defence Force, and Sagaing Division by the Kalay Civil Army and is now spreading to Magwe Division as well. Resistance is in the form of bomb attacks against military vehicle columns, elimination of military informants, and hit and run tactics. With no central PDF, the resistance lacks the 'steam' an urban guerilla warfare could have had. The situation thus appears far from an impending civil war.

Resistance in the Chin town of Mindat bordering Mizoram is of special significance to India as roughly 13000 Chins including state and federal lawmakers from Myanmar are known to have crossed over into Indian territory.[14] The Mizos and Chins have familial ties with marriages taking place across borders. Chin State also borders Rakhine State where the Rohingya offensives by the Tatmadaw had taken place between 2016 and 2019.

What Does the Future Hold for Myanmar

The future of Myanmar is uncertain for the moment. The military had visualised arresting the initial violence and disturbance which has not happened. The speed with which the CPRH and NUG were created had caught them unawares and the CDM that began on the first day also gained momentum.

The ASEAN applied its pressure by not inviting the Senior General to the Summit of 26 October 2021.[15] The reason was because Myanmar had failed to fulfil the conditions of the agreement reached in the April 2021 Summit for restoration of normalcy. The ASEAN Special Envoy, Mr Erywan Yusof, Second Foreign Minister of Brunei, had to also cancel his visit to Myanmar as he had been denied permission to meet Aung San Suu Kyi.

The China - ASEAN Virtual Summit of 22 November 2021 also saw a vacant chair in respect of Myanmar. China had requested for Ming Aung Hlaing's inclusion which was turned down by the regional grouping. China which has a lot to gain from the group did not press home the request and has even agreed to allow NLD's Kyaw Moe Tun, Myanmar's Ambassador to the UN, to continue in office.[16]

As the Chair of ASEAN has now shifted to Cambodia in October 2021, Prime Minister Hun Sen has indicated his plans to visit Myanmar in January 2022 to engage effectively with the Tatmadaw. Cambodia's Foreign Minister Prak Sokhhan has been nominated as the ASEAN Special Envoy to Myanmar. Hun Sen has vowed to work with the Myanmar's military ruler to arrive at a just solution.

With a force that is still intact even though overstretched, it is unlikely that the Tatmadaw will relent. A proud and arrogant Tatmadaw is not likely to accept loss of face by submitting to the NUG or its CDM. Defeat or capitulation would mean a permanent return to the barracks. To state that the Tatmadaw is attempting to eliminate the NLD is saying the least. Announcing that elections will be held only in 2023, the Tatmadaw has taken the first step by sentencing Suu Kyi to four years imprisonment.[17]

> No tell-tale signs of foreign assistance have been noticed so far. Such assistance would only increase military crackdowns and would be detrimental to security of the region. It would also heighten the confrontation to a new level that could eventually lead to civil war.

The Tatmadaw supply chain has not been disturbed so far. Administratively troops are surviving on adequate nourishment and are not facing any shortfall of equipment and ammunition. No split in it is envisaged either. As normal life has almost come to a standstill it is more likely that the CDM will disintegrate before the Tatmadaw does. Myanmar has already reported the highest daily increase of corona cases due to the collapsed health system as well the military's crackdown on medics.[18] In ethnic areas the problem doubles due to the conflict and humanitarian crisis. No tell-tale signs of foreign assistance have been noticed so far. Such assistance would only increase military crackdowns and would be detrimental to security of the region. It would also heighten the confrontation to a new level that could eventually lead to civil war.

To seek support of minority groups the Senior General would have to consider reducing the Burman domination in the armed forces. A review of the terms and conditions governing commissioning as officers and recruitment as soldiers would have to be done to ensure a steady flow of inductees from minority groups. Once there is adequate representation of minority groups in the rank and file, a 'national and regular' Tatmadaw will get created that can enhance nation building.

The Tatmadaw and the NUG need to sort their differences out in-house. This will be when the Tatmadaw feels it is comfortable with the internal situation and has all checks and balances in place. Both sides will have to bury the hatchet and dialogue will have to start with perhaps ASEAN playing mediator. The impasse when it breaks is likely to be 'sugar coated' for benefit of the Tatmadaw. As a consequence, military dominance of Myanmar's politics is likely to continue.

Implications and Options for India

Effective Diplomacy. Remaining neutral on the military coup, India has played its cards well. By abstaining from the UN Security Council resolution condemning the coup in June 2021[19] and the recent appointment of a new Ambassador in November, India has kept its doors open for negotiations with the military junta. India's response to the military

takeover has been measured, even though condemning the violence, it has not criticised the Tatmadaw. The visit to Myanmar by India's Foreign Secretary on 22 & 23 December 2021 can be deemed as the final Indian acceptance of the military government in power.

Stuck like a yam between two major nations, China and India, Myanmar can ill afford to play one against the other. Being the land bridge for both the countries to Southeast Asia and the Indian Ocean Region (IOR), Myanmar is aware of its status and will attempt to extract maximum benefit. Constructive engagement of Myanmar within the 'comfort levels' must, therefore, continue. India must use in full measure its "Neighbourhood First" policy and "Security and Growth for All in the Region (SAGAR)" initiative which is its policy or doctrine of maritime cooperation in the IOR. India's policies for engagement with Myanmar must be based on these imperatives. However, this by no means implies that India should be a silent spectator at the "goings on" in Myanmar. Instability in that part of the world has the potential to spill over in the NER besides affecting the regional power balance.

Covid Diplomacy. Regarded as the pharmacy of the world, India has the capacity to manufacture over three billion COVID 19 vaccines annually.[20] This contributes to sixty percent of the global vaccine supply. Under its 'Vaccine *Maitri*' scheme, India has taken upon itself to supply needy countries with the vaccine. Under this scheme India has already supplied 1.7 million doses of Covaxin and Covishield to Myanmar.[21] This supply had reduced marginally due to the second wave that struck India in 2021. Taking on the responsibility of the COVID vaccine requirements, especially of its immediate neighbours, would project India's image and capability across the world.

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Border Management. India and Myanmar share a 1700-kilometer land border. This makes it essential for both countries to ensure that peace and prosperity prevails in each other's territory. As Chin State, Sagaing Division and Kachin State of Myanmar that border India's four North-eastern states of Mizoram, Manipur, Nagaland, and Arunachal Pradesh are the most undeveloped, Myanmar needs India's support by way of trade, connectivity, and hydel projects for developing these areas. Border trade between India and Myanmar must resume again and continue unhindered by the Tatmadaw offensives. Mechanisms and provisions to facilitate safe return of displaced Myanmar citizens who have crossed over as a result of the military crackdown have to be worked out at the earliest.

The Indian Insurgent Situation. Following dismantling of the NSCN(K) camps at Taga in North Sagaing Division by the Tatmadaw in the year 2019, a number of Indian Insurgent Groups (IIG) that had taken shelter there have now moved to safer havens in South Sagaing. A severe resource crunch is known to be affecting the operations of IIGs especially the NSCN(K) which had its General HQ at Taga bordering the Konyak region of Mon district in Nagaland. To deny supplies to local militias opposing the Tatmadaw, ration shops have been shut down or gutted by government forces which have added to the woes of the IIGs. To avenge the joint operations at Taga, a spurt in insurgent activities and movement in the Indian affected states can be expected. IIGs will also have to cross back to home soil for their own sustenance and replenishment. The ambush on Colonel Tripathi, CO 46 Assam Rifles, his family and the QRT, as well as the incident of mistaken identity involving 21 Special Forces battalion in which thirteen civilians were gunned down, are examples of a resurgence in violence as a result of the military crackdown in Myanmar. Indian security forces deployed along the entire border with Myanmar have to be alerted to this new reality. Good networking between Indian security forces and the Tatmadaw is the need of the hour.

Fructification of Indian Projects. Like China which is seeking a passage through Myanmar to overcome its "Malacca Dilemma", India too has constructed the Kaladan Multi-Modal Trade and Transit Project (KMMTTP) to overcome its security concerns of the Siliguri Corridor. In ensuring the successful completion of this project, India has supported the

Tatmadaw in its operations against the Arakan Army, a Myanmar insurgent group, which shows how closely knit the two sides are. The India-Myanmar-Thailand highway (IMT) is another project that links the three countries to the Greater Mekong Economic Corridors. This highway is important for Myanmar's economic survival and hence any opposition to it is not likely. Indian projects are known to observe all environmental and social protection conditions in Myanmar and must progress as planned.

Military Diplomacy. Projection of its military might as an essential element of national power has to be exercised by India in the form of military diplomacy in order to influence its area of interest in the immediate and strategic neighbourhoods. Creation of the long-pending theatre commands will convey the message of synergy of thought, planning and execution between the three Services, thereby deterring the enemy as well as dissuading countries located within India's strategic boundaries from falling prey to alliances not favourable to its interests. To ensure a sync between the reorganisation of the armed forces with India's Act East Policy and its Neighbourhood First initiative, the Eastern Theatre Command and the Maritime Command, when created should form the basis of good military diplomacy with Southeast Asia and the Asia Pacific. Both these can assist in overcoming the domineering influence of China in countries like Myanmar thereby effectively countering any attempts to derail the Act East Policy. The Maritime Command along with the Andaman & Nicobar Command must together demonstrate India's might in dominating the sea lanes that pass through the IOR right up to the Malacca Straits thereby deterring the PLA Navy from operating freely in the region. Both these Commands if used ingeniously can choke naval and merchant shipping activity from the Malacca Straits, Myanmar, Bangladesh up to Hambantota in Sri Lanka and beyond, and can have a meaningful impact on military diplomacy.

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India, unlike China, shares a 750-kilometer maritime boundary with Myanmar. Sharing a maritime boundary entails extensive cooperation at sea. Besides naval exercises — anti piracy, rescue operations and disaster management are areas where the Indian and Myanmar Navies are known to cooperate. Gifting the first submarine to the Myanmar Navy by India meant creating this underwater arm for Myanmar, making it at par with other navies in the region. China has been quick to respond in a similar manner by gifting the Myanmar Navy with a Ming class submarine. The Kyaukphyu deep seaport being constructed by China as part of its economic corridor through Myanmar has a dual purpose — it is also designed to be a naval base for the submarine arm of the Myanmar Navy. The IOR is the region where the future lies, and India must pursue this initiative relentlessly.

The Senior General is now seeking to transform his defence services into a modern and regular army from its earlier avatar of being only a counter-insurgency force fighting the ethnic rebels. India must refrain from gifting old vintage or obsolete weapon systems and platforms to Myanmar as these would be of no assistance in its modernisation drive. However, weapon systems being gifted must not disturb the peace in the region and must not in any way hamper relations between India and other Southeast Asian countries.

Having entered the Myanmar defence market, induction of hi-tech Russian equipment can be foreseen in the years ahead. A Su-30 squadron and the Pantsir missile defence system are already due for delivery to Myanmar in the immediate future.[22] Commonality of Russian defence equipment with Myanmar will open avenues for maintenance and sale of spare parts for India. Modernisation of the military in Myanmar is set to progress unimpeded and good military diplomacy will reap rich dividends.

Conclusion

Geo-strategically it is India that needs Myanmar more than it being the other way around. Myanmar is the land bridge for India to Southeast Asia and beyond. India needs Myanmar for almost everything, from a secure neighbourhood to peace and prosperity in the NER, and to fructification of its Act East Policy. India expressed deep concern at the developments in Myanmar and issued a statement which said, "India has always been steadfast in its support to the process of democratic transition in Myanmar. We believe that the rule of law and the democratic process must be upheld".[23] India's concerns with keeping relations with Myanmar on a high pitch are well understood and appreciated by the world at large. India must remember that a weak Myanmar would be detrimental to its interests.

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Geopolitics of Water in South Asia: Challenges and Opportunities for India

Major General AK Chaturvedi, AVSM, VSM (Retd)@

Abstract

South Asia has problem of hydro resources as majority of sources have their origin in Tibet and, the needs of China are such that it wants to appropriate all the resources emanating from there. China also does not care for the international rules for the trans-border water channels. Simultaneously, unstable borders within South Asia have created an atmosphere wherein cooperation in exploitation of common resources is absent. India is gradually inching towards becoming water stressed and there is a need to find ways and means to avail opportunities in the existing as well as emerging geopolitical scenario to prepare for this situation by finding ways/means to deal with the threat of growing water scarcity.

Introduction

South Asia is one of the most thickly populated area in the world, having a population of 1.97 billion with a population density of 303 person/ sq km [1] as on 28 Jan 2022. This population is about 24.89% of the World, but water availability is only 4.5% of the world's renewable water resources. Except Bhutan and Nepal, the per capita availability of water in the region is less than the world average. It has been forecast that by 2030 only 60% of the region's demand for water will be met by existing resources at the current rate of exploitation.[2] Here again it needs to be considered that 95% of the water is used up for agriculture which is far above the world average of 70%. It is estimated that the aquifer, especially in India's Punjab as well as Pakistan's Punjab province, is likely to go dry by the middle of the century. This kind of excessive exploitation of water resources along with the impact of climate change, which is reducing the water availability, will have disastrous impact on the region and indicates to an uncertain future. Further the high population density and use of chemical fertilisers has rendered almost 68-84% of the water sources highly polluted. Yet another problem of the groundwater is that the shallow water is contaminated with arsenic. Pollution is not only reducing the availability of clean potable water but is likely to impact the health of people in the long run.

In addition to the shortage of water, the geopolitics of water is further impacting the relations within the region as well as with China, which is an upper riparian country for several rivers in the region and which itself is grappling with the shortage of water. There is a need to examine issues which impact the water politics within the region so that the optimal solution for the water problem of India can be arrived at.

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Geography of South Asia

Map-1: Geography of South Asia

Source: Updated from map courtesy of University of Texas Libraries, http://www.lib.utexas.edu/maps/middle_east_and_asia/txu-oclc-247232986-asia_pol_2008.jpg. With due correction of Indian Boundary done by the author

South Asia consists of Afghanistan, Pakistan, India, Nepal, Bhutan, Bangladesh, Sri Lanka, and Maldives. It extends south from the main part of the continent to the Indian Ocean. The principal boundaries of South Asia from North Are Central Asian Republics of Turkmenistan, Uzbekistan & Tajikistan, The Himalayas extend from North to Northeast, it also is bordered by Tibet Autonomous Region (TAR) of the People's republic of China, Myanmar is in the East. South Asia juts out in the sea with the Bay of Bengal located in the Southeast which separates it, in the maritime domain, from Southeast Asia, in South it is Indian Ocean and in Southwest it is Arabian Sea. Iran shares the land border with the region in the West. The peculiar thing about South Asia is that these are the countries which are separated by history but united by geography. At the same time many of them have unstable borders. One of the major implications of such a state is that many of the resources, especially hydro resources, existing within the region are monolithic in nature but dispute exists in exploiting them in a cooperative manner.

Drainage systems in South Asia. There are three major drainage systems in South Asia, namely, Indus River Basin, Indo-Gangetic River system and Brahmaputra- Meghna System. The importance of these lies in the fact that many of the rivers in these systems have trans-border presence.

➢ **Indus River Drainage System.** The 3180 km long River Indus originates in TAR, travels North-West, flows through Ladakh and Pak occupied Gilgit Baltistan then bends sharply to South-West and finally drains into Arabian Sea south of Thatta near Karachi. The total drainage area exceeds 1,165,000 sq km with annual flow of around 243 m3. In Ladakh it is joined by Zanskar River from east and in plains of Panjab it is joined by Panchnad River which itself is formed by five rivers namely, Beas, Ravi, Sutlej, Jhelum, and Chenab joining from East. Major source of water from the West is from Rivers: Shyok, Gilgit, Kabul, Khurram and Gomal among many others. Indus and most of its tributaries are glacier fed. Since Indus as well as most of its tributaries are trans-border channels it has its implication. However, more about it a little later. In case of Indus and Sutlej, China is upper riparian, India is middle riparian and Pakistan is lower riparian. There are seven major common rivers between Pakistan and Afghanistan, with Kabul River being the major one. In case of these rivers, Afghanistan is the upper riparian and Pakistan is the lower riparian state.

Map-2: Indus Drainage System

Source:https://theconversation.com/how-india-and-pakistan-are-competing-over-the-mighty-indus-river-77737 with correction of the Indian Boundary done by Author.

➢ **Indo Gangetic Basin.** Although some literature talks of including the Indus basin also into it but for providing a bit of clarity in this section only River Ganges and its tributaries are being spoken of. The Source of water in Ganges is from glaciers of Gangotri, Nandadevi, Kedarnath, Satopanth, Kamet, Trisul and Nandakot. Its length is 2525 km or 2704 km depending on which alignment is taken as the real Ganges. It is also a trans-border river as a number of its tributaries originate either in Nepal or TAR and one its branches goes into Bangladesh where it is known as Padma. In Bangladesh it is joined by Jamuna (Brahmaputra) and then Meghna and finally empties into Bay of Bengal. Its tributaries are Yamuna, Ramganga, Gomti, Son, Damodar and Punpun. All these are those rivers which have their origin in India. Gandak, Burhi Gandak, Kosi, Karnali, Trishuli among many others. Arun is yet another river which is part of Kosi or Sapt Kosi river Systems. All these rivers, either

originate in TAR of Nepal. Karnali originating in TAR is joined by Sharada after entering India becomes Ghagra. It provides maximum water into Ganges. Mahananda, originating near Darjeeling, joins Ganges after entering Bangladesh. The basin area stretches over 1.32 million sq km of the northern region of India, Nepal, and Bangladesh. Discharge into the river is to the tune of maximum 18490 m3 and minimum 180 m3 during lean period. It provides water to 40 % of the population of India. There is a Canal from Farakka Barrage to feed into Hooghly River to improve its navigability. It is a point of dispute between India and Bangladesh *but more about it later*. Point to remember that in this river system China is upper riparian Nepal in some cases and in some cases, India is middle riparian and Bangladesh is the lower riparian state.

➢ **Ganges- Brahmaputra- Meghna Basin.**

Map-3: Indo Gangetic Basin

Source: https://en.wikipedia.org/wiki/Ganges_Basin#/media/File:Ganges-Brahmaputra-Meghna_basins.jpg

Enough has already been mentioned about the Ganges River system in the earlier section. At Farakka (Shibganj in the district of Chapai Nababganj) the Ganges gets divided into two streams. One stream enters Bangladesh and is known a *Boro Ganga*. The other stream, known as Bhagirathi Hooghly, remains within India and finally empties into the Bay of Bengal near Sagar Island. Boro Ganga is joined by Jamuna (Brahmaputra), upstream of the town of Goalundo (in Bangladesh) and the combined river gets the name Padma. Jamuna in Bangladesh is known in India as Brahmaputra, which is created by the flow of three important tributaries from Eastern Himalaya near Sadia in Assam. These are Lohit, Dibang and Siang. Siang originates in TAR where it is known as Yarlung Tsangpo. Several other tributaries also join it in its journey. Padma joins Meghna in Chandpur district before emptying into the Bay of Bengal. While talking of journey of Meghna, it commences with Barak River which originates in Manipur hills. The Barak River enters Assam at Tipaimukh. Near Badarpur it divides into Surma and Kushiyara rivers and both the rivers enter Bangladesh into Sylhet Depression. Both these rivers again join above Bhairab Bazar and thereafter the river is known as Meghna. Thus, this river system consists of several trans-border channels, where in case of Brahmaputra, China is upper riparian, India is middle riparian and Bangladesh is lower riparian state.

For Meghna River System, India is upper riparian and Bangladesh is lower riparian state. For Ganges River system, India is upper riparian and Bangladesh is lower riparian state. An important river in this basin is Teesta which originates in Sikkim and after travelling through West Bengal it enters Bangladesh at Dahagram and joins Jamuna (Brahmaputra) at Gaibandha Fulchhari in Bangladesh. Here it is important to note that there are 54 rivers which flow into Bangladesh from India.

Map-4: Ganges- Brahmaputra- Meghna Basin

Source: http://en.wikipedia.org/wiki/File:Ganges-Brahmaputra-Meghna_basins.jpg

Conventions Controlling Sharing Water of Trans-Border Channels

UN Convention on Water Sharing of Trans-Border Channels. On 21 May 1997 the UN General Assembly adopted the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses. Incidentally it is the only treaty governing shared freshwater resources that is of universal applicability. It stipulates principles and rules that may be applied and adjusted to suit the characteristics of particular international watercourses. The Convention has 37 Articles in seven parts. Key provisions are there in Parts II, III and IV. Article 5 in Part II stipulates equitable and reasonable utilisation of water by all riparian states. It also talks of equitable participation in use, development, and protection of the water course. Article 6 talks of relevant factors and circumstances for equitable utilisation. Article 7 stipulates an obligation not to cause significant harm to the water course. In other words, it means that the riparian states are obliged to take appropriate measures to prevent any kind of damage to the other riparian states. Part III talks of the principle of prior notification of planned measures being taken by a state which may adversely impact the other riparian states with a view to give adequate time to the affected state to invoke measures in accordance with Article 5/7. Part IV talks of the protection, preservation and management of the concerned trans-border water channel. The convention was opened for signatures from 21 May 1997 to 21 May 2000. However, till 2014 only 38 countries had signed and only 35 had ratified it. The Convention came into force on 17 Aug 2014. It is noteworthy that when the Convention had come up for voting China had voted against it, India and Pakistan had abstained, Nepal and Bangladesh had voted in its favour but neither have ratified it.[3,4] This state of non-adherence to an international convention by the countries of

South Asia and China flags that water remains captive in this region to either a state where, 'Might is Right' or bilateral arrangements/ accords may help the countries to resolve their differences.

Sustainable Development Goals (SDGs). In Sep 2015, the UN General Assembly adopted the 2030 agenda for sustainable development. It includes 17 SDGs. The SDGs deals with, 'Clean water and Sanitation'. Although the SDGs are not legally binding, the governments are expected to take ownership and establish national frameworks for the achievement of all 17 SDGs. India, Maldives, Sri Lanka, Nepal, Bangladesh, Pakistan, and Afghanistan have signed the declaration on the 2030 agenda for the sustainable development. China in 2016 came with her own SDGs.[5]

Impact of Climate Change on Availability of Water

Due to climate change, the intensity and frequency of the water related natural disasters is on the rise. It needs to be noted that disasters destroy/contaminate the entire water supply in that area. Further, rising temperature leads to an increase in pathogens in fresh water. Thus, climate change is causing greater water stress, especially in countries which are already water stressed like Pakistan and parts of Bangladesh and India. Rising sea levels due to melting of polar ice is further impacting the quality of fresh water near estuaries. The impact of this phenomenon is being worst experienced by Pakistan in the estuarine area of Indus as discharge volume of fresh water in Indus is quite less. By an estimate it is felt that sea ingress in Sindh has gone as high as 87 km.[6,7] As explained in the introduction most of the countries of the region and China, not having adequate water resources of their own, are dependent on each other to optimally utilise the common resources, but in the absence of any formal international arrangements, are having disputes among themselves with a very dark shadow of China looming large on the region as China has its own water issues and she is going ahead at will, to appropriate resources for which she is upper riparian, at the cost of lower riparian states.

Influence of China on Water Availability in South Asia

Map-5: Major River Originating in Tibet

Source: https://www.ywangdu.com/tibet-travel/where-is-tibet.html

There are almost 37000 glaciers on Chinese side[8] of the Tibetan plateau. The rivers which originate there, are; Indus; Sutlej; Yarlung Tsangpo (Brahmaputra); Irrawaddy; Salween; Huang He; Yangtse; and Mekong.[9] Except Huang He and Yangtse. Other rivers flow into Pakistan, India, Myanmar and Laos and form the largest river run-off from any single location. The hydrological output in Tibet is estimated to be of the order of 627 km³ per year. To get a perspective, this is about 34% of the total river water resources of India.[10] Before the annexation of Tibet by the PRC, the entire volume of this hydrological output used to flow into lower riparian states, however, due to construction of a number of dams and also due to reduced output on account of the climate change, nowadays, only 577 km³ is transferred to lower riparian states.[11] An important fact that needs to be taken into consideration while analysing the needs of China and her related action is that China is home to close to 20% of the world's population, and has access to only seven per cent of the world's water resources.[12] Other factors that need to be taken into account, to appreciate the criticality of the availability of water are, severe pollution of its surface and groundwater caused by rapid industrialisation and the gap in the availability of water in the Southern region which is water-rich in comparison to the water-stressed Northern part. China is going for several dams on various rivers originating in Tibet. A case in point is the latest dam in Medog county near Arunachal Pradesh border on Yarlung Tsangpo (Brahmaputra). While the stated objective of all such dams has been that these are meant to generate power and use the water for irrigation purposes but a possibility

of using the stored water as a weapon by the upper riparian state is always there. The Parichu incident 2004-05, clearly shows that China is quite capable of using its advantage of being the upper Riparian to weaponise water. She is also trying to divert water from Indus and Brahmaputra to parched areas of Xinjiang and Northern China.[13] As per her 'Five Years Plans', the Chinese government has planned to build 120 gigawatts (GW) of new hydropower plants. China has already blocked the flow of the Xiabuqu river, one of River Brahmaputra's Tibetan tributaries, for the Lalho hydel project.[14] China is also building five dams on Brahmaputra River. In China's 14th Five Year Plan, it was mentioned that a mega dam (sixth) on Yarlung Tsangpo in Medog Country, just 30 km from Indian border, will be built, which will be part of China's Long-Term Vision for

> China has built a medium scale dam on the river Indus a few miles eastward of Ali, which is the capital of Ngari prefecture, and opposite Demchok in Ladakh. The structure has apparently stopped most of the river flow and likely to cause water shortage for downstream projects including the existing Tarbela dam in Pakistan that also lies on Indus.

2035, adopted by the Plenum, in October 2020.[15] It is also reported that they will also try to divert the Brahmaputra (Yarlung Tsangpo) northwards to China at the U-bend before it enters India.[16] Construction of dams on Yarlung Tsangpo is going to impact the availability of water in downstream areas because of the sheer size of the infrastructure projects undertaken by China, it also poses a significant threat to the populations living downstream. Close to a million people live in the Brahmaputra basin in India and tens of millions further downstream in Bangladesh.[17]

China has built a medium scale dam on the river Indus a few miles eastward of Ali, which is the capital of Ngari prefecture, and opposite Demchok in Ladakh. The structure has apparently stopped most of the river flow and likely to cause water shortage for downstream projects including the existing Tarbela dam in Pakistan that also lies on Indus.[18] More recently China had blocked the flow of the Galwan River, a tributary of the river Shyok, thus altering the natural course of the river to prevent it from entering India.[19] In an outreach to Pakistan, it has promised to finance and build five dams on Indus in Gilgit Baltistan, which will form the 'North Indus River Cascade'.[20] These dams are coming up, from North to South at; Bunji; Diamar-Basha; Dasu; Patan at Thakot.[21] These dams will negatively affect the flow of water to lower riparian states, especially in non-monsoon months. It appears that China sees execution of these projects as her right, as a continuation of the historic tributary system, wherein tributary states had no right to object to the action of China and had no significant leverage in the negotiations. In the absence of any dispute resolution in place in respect of transborder water channels, diplomatic negotiations are the only means to settle the disputes.

Relations within South Asia

Af-Pak Relations. There are seven common rivers between Afghanistan and Pakistan and the most important ones among them are Kabul, Khurram and Gomal. There are several other seasonal rivers. Kabul and its tributaries add almost 20-28 MAF of water into Indus.[22] If Afghanistan starts constructing dams on common rivers, water stressed Pakistan's problem will get compounded. With Shahtoot dam completed— and as mentioned by Jamaat Ali Shah, former Indus Water Commissioner, that Afghanistan is constructing 12 multipurpose dams on common rivers — Pakistan's water woes seem to be getting further aggravated. It has also been reported that Afghanistan is planning to build Kama Diversion Dam on Kabul River with Indian assistance and Machalgo dam on Khurram river. In fact, a total of 21 projects are in progress. These projects though will help Afghanistan to get much needed relief but definitely reduce availability not only in Indus substantially but will also affect water availability in Khyber Pakhtunkhwa.[23] In the absence of any kind of agreement between the two countries presently, it is free for all and Pakistan being lower riparian is definitely at a greater disadvantage and definitely it is to India's advantage to build bridges with Afghanistan by providing support to Afghan endeavour to exploit her hydro resources.

Indo-Pak Water Relations. The Indus Water Treaty (IWT) of 1960 is the framework of cooperation. As per this India has resources of the three Eastern rivers, namely, Beas, Sutlej and Ravi of Indus Basin whereas Pakistan has got the waters of three Western rivers, namely; Indus, Jhelum and Chenab with India getting access to these rivers for a very limited lien as well as some non-consumptive use. It is strange that both India and Pakistan feel that it is a flawed treaty. Pakistan feels that they have been denied their legacy rights on the eastern Rivers and India feels that it neither takes note of new realities nor is its dispute resolution mechanism fair. However, it is also true that it has been held for over sixty years now. Pakistan was not complaining very loudly earlier, when she was getting more water than authorised due to lack of infrastructure on India's part to retain water authorised to

> India has resources of the three Eastern rivers, namely, Beas, Sutlej and Ravi of Indus Basin whereas Pakistan has got the waters of three Western rivers, namely; Indus, Jhelum and Chenab with India getting access to these rivers for a very limited lien as well as some non-consumptive use. It is strange that both India and Pakistan feel that it is a flawed treaty.

her, but post Uri incident when India decided to expedite infrastructural works to exploit water that was flowing to Pakistan above her authorisation, Pakistan has started feeling the pinch. In this connection it needs to be noted that Pakistan's problems are the consequences of her own doing. Firstly, they have not created enough storage. Pakistan has storage space of just about 30 days as compared to India which has a storage space of 120-220 days.[24] In this connection, it is important that they don't have consensus among states for new storage. Secondly, IRSA and WAPDA, the two agencies known for inefficiency and corruption have failed miserably in the management of 180 MAF of water allocated to them. Of this quantum of water only 30 % reaches the crops due to seepage and evaporation and 38 MAF gets drained into the sea.[25] However, one great boon in disguise for India is that the IWT1960 is between India and Pakistan, whereas the western rivers and Ravi of the eastern rivers pass through UTs of J&K and Ladakh, thus de-facto Pakistan accepts the legitimacy of accession of the erstwhile Princely State of J&K to India. India needs to exploit this fact besides expeditiously completing the infrastructural works to exploit the water as authorised to her. India also has two opportunities. One on the western front where, by employing water based diplomatic initiative India can win the confidence of Afghanistan by completing those 12 promised dams on River Kabul and its tributaries and reduce the support base of Pakistan in Afghanistan which Pakistan has been trying to use as a strategic depth. The second is wherein they need to convince Pakistan that China is stealing water authorised to her by building a dam on Indus in TAR and also attempting to divert its water towards Xin Jiang and thus there is a need to come together to challenge PRC.
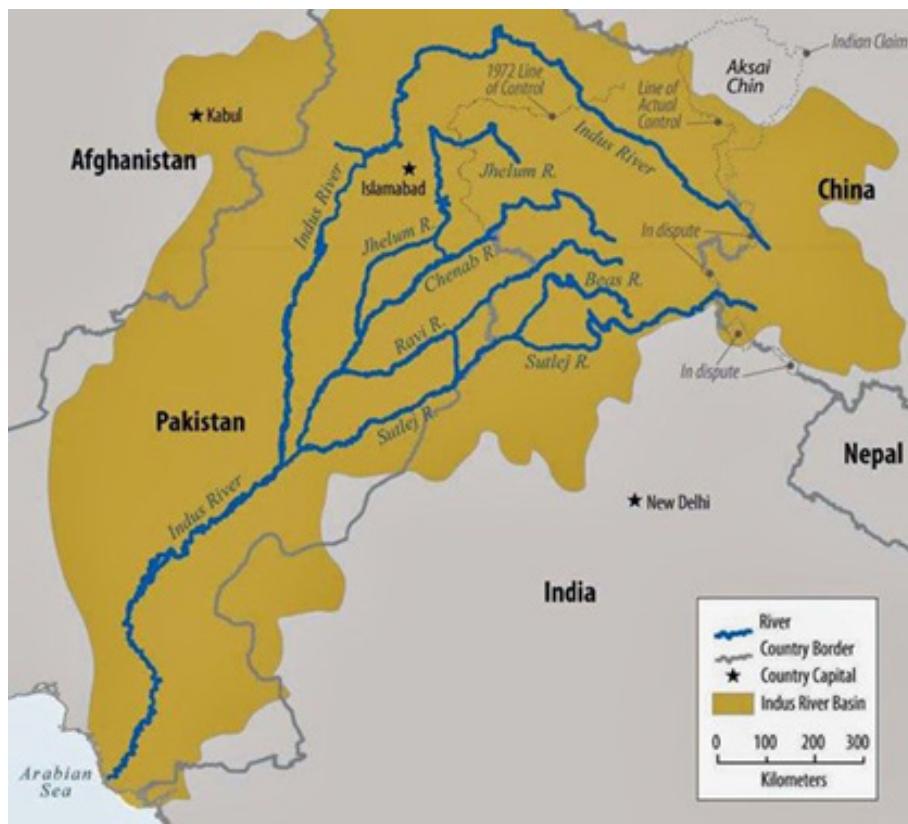
Map-6: Origin of Sutlej and other Tributaries of Indus from East and North Arc on Indus

Source: https://www.pinterest.com/pin/501307002263059516/

For such an objective, India should approach the people of Pakistan to convince them because Pakistani establishment is so much under the influence of PRC that it is unlikely to raise its voice against China. India also needs to question Chinese attempts to weaponise waters of Parichu (as they did in 2004-5) and stealing water by constructing a dam in Zada Gorge on Sutlej.[26]

India Bangladesh Relations. There are 54 common rivers between India and Bangladesh. There are three issues which have been a source of disagreement between the two countries. These are as follows:

➢ **Sharing of Ganga Waters.** Despite differing perception on the issue finally an agreement was signed in 1996, "Indo- Bangladesh Treaty of Ganges waters1996". This amicably settled the issue. The treaty will come up for review in 2026.

➢ **Teesta Dispute.** Sharing of waters of Teesta, originating in Sikkim, traversing through West Bengal, and finally joining Jamuna in Bangladesh, is a long-standing demand of Bangladesh. There is a differing perception of the needs of the two countries and the possible alternate solutions. It is of the interest of India that the issue is resolved quickly, lest China jumps into the fray, as Bangladesh is discussing a proposal of China to dredge and embank large portion of Teesta and invest about $1 billion as part of their BRI project.[27] China coming so close to Chicken's neck would be a threat to India.

Map-7: Alignment Rivers Teesta and Jamuna (Brahmaputra)

Source: https://www.insightsonindia.com/2020/08/24/teesta-river-dispute/
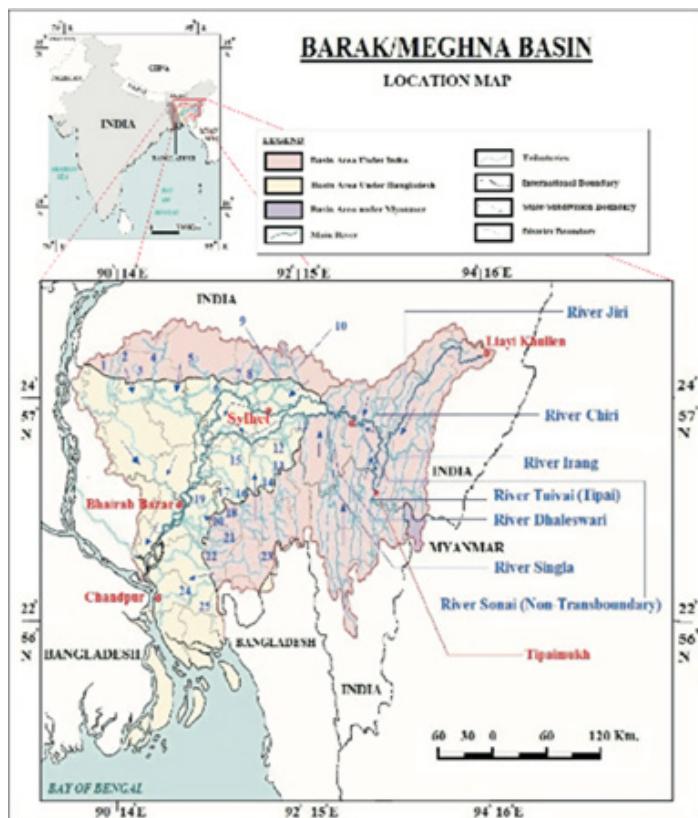
Map-8: Location Tipaimukh Dam

Source: Modified by Jaya Thakur of ORF from Nishat et al, 2014

➢ **Tipaimukh Dam.** It is a proposed dam on Barak River in Manipur. It is hanging fire since 1974, when it was decided to construct it to manage the flood situation in parts of Assam in India and Sylhet in Bangladesh. However, Bangladesh is now apprehensive about the availability of water downstream of the dam. Like Teesta it also has potential to impact the Indo Bangladesh relations and as such needs to be resolved quickly. There is a framework agreement for greater cooperation in water management signed between the two countries in 2011. That needs to be progressed to resolve all outstanding issues. Such cooperation will also help India to build a common front with Bangladesh against Chinese attempts to appropriate waters of Yarlung Tsangpo, to which both India and Bangladesh are legal claimants, being lower riparian States.

Indo Nepal Water Relations. Nepal though occupies only 14.72 % of the Ganges Basin but contributes about 38.1% of its water.[28] However, there are many issues, mainly that of flooding and consequent inundation which impact the water relations between the two countries. Nepal also feels that the root cause of her problem is that India is going for several infrastructural constructions to exploit common water resources without consulting Nepal.[29] The history of water relations between the two countries date back to 1920 when Sharada dam on River Mahakali was planned. Subsequently, in 1954 Kosi Agreement was signed, in 1959 Gandak Agreement was signed, in 1991 Tanakpur MoU was signed and finally in 1996 Mahakali Treaty was signed. There are several projects, which are in various stages of discussion/ planning/ execution. It is of mutual interest that both countries quickly resolve all issues and exploit the vast potential of common hydro resources for their common good. For Nepal it is to improve its economy by monetising hydro resources, and for India, it is to benefit from the power generated from hydro resources of Nepal, which she can have lien on. By an estimate, Nepal hydro resources have a potential for 42 GW of economical exploitation.[30] In this connection, it would be beneficial to Nepal to follow the Indo-Bhutan power sharing model, which has helped Bhutan to graduate to middle income group by selling power to India. Nepal can likewise improve her economic condition because she has

> **Nepal also feels that the root cause of her problem is that India is going for several infrastructural constructions to exploit common water resources without consulting Nepal.**

greater potential as compared to Bhutan, which has hydropower potential of only 30000 MW. Income per capita comparison of India, Nepal and Bhutan flags this issue clearly. In 2020, income per capita based on purchasing power parity of the three countries was as tabulated below:

Table-1

Ser Number	Country	Income per capita
1.	India	$6390
2.	Bhutan	$ 10480
3.	Nepal	$4066

(Source: https://data.worldbank.org)

Conclusion

The hydro resources of South Asia are monolithic in nature. The growth in population with reduced availability of water on account of climate change is reducing the overall availability of water with the countries of the region. The attempts of China to appropriate resources in defiance of the international conventions is adding to the criticality. The prevailing situation when extrapolated, centre stages a future which is likely to be quite difficult. It throws up new challenges to augment the supply of potable water within South Asia. The threat to India's effort to optimise her legitimate resources is quite substantial. However, India has an opportunity to create a situation where Bangladesh, India, Nepal, and Bhutan together can come out with a model which can be 'win-win' for all. To challenge China from usurping resources meant for lower riparian states, India needs to make a common front with Pakistan, Nepal, and Bangladesh. It indeed is a diplomatic challenge, but it is a 'must do' act. Pakistan's problem with Afghanistan is similar, where India has an opportunity to help Afghanistan to exploit her resources, which will also help India to bring Pakistan to realise that her destiny lies in South Asia and China's efforts to appropriate common resources need to be challenged.

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Indian Perspectives on the Shanghai Co-operation Organisation

Professor Nirmala Joshi @

Abstract

One of the prominent trends in the on-going reconfiguration of the US-China rivalry in the Indian Ocean is the formation of Quad by the US, Japan, Australia, and India. This can be a counter to the assertive Maritime Silk Route (MSR) initiative by China. Chinese assertive policy is also evident on the Eurasian landmass through its vigorous pursuit of the Belt and Road Initiative (BRI). It seems a tense competition is underway between 'land versus the ocean'. On the other hand, India's membership of the SCO has, undoubtedly, given it a big thrust to its regional aspiration and policy. It has given India a regional presence and an opportunity to observe trends in the region, particularly in the energy market and to engage with leaders so as to understand their concerns on issues of common concern. This article examines these dynamics, which will not only shape the future of Eurasia, particularly that of the SCO, but of Asia as well.

Introduction

At present, the Shanghai Cooperation Organisation (SCO) space is undergoing fundamental shifts from Europe to Asia. The geopolitical changes are still in an evolutionary stage. The 'Bishkek Declaration of 2019' aptly described the unfolding situation. It was stated, "The modern world continues to change rapidly; the global balance of power is going through a reconfiguration primarily due to the emergence of new development centres in Asia, and the connectivity and interdependence between participants in international relations is deepening. However, the situation in global politics and economy remains turbulent and tense".[1]

Trends in Great Power Rivalry

One of the prominent trends in the on-going reconfiguration of the US-China rivalry in the Indian Ocean is the Quad led by the US, Japan, Australia, and India versus the Maritime Silk Route (MSR) initiated by China. Chinese assertive policy is also evident on the Eurasian landmass through its vigorous pursuit of the Belt and Road Initiative (BRI). It seems a tense competition is underway between 'land versus the ocean'. Another noticeable trend is the escalation of violence among nations to settle territorial issues such as the violent clashes on India's borders with China, violent activities in Iraq and Syria and most recently in Ukraine. The takeover of Kabul by the Taliban and the continuous violence in Afghanistan has impacted on the SCO space, especially on the Central Asian States (CAS). Today the CAS are facing enhanced security threat of radicalism, extremism, drug trafficking, smuggling of weapons etc. A new trend likely to emerge is the subtle competition between Russia and China for greater presence/influence in the Eurasian space. A case in point is the quick Russian response to Kazakh President's request for military support to quell the riotous protests damaging property and the subsequent turmoil. However, China's ambition to emerge as a global power received a major setback with mounting international criticism of its irresponsible conduct by keeping the outbreak

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of the Covid 19 virus a secret. Probably the international opprobrium it earned has strengthened its bellicosity and aggressiveness. This was evident when it raised unfounded territorial claims on Kazakhstan, Kyrgyzstan, and Tajikistan. It even launched violent clashes on India's boundary.

Indian Initiatives

India has had deep security, strategic, economic and cultural interests in the CAS. Accordingly, in 2012, India launched its first regional policy, the Connect Central Asia Policy (CCAP) aimed at deepening and widening its presence/influence in the region. It also signalled an elevated status of the CAS in India's strategic thinking. The crux of CCAP was connectivity with the landlocked region. The significance of CAS was succinctly brought out by Prime Minister Narendra Modi during his visit to all the CAS in July 2015. In Bishkek he said, "We see an important place for Central Asia in India's future".[2] The centrality of the region was brought out in a clear manner while addressing the members of the Nazarbayev University. He said, "Central Asia is at the crossroads of Eurasia. It has been caught in the currents of history and it has also shaped".[3]

As mentioned, the focus of the CCAP was on connectivity. In her inaugural address at the Raisina Dialogue in March 2016, former External Affairs Minister, late Smt Sushma Swaraj, mentioned the objectives of Indian policy as well as the significance of connectivity. In her words, "[…] connectivity today is central to the globalisation process. It is of course particularly important for Asia's growth and development … whether it is domestic, external or regional, connectivity will determine how we meet our promise of growth, employment and prosperity".[4] Similarly, the then Foreign Secretary, Dr S Jaishankar, stated, "By contemporary standards we are significantly an under connected nation. This is a major constraint on both our capabilities and competitiveness".[5] However, Indian interaction with the CAS was at the bilateral level. An opportunity for India arose when the SCO was formed in 2001 as a multilateral regional grouping. It may be mentioned that the SCO evolved from the Shanghai Five (1996). The Shanghai Five was conceived as a mechanism to ensure that the lengthy border between China, Russia, Kazakhstan, Kyrgyzstan, and Tajikistan remained peaceful, stable and that members exuded good neighbourly altitude along the border. In view of the rising forces of fundamentalism and terrorism, the Shanghai Five converted to the SCO in 2001.

> **"[…] connectivity today is central to the globalisation process. It is of course particularly important for Asia's growth and development … whether it is domestic, external or regional, connectivity will determine how we meet our promise of growth, employment and prosperity".**

India and the SCO

The SCO was conceived as a regional security provider and for combating extremism, terrorism and separatism. The formation of the grouping presented an opportunity to India to further promote its aspirations. Hence it was keen to join the grouping. Indian aspirations to join the regional grouping were realised in 2005 when it was invited as an 'Observer' country. In his acceptance speech, former External Affairs Minister Shri Natwar Singh said, "If India was offered full membership, it would bring its rich experience of multilateral diplomacy into the SCO". Subsequently, at the Ufa summit in 2015 India and Pakistan were invited as full members upgrading their status as 'Observer' states to full members. Probably the need to expand may have been felt in view of the United States decision to withdraw coalition forces by the end of 2014. In the absence of a peaceful settlement to the 'war on terror', and a defiant insurgency, a new geopolitical situation could emerge. In that context, the significance of India, recognised as a leading country in the region, and Pakistan's geographical location adjoining the region assumed importance. India's membership at that juncture was, in the opinion of Dr Alexander Lukin, a reputed Russian Scholar, due to India's political weight and economic attractiveness among developing countries […] as this country can make a significant contribution to the Central Asian countries and help diversify their economic relations".[6] In his acceptance speech at Astana in 2017, Prime

Minister Modi said, "[…] our membership of the Shanghai Cooperation Organisation is the natural extension of the relationship that India has with member countries and mirror's the region's place in India's future".

Prime Minister Modi's speeches focused on the connectivity issue. Indian approach was political stabilisation and economic development through connectivity. At the Qingdao summit in 2018, he said, "[…] connectivity with our neighbourhood and the SCO region is our priority. India welcomes any such (connectivity) project which includes sustainable transparent and which respects member states sovereignty and territorial integrity".[7] Other issues that figured prominently in Prime Minister's speeches were security and stability of Afghanistan and the need to enhance counter-terrorism mechanism. India's External Affairs Minister Dr S Jaishankar and Defence Minister Rajnath Singh have participated in all the SCO structures and focused on issues of common concern to all. India has also cooperated with Regional Anti-Terrorist Structure (RATS) a mechanism set by SCO in 2004 at Tashkent to deal with extremism, terrorism and separatism. The RATS arranges studies of regional terrorist movements, exchange information about counter terrorism policies and share experience in dealing with this danger. It also coordinates exercises among SCO security forces and agencies efforts aimed at disrupting terrorist financing. In short, the RATS is expected to ensure regional security and strengthen ties between member states combating threat and challenges. Recently the RATS coordinated a military exercise in Orenberg. Russia "Peace Mission" in 2022 with an objective of focusing on counter-terrorism in 2022.

An Assessment

India's membership of the SCO has, undoubtedly, given a big thrust to its regional aspiration and policy. It has given India a regional presence and an opportunity to observe trends in the region, particularly in the energy market, and to engage with leaders so as to understand their concerns on issues of common interest. However, how has the SCO fared in the past twenty years? It has passed laudable Declarations, Resolutions, adopted relevant programmes, yet the SCO has not evolved into a cohesive grouping. It is ineffective as it has not been able to live up

> ....every member should strictly honour the principles of good neighbourliness, equality and mutual benefit, friendly cooperation and development.

to its lofty principles. For instance, the Declaration of the SCO stated, "The Shanghai Cooperation Organisation declares itself to be a new model of regional cooperation which aims to produce good neighbourly relations, mutual trust, equality and common development and is neither with, nor antagonistic to third parties every member should strictly honour the principles of good neighbourliness, equality and mutual benefit, friendly cooperation and development.[8] These principles, however, have been observed more in violation than in actuality. For instance, at the recent summit in Moscow in November 2020, which was held against the backdrop of violent military clashes by China on India's boundary, though both are leading members of the SCO, the grouping could not put forward an appropriate response. At the end of the Summit, the Moscow Declaration merely stated, "The SCO will continue building up its contribution to ensuring peace and security and settling international and regional conflicts solely by the political and diplomatic methods based on the principles of equality, respect for sovereignty and territorial integrity[…]".[9] Similarly, the SCO set up the Afghan SCO Contract Group in 2009 to deal with the unfolding volatile situation in Afghanistan, but the grouping could not craft a united approach. Perhaps the definition of terrorism and extremism varied from State to State.

With twenty years down the line, is the SCO a mere 'discussion club' as some opine, or a security provider. In the view of Lt. Gen Klimenko of the Institute of Far Eastern Studies of the Russian Academy of Sciences, "The SCO having an impressive potential is not fully fledged regional security institution but continues to seek its own identity".[10] In the view of well know expert Martha Brill Olcott, "[…] The SCO should best be viewed as a source of confidence-building and possibly even conflict prevention, but not as a conflict mitigating organisation".[11]

Nevertheless, the significance of SCO cannot be discounted. Its space has acquired tremendous geo-strategic and geo-economic significance. However, centripetal tendencies are appearing which affect the efficiency of the grouping. It is essential to understand what are the shortcomings, to address them and to rejuvenate the regional grouping.

One of the shortcomings of the SCO was, it was not formed in an evolutionary manner. It must be remembered that the Shanghai Five was converted into SCO, a regional security mechanism without broadening its charter. Russia supported the Chinese initiative for the formation of SCO, while the CAS concurred with this decision. A grouping formed from top to bottom lacks compactness as it does not necessarily reflect common interests, values and the system of governance. At the St. Petersburg summit in 2002, China was able to get endorsement of its 'One China Policy' and the principle that Taiwan is an inalienable part of China. According to Jyotsna Bakshi, an expert on Eurasian affairs, "[…] there exists a certain resentment in the Central Asian circles that under Russian and Chinese influence they are called upon to express views on issues that do not directly concern them and which tend to antagonise the West".[12] Another daunting factor is, the region is landlocked and, therefore, connectivity is crucial to connect with the Central Asian Countries, since India does not share a land boundary with any of the CAS.

The best option would have been to follow the ancient trade route from the Indian subcontinent to Afghanistan. In today's context it would imply traversing via Pakistan, but in view of Pakistan's persistent obduracy in refusing to allow passage through its territory, despite the Trade and Transit Treaty between India, Pakistan and Afghanistan of 2011, it has led India to search for alternative corridor. In the process Iran has emerged as India's gateway to Central Asia. The best option for India to link with Uzbekistan is through its newly constructed port of Chabahar on the Makran coast in the Gulf of Hormuz. Today Afghanistan, which was also crucial in connecting with Uzbekistan, is no longer a secure and a stable corridor as the issue of security arises after the Taliban takeover in Kabul. During the recent meeting of Foreign Ministers of CAS in Delhi in December 2021, it was agreed to explore the prospect of connecting Chabahar with Bandar Abbas, possibly by overland route. The issue of security and stability of Afghan connection may have led the Foreign Ministers to explore the Bandar Abbas option. The land connectivity issue has also acquired an urgency in the strategic thinking of the CAS.

> **Another daunting factor is, the region is landlocked and, therefore, connectivity is crucial to connect with the Central Asian Countries, since India does not share a land boundary with any of the CAS.**

An equally complex factor that impacts on the SCO space is both the leading powers, Russia and China have launched their respective integrationist projects. The projects are the Eurasian Economic Union (EEU) by Russia in 2011. It had earlier initiated the Collective Security Treaty Organisation (CSTO) in 2003, a defence integrated project. China initiated the Silk Road Economic Belt (SREB) referred as the BRI. These projects seek to promote not only economic cooperation among the countries, but importantly have a strong geopolitical content. For Russia and China their respective projects are not only of utmost importance, but their success depends on the cooperation extended by CAS. Interestingly both the projects are at the bilateral level. In Indian perception as extrapolated, the Prime Minister stressed that connectivity projects should be transparent, participatory and consultative in order to promote mutual trust. Given the focus on integrating CAS into their sphere of influence, the issue is, what is the status of SCO? Is the SCO losing its shine?

Lack of an effective multilateral approach to issues of common concern is an impediment to a multilateral grouping. In order to ensure a true broad-based multilateralism, it is essential — as evident in the words of Defence Minister Rajnath Singh while speaking out at a meeting of Defence Ministers of SCO countries in November 2019 — "terrorism continues to disrupt our societies and undermine our developmental endeavours […]. We need approaches which are inclusive, transparent, and firmly anchored in multilateralism. Successful multilateralism also needs adherence to core principle of respect for sovereignty and territorial integrity, non-interference and mutual cooperation".[13]

Conclusion

In concluding one can reflect on India and the way forward. With the world witnessing the rudiments of two groups of countries emerging in Asia and Eurasia, the geopolitical space of the SCO has assumed critical importance both for major and regional powers. Though the SCO is facing divisive tendencies, its significance should not be discounted. A cooperative and a collaborative effort is required to rejuvenate its principles and ideals. For India it is essential to gradually build a multilateral mechanism from below. In order to focus on this objective, regular consultation, a proactive diplomacy and military delegations need to be exchanged and people to people contacts have to be increased. Such an active approach will enable India to build a consensus of those members who are in agreement. Dr S. Jaishankar, India's Foreign Minister said at a Round Table of ASEAN-India Network of Think Tanks "Multilateralism has failed the test as the world lives through and unprecedented challenge". At present the SCO can initiate a positive discourse on regional issues and the need for cooperation. How the challenges posed by India-China military clashes on the Indian border and the continuing stand-off impact SCO is uncertain at the present juncture. Undoubtedly its outcome will not only shape the future of Eurasia, particularly that of the SCO, but of Asia as well.

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Regional Comprehensive Economic Partnership and the Economic Order in Asia: India's Options

Dr Rajan Katoch, IAS (Retd)@

Abstract

The Regional Comprehensive Economic Partnership (RCEP) is an omnibus Free Trade Agreement (FTA) amongst the members of the Association of Southeast Asian Nations (ASEAN) and ASEAN's FTA partners. RCEP forms the largest trade bloc in history. India was one of the original proponents of the RCEP, but decided to pull out of the negotiations in 2019. The pros and cons of the decision remain debatable. Going forward, India has just two options before it, to stay away or to join up. A strategic assessment of the options, along with evaluation of the economic implications, will help India to arrive at the line of action that is in its best interest.

What is RCEP?

The Regional Comprehensive Economic Partnership (RCEP) is an omnibus Free Trade Agreement (FTA) amongst the members of the Association of Southeast Asian Nations (ASEAN) and ASEAN's FTA partners. Fifteen Asian countries are part of this partnership. The ten ASEAN countries are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, while the five FTA partners of ASEAN that are participating are China, Japan, South Korea, Australia, and New Zealand.[1]

The idea of creating this trade bloc was first proposed in 2011 during the 19th ASEAN Summit in Indonesia. The guiding principles were endorsed and the negotiations were formally launched by ASEAN in 2012. As an FTA partner of ASEAN, India was part of the framing of the guiding principles and involved in the negotiations from the very beginning. Thirty-one rounds of negotiations took place from 2012 till 2020 to finalise the text. Two of these rounds, in 2014 and 2017, were held in New Delhi and Hyderabad respectively.[2] The RCEP agreement was finally signed on 15th November 2020. It has come into force after ratification by the required number of members on 1st January 2022.[3]

The objective of RCEP is to achieve a modern, comprehensive, high quality and mutually beneficial economic partnership amongst these countries. It covers the areas of trade in goods and services, investment, economic and technical cooperation, intellectual property, competition and dispute settlement. The provisions[4] of RCEP seek to facilitate trade and investment as well as the member countries' engagement in global and regional supply chains. It aims at progressively eliminating tariff and non-tariff barriers on trade in goods. It is expected to reduce or eliminate import tariffs on 90% of tariff items between the signatory countries within twenty years of coming into force. It also primarily seeks to:

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➢ Eliminate restrictions in trade in services.

➢ Create a liberal, facilitative and competitive investment environment in the region.

➢ Promote economic integration.

➢ Simplify customs procedures and rules of origin laws between countries.

➢ Reduce intellectual property related barriers to trade and investment;

➢ Promote competitive practices.

There are certain contentious issues like labour practices, environment sustainability, human rights and state-owned enterprises that are seen as necessary components of trade agreements by the developed countries, particularly the United States (U.S.) and Europe. Such issues tend to be linked with trade concessions in agreements negotiated with these countries. These issues do not find place in the provisions of the RCEP agreement.

Significance of RCEP

RCEP has huge global significance and potential impact. It is the largest trade bloc ever formed in history. The fifteen member countries of RCEP together account for nearly a third of the world's population (approx. 2.3 billion people) and about 30% share ($ 25.8 trillion) of the global Gross Domestic Product (GDP).[5] It is also the first FTA between the three large Asian economies of China, Japan, and South Korea.

> **Independent simulations project that by 2030, RCEP would raise global national incomes by about $ 263 billion annually, of which $ 245 billion of incremental income would accrue to the RCEP members.**

Trade agreements are formed to provide mutual economic benefits to the parties. There are expected to be major benefits to the RCEP signatories as well. As a bloc, RCEP would become the world's largest export supplier and the second largest import destination.[6] Independent simulations[7] project that by 2030, RCEP would raise global national incomes by about $ 263 billion annually, of which $ 245 billion of incremental income would accrue to the RCEP members. Exports of the RCEP member countries would be collectively $ 514 billion higher than they otherwise would have been.

The biggest gainers are expected to be China, Japan and South Korea amongst the non-ASEAN signatories, and Indonesia, Malaysia, Thailand, and Vietnam amongst the ASEAN countries. All the participating countries are projected to see gains to their GDP as a result, while there is projected to be a consequential adverse impact on India and other non-participating major economies like the United States and Europe.[8]

The agreement has been seen as a triumph of ASEAN's middle power diplomacy. Indeed, a new economic order is emerging. It is expected to pull the centre of gravity of world trade towards Asia. There will be shifts in trade patterns and global supply chains in favour of the RCEP region. There are also likely to be geopolitical implications. Countries with inherent tensions and contradictions like China, Japan, Korea, and Australia find themselves on the same page as far as trade is concerned.

Why India pulled out of the Negotiations

India was a proponent of the RCEP, and involved in the negotiations from their start in 2012 till it pulled out in 2019. If the agreement was of such significance and impact, why did India withdraw from it? There were many underlying reasons. Let us see what the stated reasons, on record, were? When announcing the decision to pull out in the Bangkok Summit in 2019, Prime Minister (PM) Narendra Modi reportedly stated[9] that:

> *"The present form of the RCEP Agreement does not fully reflect the basic spirit and the agreed guiding principles of RCEP. It also does not address satisfactorily India's outstanding issues and concerns. In such a situation, it is not possible for India to join the RCEP Agreement. […] When I measure the RCEP Agreement with respect to the interests of all Indians, I do not get a positive answer. Therefore, neither the talisman of Gandhiji nor my own conscience permits me to join RCEP."*

In the PM's statement, the reason for withdrawing from the negotiations was that the proposed Agreement did not satisfactorily address India's outstanding issues and concerns. The exact inputs that guided the decision were not specified.

External Affairs Minister (EAM) S Jaishankar, in his speech[10] at the Deccan Dialogue, clarified the official position just a day after the RCEP withdrawal decision was announced. The EAM is reported to have said that India has allowed other countries unfair trade and manufacturing advantages in the name of openness. Trade agreements had forced India to deindustrialise. The government had decided to move away from trading arrangements, towards an *Aatmanirbhar Bharat* policy where India could decide the rules and consolidate comprehensive national power.

These statements suggest that along with outstanding issues, a focus on self-reliance and skepticism about the merits of free trade agreements in particular weighed in on the decision. The experience with the Free Trade Agreements (FTAs) already in force was certainly a consideration. India has been unable so far to leverage these FTAs in its favour. FTAs already exist with ASEAN, Japan, and Korea. India's imports from ASEAN and these countries have been exceeding exports to them. Similarly, imports exceed exports in the case of bilateral trade with other RCEP members China, Australia, and New Zealand too.[11] China is a part of the RCEP, in fact the dominant partner. China is now being seen as an adversary country. It follows that strategic considerations would also undoubtedly have weighed in. The decision to withdraw from RCEP in 2019 followed the escalation of serious tensions with China on the border.

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Further, it was probably feared that similar to the experience with the ASEAN FTAs, the RCEP would result in opening the floodgates to Chinese imports. Cheap Chinese goods would swamp the Indian market, and endanger less competitive domestic producers.

There were reportedly[12] also a number of more specific negotiating points on which the direction of negotiations was felt to be not satisfactory. For example, in the absence of adequate safeguards, it was felt that the livelihoods of agriculture and dairy farmers were threatened by enabling the import of potentially cheap imports from countries like New Zealand that had large surpluses. All the parties had agreed to phase out tariffs on over 90% of line items, as against 65% to 80% insisted upon by India. There was no agreement on an auto trigger mechanism proposed by India whereby tariff protection could be enhanced in case of surges in imports. Nor was there agreement on satisfactory provisions for cross border movement of professionals, important for services exports in which India had an advantage.

Clearly, apart from a purely ideological view on the merits of free trade, there were a number of more practical considerations that would have gone into the decision to pull out of the negotiations. The question that then bears examination is whether there were any strong considerations for having continued with the negotiations and joining up. That is what we shall look at in the next section.

Considerations in Favour of RCEP

Worldwide experience has shown that trade can be an engine of economic growth for a country. A liberal trade regime and export-driven growth have been the winning formula for the prosperity of most of the ASEAN countries, including

late starters like Vietnam. Closer home, Bangladesh was once termed an international basket case. It has come a long way since, and become a textile export powerhouse. Fuelled by export competitiveness, its economy has rapidly grown to a stage where the per capita income has edged ahead of India.[13]

Staying away from RCEP is likely to affect India's bilateral trade with the RCEP member countries. Indian exporters will be at a disadvantage in this region, as they will face high tariff barriers that member countries exporting similar products will not face. The manufacturing sector will lose an opportunity to tap the large market of the RCEP members on preferential terms.

One of the objectives of RCEP is to promote global and regional value chains in the region. Global value chains are an integral way of doing business worldwide, as it helps businesses take advantage of the best each country has to offer and optimise costs. Not being part of RCEP affects foreign investment into India, and the opportunity to participate in these global value chains. Multinationals seeking to invest in India may find it better to invest instead in the RCEP countries that have duty free access to Asian markets.

In view of the current anti-China sentiment in the West, it is felt that foreign investors may plan to relocate from China, and that India could attract much of this investment. However, India may not even be able to benefit from investment seeking to locate away from China. It would be more profitable for such investors to invest in another RCEP country, and retain the advantage of preferential access to the Chinese market as well.

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Independent researchers have tried to quantify the benefits of RCEP country wise. A recent study has found that RCEP would be economically significant with or without India, with important benefits for China, Japan and Korea in the absence of India. Asian economic integration would then revolve primarily around China and Japan. In projected outcomes for 2030, the simulations in the study[14] estimate that India's income (i.e. Gross Domestic Product) will increase by U.S. $ 60 billion annually if it re-joins the agreement, and will fall by U.S. $ 6 billion if it does not. Interestingly, the scenario of a full-fledged trade war between China and the United States is projected to reduce the benefits for China but increase the value of benefits for the RCEP region as a whole.

Finally, there is an all-important geopolitical dimension. There was an opportunity for India to shape the emerging trade architecture. That has since passed since India was not part of the final negotiations. But given the size of its economy, there is still the opportunity for India to be a major player in the region. In its present form, given the relative size of the economies, it is inevitable that China will dominate RCEP. ASEAN itself was and is keen that India joins the agreement, as a counterweight to the influence of China.

India's Options

Looking forward, India has only two possible options. One is to continue to stay away from RCEP in line with current stated policy. The other is to consider re-joining RCEP. Let us look at both.

Option One: Staying Away

There are valid reasons for staying away from RCEP, but it is difficult to agree with the publicly articulated reasons, as reported. In the modern, interdependent world, it is no longer possible for a country to cut itself off from the outside world and rely only on its own resources. The only country that has done it successfully is North Korea, which is not a great role model. India cannot turn its back on trade, and hope to prosper. The overwhelming lessons of experience of

the last few decades has been that the countries which followed trade-friendly policies were the countries that succeeded in bringing about rapid growth and reduction of poverty. The trailblazers were the so-called Asian tigers, most of whom are part of ASEAN and RCEP. They were followed by China, India (post-1991) and Bangladesh.

The option to stay away from RCEP cannot, therefore, mean staying away from FTAs altogether. Fortunately, this does not seem to be the aim of policy, despite the positioning. Having decided not to look East, India is now looking west. A Comprehensive Economic Partnership Agreement (CEPA) has recently been signed with the United Arab Emirates (UAE). FTAs are under negotiation with the Gulf Cooperation Council, Canada, United Kingdom (UK), European Union (EU), amongst others. These FTAs, when in place, may hopefully draw in some benefits for India. In the emerging geopolitical situation, wherein the West is beginning to recognise the Chinese threat to its dominance, there is also now more strategic convergence with these countries. UK is an early possibility for an FTA, since that country is keen on developing alternative preferential arrangements after snapping the ties with the EU.

However, negotiations will not be easy, particularly with the UK and EU. Non-economic trade barriers like environment, labour etc. that were sidestepped by the RCEP members are likely to figure more centrally in the positioning of these countries. To derive benefit from these potential FTAs, simultaneous action will be needed to build up domestic economic strength and competitiveness in manufacturing. This means supporting enabling policy and regulatory reforms. These include reducing regulatory overreach and the compliance burden that manufacturing enterprises need to tackle on a daily basis. It means improving trade related infrastructure like ports. It means smoothening land acquisition. It means labour reforms to enable flexibility in hiring and downsizing manpower. It means putting in place a predictable investment climate, not subject to arbitrary and frequent changes, with a stable tax regime and similarly, agricultural reforms have to go ahead to withstand the challenge of imports of agricultural and dairy products (this was one of the sticky issues in RCEP negotiations).

> **By shielding Indian industry from competition, high tariff barriers encourage inefficient industries to flourish, preventing Indian products from being globally competitive.**

And, it also means reversing the trend of protectionism. Reportedly[15], there have been 3,200 tariff increases covering 70% of India's imports since 2014. These have been gradually pushing up the average tariff rate. To be globally competitive, there needs to be global competition. By shielding Indian industry from competition, high tariff barriers encourage inefficient industries to flourish, preventing Indian products from being globally competitive.

For better trade negotiations in the future, the trade negotiation architecture needs to be strengthened. The present system relies too heavily on the commerce ministry bureaucracy. Independent researchers should be involved, and experts in international economics and trade and investment law must be part of the negotiation think-tank, as is the case in leading countries. An exercise for a clearer professional analysis of the costs and benefits of each FTA, and the quantification and linking of concessions to matching domestic gains should go hand in hand in future negotiations.

These steps are needed for FTAs to generate the expected outcomes, whether the agreements are with the East or the West. Going by experience, it is uncertain that these steps will take place, unless there is an overriding compulsion, such as there was prior to the 1991 reforms.

Option Two: Rejoining

What about the option of rejoining RCEP? It is still possible. Reportedly, important members of the RCEP like Japan and Indonesia are keen on India being a part of the grouping to counterbalance the Chinese influence. Reflecting the keenness of the parties for India's participation, the RCEP Agreement[16] itself has a special provision that states:

"This Agreement shall be open for accession by India, as an original negotiating State, from the date of entry into force of this Agreement."

On merits, there is a case for considering this option. It would not detract from efforts to forge new FTAs with the Western countries. And it would vastly expand India's trade possibilities. World merchandise export trade[17] is an $ 18 trillion opportunity, of which India's share is only 3.6 %.

Negotiations are all about give and take. There were undoubtedly negotiating points on which agreements reportedly could not be reached. Notably, all the remaining fifteen countries agreed to these contentious points. However, since the agreement is already in force, if India rejoins now, presumably it will have less flexibility in determining the provisions than it would otherwise have had. However, country-specific commitments, and back loading of tariff concessions is possible under the agreement. Commitments can potentially be negotiated to be implemented over 15-20 years.[18] Domestic producers facing competition would have time to adjust.

What about the economic impact — the fear of a flood of cheap imports? Imports per se are not necessarily 'bad', as long as a country has the foreign exchange and can pay for them, which India can. Some industries will be under pressure, while some will prosper. On the other hand, as we have seen, independent simulations[19] suggest that the overall economic impact is likely to be positive. There are likely to be significant quantifiable economic benefits to India from being part of RCEP, and quantifiable losses to not being part of RCEP.

> **China's current superiority relative to India is not on account of the size of its army. That can, and is being matched. It is because China's GDP has grown to be five times that of India today, up from being the same in 1980.**

In this context, the particular concern was of a surge in imports from an increasingly unfriendly China. The question is whether India is ready and able to cut off economic ties with China. It is interesting to note that despite restrictions placed on China, and even after the escalation of border tensions, the imports from China in 2021 are reported to have shot up by 46% to reach $ 97 billion, while the overall trade expanded to a record high of $ 125 billion in the same period.[20] Much of these increased imports are reported to have been of raw material for the pharmaceutical industry, which did well in the Covid hit era. A view will have to be taken on the costs and benefits of the trade relationship, and how it is to be regulated in the RCEP framework.

More important than the purely economic relationship are the strategic and security concerns. The inter-linkages need to be appreciated — comprehensive national power in today's world is not determined just by hard power, although hard power is a critical determinant. It is determined equally by the size of the national economy, which enhances global influence as well as creates the ability to project and sustain hard power. This is also a lesson of the Cold War, where the outcome was determined by the inability of the USSR economy to sustain the arms race with the U.S..

China's current superiority relative to India is not on account of the size of its army. That can, and is being matched. It is because China's GDP has grown to be five times that of India today, up from being the same in 1980. This has enabled China to buy influence worldwide and assert itself even with countries in India's neighbourhood like Nepal and Sri Lanka. Unless India takes bold steps to expand its national economy and project international influence, this gap will widen.

RCEP without India is going to be dominated by China. As a leading Singaporean intellectual put it, India did a major geopolitical favour to China by withdrawing from the RCEP.[21] China has been given a free run in East Asia. India cannot take the excuse that since China is likely to dominate RCEP, it must stay away. The inference is quite the contrary. Because it is likely that China will dominate RCEP and its member countries if India stays out, India must be a part of

it. India must aim to be a player, not a bystander, in the emerging Asian economic architecture. Notably, Quad partners Japan and Australia are a part of RCEP.

Indian entrepreneurs are second to none, all over the world. There is no reason to believe that faced with a 'sink or swim' situation such as might emerge in joining RCEP, Indian industry will not rise to the challenge. Just as in the past, when it faced with the shock of trade liberalisation in the 1990s. Surely if even Bangladesh with its severe geographical constraints and limited industrial base can become a global export powerhouse, it is possible for India to aspire to be so. In all likelihood, such a step can well help force the systemic changes that are needed for India to become a major exporter and consequently affect a quantum jump in growth and consequent national power.

Membership of RCEP also makes India a more attractive foreign investment destination since they can set up base in India and still have preferential access to the Asian and Chinese markets. It provides multinational companies a viable alternative to investing in China without losing any preferential market access. Greater foreign investment and integration into global supply chains gives investors and the countries they come from a vested interest in India's prosperity, and that adds to national security.

The Way Forward

The short point is, India has to have global ambitions. To be a global player, Indian industry has to be able to compete in the global market. To build up the strength and capacity to compete internationally, with or without RCEP, economic and regulatory reforms are necessary anyway, as enumerated above.

> The China factor is not a reason for not wanting to join RCEP. The need to counter the China factor is a major reason for India to want to join RCEP. Joining RCEP means deciding to engage actively and seeking to extend regional strategic influence.

RCEP is a rare strategic opportunity that must be taken. India cannot afford to sit out until conditions are perfect. Conditions will never be perfect. Less than perfect conditions do not mean that India should not venture to gain strategic space. Think of the recent border conflict with China. There is asymmetry in military capabilities between the two countries. But when the border conflict happened, India could not afford to take the position that until there is symmetry in capabilities, it would not act. It acted, doing what was needed to be able to effectively defend its borders.

The China factor is not a reason for not wanting to join RCEP. The need to counter the China factor is a major reason for India to want to join RCEP. Joining RCEP means deciding to engage actively and seeking to extend regional strategic influence. It means to Act East and to be a key component of the emerging Asian economic architecture.

It's a tough call for the decision makers. Yes, there is always some risk in charting new directions. There will be churning in the system. There will be losers and gainers. A cold-blooded and hard-headed reassessment of current positions will be required. A reassessment not just in terms of purely short-run trade gains and losses but also in terms of long-run national strategic imperatives will throw up the right answers on the line of action that would be in India's best interests.

Endnotes

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Section V

Global Issues

A New Cold War: Myth or Reality

Professor Amit Gupta@

Abstract

The article carries out an analysis of what is increasingly appearing to be a new Cold War between the West and Russia. It starts with an analysis of the characteristics of the original Cold War. Some say that in this Cold War China is aligned with Russia. To understand where China stands, the author looks at the U.S.-China strategic competition at three levels: challenges, competition, and cooperation. He then studies in brief the role of regional players and the emerging military and economic challenges to the West. He ends with defining the trends of the new world order.

Introduction

For the past five years or so, western news reports and scholarly analyses have written about the death of globalisation and its replacement by a renewed great power competition.[1] The implication of such analyses is that the world has moved beyond the era of globalisation and, instead, moved into a phase of what looks like a new Cold War. While there is increased great power competition, it is significantly different from the confrontation between the United States and the Soviet Union at the height of the Cold War. Instead, there is a mixed motive game in place where the United States and China are challenging each other, competing with each other and, in certain cases, cooperating with each other. To understand the complex interaction between the two countries, one must first, however, lay down the characteristics that defined the contours of the Cold War.

Characteristics of the Cold War

First and foremost, the Cold War was an ideological contest between the United States and the Soviet Union where each nation attempted to impose its social, political, and economic system around the world. Many of these attempts were successfully challenged as in the case of Western Europe, where Communist attempts to win control of government were defeated at the ballot box, and through the formation of the NATO military alliance, and the more consequential political, social, and economic alliance called the European Union. On the other hand, American attempts to support friendly regimes in Asia failed, spectacularly in China, Vietnam, and Cambodia.

Secondly, the Cold War was an arms race where both sides sought to counter each other through the rapid build-up of conventional and nuclear forces. Further there was little economic and social interaction between the United States and the Soviet Union. The USSR's principal import from the United States was wheat. In reality, not only were there two military camps in the world but there were also two economic blocs.

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Thirdly, the two superpowers engaged in proxy wars from Vietnam to Afghanistan to Southern Africa. These conflicts led to the death of hundreds of thousands of people in the combat zones and were only resolved when one side achieved victory. Thus, in Southern Africa, it was Soviet sponsored Cuban forces who defeated American sponsored forces in Angola while later, in Afghanistan, American sponsored Mujahedeen were able to force the Soviet Union to withdraw militarily from the country.

The new great power competition is significantly different from the Cold War since what we are witnessing is the United States and China in a competition which is at multiple levels and has elements of both competition and cooperation. In addition, the United States, over the last 22 years has been locked in conflicts — the Middle East, Afghanistan, and Ukraine — which are not being fuelled by the China-U.S. rivalry but, instead, by regional security dynamics.

US and China: Challenge, Compete, Cooperate

The U.S.-China strategic competition is at three levels: challenges, competition, and cooperation. The U.S. and China have three clear areas of potential conflict, or strategic challenges, where both sides have red-lines which cannot be crossed. China will not tolerate a Taiwanese declaration of independence and will use military force to reverse such a move by Taipei. Washington, on the other hand, will, most likely, help militarily to counter an invasion of Taiwan but it would not be able to stand in the way of China and Taiwan engaging in unification talks. Similarly, the United States has a treaty obligation to defend Japanese territory from unprovoked attack and that commitment could precipitate conflict in the East China Sea. Disputing versions of what constitutes freedom of navigation in the South China Sea, coupled with the possibility of a war between regional actors and China (with the United States being dragged in to the conflict) also pose as potential red lines.[2]

> **The U.S. and China have three clear areas of potential conflict, or strategic challenges, where both sides have red-lines which cannot be crossed.**

On the other hand, there is a belief that the United States and China can engage in a healthy competition on, among other issues, the development of technology. Thus, Joe Biden would like American companies to invest in electronic vehicles and, thereby, compete with the growing number of Chinese companies that are investing in that field of technology. Biden, in fact, initially wanted a $2 trillion infrastructure plan that would help develop America's technological edge to better compete with China in areas like the construction of 5G infrastructure.[3] Such competition is both necessary and healthy since it ensures that one nation does not monopolise global technology and is thus allowed to dictate terms and conditions for technology transfers. It also allows for the rapid advancement and improvement of technology and this can only benefit a world that is increasingly interconnected both technologically and economically.

Despite the militarised aspect of the dispute between China and the United States, there is also a high level of cooperation between the two countries to maintain the international system. Successive American presidents, with the notable exception of Trump, have recognised that a comprehensive and global climate change plan requires cooperation with China and India. Similarly, the Chinese have a stake in the American constructed global financial system and Beijing will not allow it to be broken because it would also face catastrophic economic consequences from a breakdown of the international trading and financial system. This is in contrast to the Soviet Union which had a small stake in the then Western financial and trading system. This became apparent during the financial crisis of 2008 when the Chinese spurned a Russian offer to jointly short-sell shares in the American companies Freddie Mac, Fannie Mae, and AIG to cripple the American economy. Instead, the Chinese informed the then U.S. Treasury Secretary, Henry Paulsen, about the Russian intentions and the fact that Beijing would not go along with it. To do so would have hurt China's own economic interests.

The Role of Regional Players

Complicating the great power rivalry is the emergence of regional players who by and large are independent actors in the international system and have the ability to carry out contextual deterrence. By contextual deterrence one means that while these nations may not be able to project their power globally, within their regions they have the ability to deter external powers from carrying out military efforts against them — and this is the case with two regional actors, Iran and North Korea. North Korea's ability to rain nuclear destruction on Japan and conventional and nuclear destruction on South Korea gives Pyongyang the ability to deter the far more militarily powerful USA. Then there is the case of Russia.

President Obama called Russia a regional power and declared he was more concerned about a dirty bomb going off in New York.[4] Donald Trump sought to maintain a cordial relationship with Vladimir Putin while placing sanctions on Russia.[5] Neither president sought to make Russia the central focus of their foreign and security policy even though Moscow had breached international law by invading Georgia and Crimea.

The invasion of Ukraine, however, has once again made Russia a primary concern of Western policy makers as they will now have to grapple with the long-term costs of this invasion. The Western alliance sees the Russian invasion as both a territorial threat as well as a broader challenge to democracy and, therefore, various members — most notably Germany — have vowed to substantially increase defence expenditure and remilitarise.[6]

> **The invasion of Ukraine, however, has once again made Russia a primary concern of Western policy makers as they will now have to grapple with the long-term costs of this invasion.**

The long-term costs of militarisation may be that of hurting the social democratic programs of the European states since, after the end of the Cold War, they all took the peace dividend and slashed their military forces to invest in social welfare programs. Now, some states may face the unenviable choice of either increasing taxes or reducing social expenditure to pay for militarisation. The other problem is that in a Europe that mostly does not carry out conscription, where are the soldiers going to come from to fight an intensive battle against the Russians?

Most European nations face difficulties in recruiting soldiers as there is no large pool of young people who are willing to be sent to distant shores to fight — especially since European populations are aging.[7] This, coupled with shrinking budgets, has led to most European nations drawing down their troop levels and they will face considerably difficulty in growing their forces to face the new security reality in Europe. A similar case can be made for the United States where, after 20 odd years of war, the American public has understandable fatigue against combat operations. Remilitarising to face Russia, therefore, may not be as easy as the media makes it out to be.[8] Further, what exactly does remilitarisation mean?

In the European context, remilitarisation means not increasing numbers but using newly available financial resources to bring existing stockpiles to an operational status. Germany, for instance, has 311 Leopard tanks but only 95 are operational. The money Olaf Scholz has committed to German militarisation will go to bring the other 200 odd tanks back to operational status. The same goes for the aircraft that the German Luftwaffe has kept stored rather than in flying condition.[9]

The only NATO country that will increase capabilities is the United States, which will buy new hardware but with the Ukraine war it now faces the difficult choice of how much inventory to keep in Europe and what should be deployed to the Far East to counter China? And, it is not just inventory but also troops since the frontline NATO countries like Poland and the Baltic states would all like a greater American presence in the region.

The Challenge to the West

The Ukraine war also brought out two important facts about the future of the international system: first, that we now have the Western nations acting as if it is a White World Order rather than a Liberal International Order; secondly, it has brought out serious doubts about the West as a long-term ally.

One common theme emerges out of three major decisions taken in Washington DC in 2021-2022. The west is thinking of its own interests and perceives the world through the lens of a White World Order. Thus, the decision to leave Afghanistan was taken without consulting any of the regional actors even though the latter would face the consequences of a Taliban-run Afghanistan.

Similarly, the AUKUS security arrangement is three white nations declaring that they will unite to create a security architecture for the Indo-Pacific and disregarding the interests and opinions of Indo-Pacific nations like India, Pakistan, South Africa, Kenya, Indonesia, and the Philippines to name a few concerned states. Worse, the United States and Britain took the decision to provide nuclear submarines to Australia, a minor military power, but did not offer them to India which is a nation that has shown a willingness to militarily counter the Chinese and, in the process, take casualties.

Nor has India been provided any of the high-technology it has asked for like the electromagnetic catapult for Indian aircraft carriers. Then there is the wave of emotion that has swept the west with the Russian invasion of Ukraine.

> **AUKUS security arrangement is three white nations declaring that they will unite to create a security architecture for the Indo-Pacific and disregarding the interests and opinions of Indo-Pacific nations.**

Countries like Hungary and Poland, which were quite racist in their unwillingness to take Syrian refugees, are now welcoming Ukrainian refugees with open arms because they are "just like us" in that they are white, blonde and, most amusingly — watch Netflix.[10] Countries in the Indo-Pacific need to learn from these trends and adapt their own strategies to deal with the consequences of the emerging world order.

The New World Order

The new world order is marked by the following security trends. First, a new strategic competition between the United States and China that is marked by challenging China, competing with it, and cooperating with it on mutually beneficial issues. Secondly, despite talk of economic decoupling, trade flows will continue between the U.S. and China as well as between the EU and China. Thirdly, it is clear that western security interests and foreign policy may not be determined by the quest for an international order but, instead, by a demand to fulfil the security interests of white western nations. Fourthly, if the new strategic game is based around challenging and cooperating with China, and on western perceptions of a White World Order, then the non-western nations need to start making alternative security arrangements. In actual fact, this has already begun to happen.

Let us remember that 35 countries abstained from voting against Russia in the UN General Assembly and their total population is over 4.4 billion. Even if one accounts for the fact that 2.8 billion of that number are the citizens of India and China, that still leaves a total of 1.6 billion people which is more than the combined population of North and South America as well as Europe. As the west levies sanctions on the rest of the world, it is only natural that countries that did not talk to each other will start to coalesce to look for solutions.

Some of these solutions have already been taken by other nations. Both India and China have their own version of the SWIFT code that is used to carry out international bank transactions.[11] A push will also come from nations like India to ensure that the digital data of its citizens is not stored abroad and other countries are likely to follow suit. But the one issue that could really hurt the West is if the Russian decision to ask for payment in Roubles for oil and gas

supplies begins to be imitated by other nations as they sell goods and services around the world. One of the bargaining strengths of the West lies in the fact that the Dollar, Euro, and Yen are currencies of international commerce. While commercial independence may happen slowly, two factors that will lead to serious rethinking in non-western capitals are, first, the question — is the West a reliable ally? Second, is the liberal international order still a relevant tool of analysis in the international system?

The withdrawal from Afghanistan, the AUKUS decision, and the Ukraine war have raised questions about the West's reliability as an ally: the U.S. withdrew from Afghanistan without consulting the regional actors, thus leaving them to deal with the consequences; and in the Russia-Ukraine war, there is the belief among some that the west will fight Russia to the last Ukrainian.   Further, while the U.S. is aiding Ukraine, a substantial sum of money for Kyiv will come through the old World War 2 mechanism of lend-lease.[12] The problem with lend-lease is that it requires Ukraine to pay back the money, even though it is Ukraine and not NATO that is fighting the Russians and taking casualties and significant damage to its infrastructure and, to put the matter in perspective, it took Britain till 2006 to pay off its debt from World War 2.[13] While globally everyone is caught up in the idea of the heroic Ukrainians fighting off the Russian aggressor, the long-term problem for Kyiv is that for decades it will be paying off its war debt to the West and scrounging for money to rebuild the economy. Policy makers in Asia who are looking at this disaster must be wondering what the future costs of aligning with the West are going to be and can they afford them?

> **The withdrawal from Afghanistan, the AUKUS decision, and the Ukraine war have raised questions about the West's reliability as an ally: the U.S. withdrew from Afghanistan without consulting the regional actors, thus leaving them to deal with the consequences.**

An aligned issue is the financial fallout of the Western attempts to put pressure on the Russian elite that is close to Vladimir Putin.[14] Several western nations have imposed severe sanctions on the Russian elites forcing them to sell their assets in the West in a fire sale. A good example is the Russian oligarch Roman Abramovich who has sought to hurriedly divest his ownership in Chelsea Football Club.[15] Other Russians' properties in the West have been seized and this may have long-term consequences on the international flow of wealth that has taken place since the world entered an era of globalisation. Those who invested in assets in West may seek to reconsider their investments because they fear that they lack the ability to legally enforce their property rights — especially if their country has a conflict with the West.

Lastly, there is the question of whether the idea of a liberal international order will survive the new Cold War. China is now a major international economic force and the arrangements it creates around the world will shape the international economy. If so, the liberal international order will give way to something that conforms to non-western ideas of economic order. Further, a true international order has to reflect the views of countries like China, India, and Russia and while the western world order, since 1991, has been able to ignore such views, the new international reality will not allow such policies to continue. To sum, we are in a new great power competition but we are also going to see a change in economic realities and the institutional structure of the international system.

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Non-linear, Non-contact, Non-kinetic Wars

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Abstract

Conventional Indian concepts of wars that are largely territorial in nature are incompatible and fundamentally skewed from the realities of newer realms of warfare of the twenty-first century. A non-linear, non-contact, non-kinetic campaign involves simultaneous deployment of multitude of non-military warfare methodologies, in peace, supported by irregular, cyber and informational warfare tactics, aggregated together or used in disaggregated form. India must develop a framework of strategic deterrence against weaponized information, finance, and other subversive forms of aggression, against the adversaries.

Setting the Stage

If war is a historic constant, then warfare is historically dynamic and evolutionary. It is critical to obtain firm analytical foundation of what is contemplated as prospective war, what will be likely political aims, military aims and objectives, and reflect on how our adversaries will fight. Clausewitz had categorically remarked that "…no one starts a war—or rather, no one in his senses should do so—without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it." In war it is imperative to fathom the political objectives of the adversaries involved. Will our adversaries go to war to get something they want, say expansionism towards disputed territory, or to preserve and further their geopolitical ambitions by stretching India inordinately?

The answer is the *why* of the war, reasons why adversarial states are willing to achieve objectives without spilling blood, in controlled, non-escalatory manner. This new *why* of war, changes its very definition, changes its character, hence, will have significant effect on how conventional wars will be prosecuted. This typology of prosecution of challenging the adversary may take a non-military form, as need be, and create simultaneous challenges on many fronts or domains. In this, machines can make engagement decisions even without reliance on human interface. However, war termination used to have many metrics to indicate winners or victory like the armed forces of one side capitulating and laying down their arms, destruction of war waging potential and territory occupied. Capturing enemy territory was most often taken as valid military objectives to set conditions for political capitulation. Contextually, hence, in challenges posed to the adversary that so not envisage use of kinetic force, victory will transform into success and which may still be measurable by capitulation of the adversary.

The central theme of this article is to examine the viability of non-linear, non-contact, non-kinetic challenges to India's National Security, in the backdrop of adversarial neighbours, disputed borders and technological advancements.

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It is pertinent to examine the possibility of reinventing warfare as exclusive to conventional wars, and the likelihood of achievement of political aims.

Exemplifying Non-linear, Non-contact and Non-kinetic

In traditional, conventional warfare, nation-states fight each other for the full array of their national interests. Military operations in conventional warfare normally focus on adversary's armed forces to ultimately influence the adversary's government. War can also be taken in the formulation with adversaries and/ or non-state actors, characterised by violence, social disruption and economic destruction or loss. This form of warfare is characterised as a violent struggle among state and non-state actors for legitimacy and influence over the relevant population. This 'linear' conceptualisation of war involves the use of weapons, military organisations and soldiers, defined by a sequential progression of a planned strategy by opposing sides.

Is the formulation of non-linear, non-contact, non-kinetic wars different than those fought conventionally post-independence in India? A non-linear conflict implies simultaneous employment of multiple, complementary *military and non-military* warfare tactics. Relevant are the new rules of war and non-linear warfare of Gen Valery Gerasimov, Chief of the General Staff of the Armed Forces of the Russian Federation, who argued that, "[…] the focus of applied methods of conflict has altered in the direction of the broad use of political, economic, informational, humanitarian, and other non-military measures applied in coordination with the protest potential of the population." Even more importantly, "[…] the role of non-military means of achieving political and strategic goals has grown and, in many cases, they have exceeded the power of forces of weapons and their effectiveness".

> **The non-contact warfare, seeks to employ all elements of national power across multiple domains to target enemy's population, sovereignty, governance structures and economy through non-kinetic and kinetic means.**

The non-contact warfare, seeks to employ all elements of national power across multiple domains to target enemy's population, sovereignty, governance structures and economy through non-kinetic and kinetic means to intimidate or paralyse politico-military response capabilities, to enable winning without contact-fighting, like in employment of long-range missiles. Employment of kinetic force would have a targeting philosophy that has its inherent fall-out towards violence and deaths, and that has likelihood of escalation to all-out conventional war of the territorial kind. Targeting is the military operational and tactical way, using military means to influence a target to achieve designated military goals. Contextually, kinetic targeting concentrates kinetic military force against opposing forces with lethal effects.

In the realm of warfare prosecuted by the Indian adversaries of the kind argued above, the larger aim would be to cause confusion and disorder, such that it exacerbates the perception of insecurity in the populace as political, social, and cultural identities are pitted against one another. Such a mode of warfare would tend to be surreptitious, non-attributable to a particular adversary, and have an aim of achieving political goals that may exceed the power of military means. Apparently, these have no physical boundaries, will be covert, include subversion and espionage, rely on cyber warfare and information operations, with efforts to undermine public opinion and undertake propaganda against the national polity. The toolkit for such coercion below the level of direct warfare includes information operations, political coercion, economic coercion, cyber operations, proxy support, and provocation to internal dissensions. The warriors can be any disgruntled elements, enlisting non-governmental actors, including organised criminal groups, terrorists, and extremist political, religious, and ethnic or sectarian organisations. In a nation as diverse as India, attempts can be made to manipulate and discredit democratic institutions, including the electoral system and judiciary. Naturally, the aggressor would use calculated ambiguity, use of covert, unacknowledged operations, with deception and denial.

It implies that these operations will clearly not cross the threshold of conventional war, and may remain without use of violent force. It obviously entails putting India at disadvantage that the adversary would aim at achieving inimical national objectives without bloodshed. This develops alternative definitions of victory, more as strategic advantage! The response to such largely covert operations would normally not be conventional war, largely due to the ambiguity of international law, ambiguity of actions and attribution, or because the impact of these activities does not justify military action.

Effects on India's National Security

India has fought territorial wars with China and Pakistan over the last 70 years. War and warfare have rigid definitions, and national security and military doctrines, the capabilities and structures are designed to respond to those definitions. Kinetic and non-kinetic force employment is not exclusive concepts in warfare in the Indian context. While non-linear and non-contact warfare visualize kinetic targeting, non-kinetic is contextually exclusive. Non-linear conflicts, combined with non-contact and non-kinetic use of force will be fought with psychological, economic, political, and technological assaults, like information, cyber and space. There can be non-kinetic targeting too, against military and non-military capabilities.

Pakistan has been utilising well planned approaches to achieve those gains which it cannot by escalating to overt warfare. Hence, without crossing established red-lines and exposing itself to the penalties and risks of escalation to conventional war, it is attempting to reap success by utilising proxies. The toolkit of information warfare unleashed by Pakistan includes ingenuous disinformation and propaganda to taking advantage of social media for faster dissemination, from enhancing virulent radicalisation to fanning civil unrests. The informationalised battlefield has provided the right measure of plausible deniability to Pakistani establishment, for utilising strategic communication.

> The 'Unrestricted Warfare' nullified the boundary between battlespace and non-battlespace, with non-military methods including, trade, economic aid, resource, financial, ecological, network warfare and the like.

The breadth of Pakistan's focused anti-India agenda is vast, and remains a low-cost option. This is evident in calculated pushing in of fake Indian currency notes (FICN), drugs, hawala money, cyber warfare, raising varied bogeys at international fora, fanning internal dissent, to sponsoring terrorism by using proxies. It is non-linear in character, as Jammu and Kashmir is, but is one of the manifestations of its geo-political rivalry with India. Exploiting social media and technological tools and cyberwarfare, adverse information dissemination, with fakes/deep fakes and use of dark web, distortions are pushed in continuously, without any challenge of attributability.

China is the master of ambiguity. Sun Tzu had centuries ago prophesied that 'all warfare is based upon deception' and 'subduing the enemy without fighting.' China has consistently demonstrated preference for ambiguity, risk manipulation and controlling the narrative to win without fighting. Psychological operations that would end in intellectual confusion to the adversary are part and parcel of the Chinese philosophy. The 'Unrestricted Warfare' nullified the boundary between battlespace and non-battlespace, with non-military methods including, trade, economic aid, resource, financial, ecological, network warfare and the like. The three-warfares strategy by itself is a form of state craft, pushing in non-kinetic means to achieve political ends. The psychological warfare seeks to influence and/or disrupt decision-making capability, create doubts, foment anti-leadership sentiments and diminish the will to fight. The media warfare, also called public opinion warfare, is a constant ongoing activity aimed at the long-term influence of perceptions and attitudes, leveraging all instruments that inform and influence public opinion. Legal warfare or lawfare, like the one being employed on the borders and the Line of Actual Control, exploits the national and international legal system to achieve political and commercial objectives. As one delves into and analyses the three-warfares, it is apparent that though military coercion may be part and parcel of the overall conceptology, political aims are achieved largely by manipulation

and economics. These are all harmonious with the age-old foundations of Chinese strategic thinking. The philosophy, '[…] if object of war is to acquire resources, influence and territory, and to project national will […] China's 'Three Warfares' is war by other means' absolutely tailored against India. It can also been argued that China's grey zone strategy has been in play along the Indian borders. It involved Chinese military bringing ethnic Han pastoralists to drive Indian herdsmen from the traditional pasturelands, creating dual-use 'moderately well-off villages'. Internal developmental issues and lack of harmonious voices on issues of national security in India do provide fodder to undertake focused information warfare.

India's Response to Non-Linear, Non-contact, Non-kinetic Warfare

The questions that beg answers are, can such warfare be fought with our present national security structures? Can there be an inter-relationship with military strategy? In such a context, how does a nation like India deter adversaries and formulate its national and military strategy?

Conventional Indian concepts of wars that are largely territorial in nature are incompatible and fundamentally skewed from the realities of newer realms of warfare of the twenty-first century. Indian adversaries have mastered creation of an adverse narrative and use advanced technologically to embrace these newer forms of warfare. It must hence be expected that in future, the conflicts that India will have to face (or is facing even currently), will necessarily and largely be with adversaries employing psychological, economic, political, and cyber. In this political, religious, regional, social and cultural identities that are fanned and pitted against one another create cleavages. Increased confusion and disorder can ensue when weaponized information abetted externally against India, would create insecurities in the populace.

> **It must hence be expected that in future, the conflicts that India will have to face (or is facing even currently), will necessarily and largely be with adversaries employing psychological, economic, political, and cyber.**

India, hence, must then develop a framework of strategic deterrence against weaponized information, finance, and other subversive forms of aggression — against the adversaries. A 'one size fits all' national security policy would not be effective. While salience and preparations for modern conventional, kinetic war cannot put on back-burner, accepting that a campaign against India may be ongoing or planned for is critical. Hence a joint multi-domain specialisation would indicate right preparation for future warfare. That is the responsibility on the shoulders of today's political and military leaders. Seven key postulations for preparing Indian warfare are proffered:

➢ Non-linear, non-contact, non-kinetic warfare as argued above describes domains that can well be termed as largely non-military. Hence the prosecution of non-military domain aggressive actions by an adversary would cause damage or destruction to national infrastructure or socio-economic foundations of the nation. This must be taken as acts of war — even if the adversary is unidentifiable, un-provable or resorts to plausible deniability. Cases in point would be cyber-attack on power grid, banking system, and the like. War hence may be a permanence state — and must not be imagined as a territorial contest. This might seem unduly alarmist, and may affect rationality in contemplation. However, the new character of war has its dictates and strategizing for the same is imperative.

➢ Since this is not an isolated military domain, defensive and law enforcement capabilities in India, symbolised by NSG, NTRO, National Cyber Coordinator, intelligence agencies, Central Armed Police Forces and State Police, require parallel developments, which are skillfully fused in a specifically tailored National Security Structure. Since national infrastructure is vulnerable it necessitates intensive consolidation of all resources and security assets available with various agencies, without resorting to any battle of the turf. The challenge is to plan

development of offensive and defensive warfare technologies and expertise. India, with the large challenges is a right arena for an *apex internal security organization* like the US Homeland Security — which has requisite data bases and analysis mechanisms. All the other tailored ones mentioned above, and indeed, security organisations of disaster relief, medical aid services, power grid and water/river/canal management, banking systems and share markets, rail and metro services, airports authorities, and first responder mechanisms are all sub-sets.

➢ India is a diverse nation, prone to protestations. There is need to build sentiment analysis models to analyse sentiments – positive or negative. The *Sentiment Analysis should be a process of extracting opinions that have different polarities* - positive, negative or neutral. It is also known as opinion mining and polarity detection. With the help of sentiment analysis, the nature of opinion can be deciphered that is reflected in documents, websites, social media feed, etc. Sentiment analysis can also be used to monitor and analyse social phenomena, for the spotting of potentially dangerous situations and determining the general mood of the blogosphere. Several software companies have developed proprietary text mining systems for data visualisation, and researchers have developed expert systems for sentiment analysis.

➢ War is the continuation of politics 'by other means' (Clausewitz), social networks tend to continue politics by other means, to influence susceptible people and can lead upheavals. As has been seen in India, this creates a new, dangerous problem that mandates preparations. Indoctrination or causing cleavages in the society by social networks is not cyberwarfare (which uses the internet to attack and disrupt networks). A multi-prong and concerted effort are necessary to this ever-expanding stream of diatribe. What is needed is much better public-private cooperation, and ensure that networks like Facebook, Twitter and WhatsApp establish permanent monitoring systems and liaison with Department of Internal Security to assist them in responding/ taking cognisance in real time. There ought to be legal incentives and punitive actions for social media networks for compliance.

> Suffice it to say that strong conventional force and equally strong border posture and plans will be inadequate deterrent against non-kinetic threats. Hence proportional or disproportionate response cannot be predictable and will be contingent on national will and political intent at that juncture.

➢ It is obvious that in a scenario where non state actors take credit, or where the initiator of an attack cannot be determined, deterring such threats may not be realistic. Military conventional deterrence remains fixated on all-out or limited high end conventional war that remains within the ambit of state versus state warfare. In case of India, conventional military superiority with the threat of deterrence by punishment is insufficient to force adversary to cease inimical actions. The likelihood of strong conventional kinetic or non-kinetic targeting capabilities to non-kinetic attack must not be negated. Even converse can be construed as feasible. The quid pro quo response may emanate in a totally different realm. This issue created by the hybridisation of threats opens new vistas in deterrence debate and response options, and mandates further analysis. Suffice it to say that strong conventional force and equally strong border posture and plans will be inadequate deterrent against non-kinetic threats. Hence proportional or disproportionate response cannot be predictable and will be contingent on national will and political intent at that juncture. India will require an effective bouquet of options, a quiver full of variable arrows that can be selectively employed as per political decision.

➢ Psychological warfare, fake news campaigns, propaganda, subversion, intimidation, demoralisation and the like, are common place. State and non-state actors are weaponising information, to the detriment of adversaries. These will become permanent features among belligerent states. Naturally, these are also threats, ones that seem perfectly benign, but which have immense potential to address the collective psyche of the peoples of a nation. It is not that psychological warfare is a new realm, however the media (including social media) for reaching out, have multiplied manifold. Their techniques are being made sophisticated, and the effect that has on the

populace is credible. Psychological warfare is leading to increasing radicalisation and needs to be addressed on priority by parallel streams of well-planned counter-radicalisation and information management.

Conclusion

In sum, linear conventional conflict is a declaration of war formally, and will be sequential in progression of a planned strategy. A non-linear, non-contact, non-kinetic campaign involves simultaneous deployment of multitude of non-military warfare methodologies in peace, supported by irregular, cyber and information warfare tactics, aggregated together or used in disaggregated form. The definitional and terminological structure of these newer forms of warfare that amalgamates newer challenges may have confused warfare itself. Any rational consideration of this plethora of threats, and planning for combat is well-nigh impossible, as many of them are indeed faceless. A new kind of toolbox is necessary to combat them. For an adversary as dogged as Pakistan, newer manifestations against India are god-send. The long strides that China has taken technologically, its vast export of electronic and cyber equipment to India and the apparent collusion with Pakistan, makes India particularly vulnerable. In this undeclared campaign, any adversary would attempt to exploit the nation's vulnerabilities, fault-lines, social divides and cohesion.

India needs to get the act together soonest as these threats are not linear territorial threats; these target the nation wholesomely and have the capacity to hurt. In managing these threats, one of the most significant problems in India is the battle of the turf. We need an apex organisation that obliterates the turf-battles, fathoms the threats, and creates capabilities to address them. It also mandates a societal approach!

India's Leadership Role in A Changing World

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Abstract

A fundamental economic and geopolitical reordering is taking place in the world. New security, trading, and economic arrangements are being put into place. While the Covid pandemic has underlined the increasing interconnectedness of our world, new forces are simultaneously arising that seek to reverse the progress of globalisation. In the repositioning presently underway, new and emerging technologies will play a critical part, in addition to the traditional factors of demography, natural and human resources, economic strengths, and systems of governance. Against this background, this article seeks to examine the changes underway, the role that India plays in the present world order, and, as importantly, the role that it is set to play in the future as it realises its full potential.

Introduction

India, with over one sixth of the world's population, the world's fourth largest economy in PPP terms, a geography that places it at the crossroads of history, and a civilisational legacy marked by a syncretic and never-ending assimilation of diverse peoples, beliefs and influences, has always been, in one way or the other, at the forefront of history. Today, as the world goes through turbulent times, India plays a critical role, and will continue to do so by the sheer weight of its democracy, its civilisational values, its economy, and its numbers. This article seeks to examine the role that India is playing in the present world order, and, as importantly, the role that it is set to play in the future as it realises its full potential.

The Changing World Order: An Overview

The Covid pandemic and its ability to spread rapidly across borders has served to further illustrate the interconnectedness of the world we live in. At the same time, there are new forces at play seeking to reverse the process of globalisation, even as there is need for greater global cooperation to address global challenges, such as Climate Change and possible Black Swan events like the Covid Pandemic.

The hegemony of the US and the Western Alliance in the world order is under challenge on various fronts. The US faces systemic turbulence on the domestic front and strong headwinds on the external front. The very viability of democracy, as a system that delivers, is under challenge, evident in the deep polarisations, gridlocked decision-making processes, and failure of democracies to deal coherently with the challenges that face them. These challenges are multiple and complex, ranging from illegal immigration, xenophobia, unemployment, growing inequalities, and decreasing competitiveness to dealing effectively with successive waves of the Covid and providing good governance.

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On the international front, the dramatic rise of China has brought an end to the brief unipolar era with the US as hegemon. China presents an alternate model of economic growth as well as a system of authoritarian but effective governance that seems to deal more successfully with many of the same challenges that confront the world. It is a model that finds resonance with several countries.

Europe too is in transformation after Brexit, with Germany called on to play a larger role on the international stage, along with France. The contradictions inherent in the European Union are being brought to the fore by the standoff with Russia in Ukraine. While Europe clearly needs new security arrangements, what finally emerges remains to be seen.

The fundamental reordering taking place is most evident in the Indo-Pacific and Eurasia. Japan, South Korea, and the Asian Tigers are positioning themselves to address the challenges thrown up by the growing presence of China in the region, economic as well as strategic.

There is a new dynamic between Russia and China, accentuated by growing economic pressure on Russia, the perceived security threat from the Western Alliance on its borders, and the growing presence over the last two decades, of China in Central Asia. This new alignment has been given significant momentum by the US withdrawal from Afghanistan.

Developments in Afghanistan have also had a deep impact on the credibility of the US in Central Asia as well as the modernising states of the Gulf, the rest of West Asia, and other parts of the Islamic world. There is a new scramble for markets and resources in Africa and South America.

> **There is a new dynamic between Russia and China, accentuated by growing economic pressure on Russia, the perceived security threat from the Western Alliance on its borders, and the growing presence over the last two decades, of China in Central Asia.**

New security arrangements, such as the QUAD, the enlarged SCO, and AUKUS have come into being. RCEP, CPTPP, bilateral FTAs, and the response of the West to the disruptions caused by Covid, are creating new trading and economic arrangements as well as supply chains. There is a race to develop and harness the new technologies that will fundamentally impact the future. Quantum computing, AI, robotics, bio-technology, renewable energy — battery, hydrogen and solar, space and communications technologies, the web and cyber security all come into this category. Resources vital to these technologies such as rare earths, lithium, and copper will assume greater importance, as will the production of silicon wafers, semi-conductors, ICs, carbides and genetically engineered products. It will be interesting to see the extent to which the US will be able to decouple from China, and how effective the walls being put in place by the West to protect its technologies from China will be.

The traditional factors of demography, human and natural resources, economic strength, and systems of governance will continue to play a significant part in the repositioning underway. It is expected that by the year 2050, China's population will stabilise at around 1.4 bn, western Europe at around 440 mn, Russia at around 135mn, Japan at around 125 mn, and the UK at around 75 mn. All these regions have the disadvantage of rapidly ageing populations. Africa, like the Middle East, presently with the highest population growth rate of 2.5% will have around 2.5 bn people. Latin America and the Caribbean will have around 600 mn, and ASEAN around 800 mn. North America (referring here to the USMCA Area which comprises the United States, Mexico, and Canada who had reached an agreement in 2020 that supports North American manufacturing and mutually beneficial trade) will have a population that will continue to grow to around 600 mn, like India and some other regions such as ASEAN, will maintain its demographic advantage, with relatively youthful populations. Sustainable growth however, will be under immense pressure from the twin challenges of large populations as well as climate change.

The US and West Europe

While it remains the pre-eminent economy, the US faces challenges on various fronts. Internally, it has a deeply divided polity, divisions arising from class, race, and differing ideologies between its conservatives and liberals. While it has started its long overdue process of internal economic and infrastructural renewal, the gridlocked decision-making process in Congress has led to delays and compromises. On the external front, it faces growing competition from China. President Biden's stated intention of strengthening ties with US allies, as it withdraws from 'forever wars' in Afghanistan and the Middle East and concentrates on its energies on meeting the main challenge from China and Russia, has faced rougher weather than expected. The crisis in Ukraine has brought these difficulties to the fore.

Afghanistan demonstrates, as nothing else in recent times, the limits to US strength and staying power. The neocon experiment of remaking the world in US's own image is over. It is to be seen whether the US withdrawal will allow it to renew itself in the same manner that its withdrawal from the Vietnamese quagmire did, to enable it to eventually go on to win the superpower contest a decade later.

The US and western democracies, based on common religious and philosophical beliefs and systems of governance developed over centuries, have the ability to self-correct. Their economic systems encourage and reward innovation and entrepreneurship. They possess the necessary systemic and economic strengths, technology and resources, to retain their pre-eminent position, provided they find the means to effectively address the growing dissonance in their democracies. The US and North America (USMCA Area) in particular, possess the added advantage of not having ageing societies.

> **Afghanistan demonstrates, as nothing else in recent times, the limits to US strength and staying power. The neocon experiment of remaking the world in US's own image is over.**

The EU, while an economic superpower, lacks political cohesion, as its approach to the crisis in Ukraine illustrates. Perhaps this crisis itself will catalyse and concentrate EU and NATO energies in reimagining themselves to deal with new economic and security challenges. France and Germany, at the heart of Europe both geographically and economically, may finally start playing a greater geo-political role on the world-stage. The UK, paying the price of Brexit, will probably witness a diminution of its influence.

Russia

Russia combines within itself religious and cultural influences similar to those of Europe, and also those from Asia. Its economic strength is just not commensurate with its military strength, a limitation that significantly affects its aspiration to be a global power. The war in Ukraine has highlighted the need for new European arrangements to take Russia's security concerns into account while protecting the EU and NATO's own core concerns. New security arrangements are also important if the promise of Russia's energy interlinkages with Europe is to be realised, and if Russia is not to fall closer into the Chinese embrace.

China

China, with its spectacular growth, concomitant enhancement of economic strength and comprehensive national power, and its vision of creating an alternative world order through the BRI, is attempting to rewrite the rules and remake the world in its own image. This is particularly evident in its actions in Xinjiang, Tibet, Hong Kong, and the South China Sea, and towards Taiwan. The most serious challenges it faces are on its domestic front. China's authoritarian governance systems are yet to be tested under persistent rates of lower economic growth. There are also questions over its ability to grow innovation and entrepreneurship on its own steam rather than 'borrowing' from the West as it has in the past. The jury is still out on the success of its zero Covid approach, and its clamp down on technology companies

such as Tencent and Alibaba. China also faces an ageing population besides shortages of energy and resources, and a degraded environment. The debt overhang in China puts a question mark on its future growth. It will also be interesting to see how it fares in the race for technological dominance and its objective of becoming the pre-eminent power in the world in the face of technology denial regimes being put in place by the West. The CCP's compact with the Chinese people to provide continuously higher standards of living may not be sustainable over the medium or long term. OTH analyses are notoriously difficult, but a seismic, Black Swan event in China on the economic front cannot be ruled out.

Japan and East Asia

Japan, while remaining economically powerful, lacks the requisite demographic and geographical advantage to influence the world order on its own. However, it will remain a force to be reckoned with in coalition with likeminded partners. Japanese investment in Asia is significant. It is attempting to mount a challenge to China's BRI through its own Partnership for Quality Infrastructure (PQI) and as part of the Blue Dot Network. Neither ASEAN nor the Asian tigers are quiescent in the face of the growing Chinese attempt at dominance. Australia as member of the QUAD and AUKUS is mounting its own challenge. The Indo-Pacific will continue to witness growing competition for markets and influence.

Central Asia

The US/NATO withdrawal from Afghanistan has, as could be expected, had a profound and fundamental impact on all surrounding regions. Recent events in Kazakhstan are perhaps indicative of things to come. Russia has traditionally been the most important player in Central Asia, strategically as well as politically. However, the growing economic presence of China in the region and its integration into the BRI may well bring about changes in this arrangement. Iran, Pakistan, Turkey, Saudi Arabia, and UAE are also players in Central Asia and Afghanistan, each with their own agenda. An additional challenge here is of extremism and terrorism emanating from Afghanistan and the AfPak Region.

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Middle East and Iran

The loosening of the US embrace of the Middle East is leading to fundamental realignments in the region. Turkey has reached out to Egypt, Saudi Arabia, the Emirates, and even Israel. The modernisation and social reforms, pushed by MBS and MBZ in Saudi Arabia and the Emirates, present a great contrast to developments in the AfPak Region. The Abraham accords and the subsequent opening to Israel create new possibilities, as does the outreach by Saudi Arabia and the Emirates to Iran. The threats here are from instability in the Arab world and the Gulf, exemplified by the conflict in Yemen and the fact that fossil fuels will diminish in importance relative to green technologies, affecting revenues and economic growth, and consequently, stability.

The US-Israel relationship, and the US relationship with the Gulf monarchies, limits the scope for a possible US opening to Iran and the ongoing negotiations in Vienna on the Iranian nuclear issue. Iran's 20-year arrangements with China and Russia indicate that it is not hopeful of reinstituting any meaningful relations with the West in the near future. The choices that Iran makes in response to ongoing developments in the AfPak Region and Central Asia will bear close watching.

Africa and Latin America

Africa, presently the fastest growing continent economically, possesses a burgeoning population and immense natural resources. These are its main strengths and there is a new scramble by outside powers for its riches. China is making its

presence felt tapping into these resources and propping up governments that give it access to them. However, Africa faces major socio-economic challenges in tackling poverty, inequality and instability, as well as the growing problem of Islamic terrorism which makes it difficult to predict how important a role it will play in the future world order.

The promise of Latin America continues to be unrealised. Like Africa, it is blessed with enormous resources which are also exploited by outside powers. While it lies in the American sphere of influence, China is making inroads.

The countries which best anticipate these changes in the offing, and position themselves to deal successfully with them will naturally stand to gain the most. We will now examine how India is placed in the churning that is presently underway.

The Role of India

It is worth repeating the point made at the beginning of this article that India has always been, in one way or the other, at the forefront of history on the strengths of its geographical position, its large population, economic strength, and a civilisational legacy marked by syncretisation and assimilation. For all these reasons, India plays a critical role, and will continue to do so.

75 years ago, at independence, India led the fight against colonialism and apartheid, and assumed leadership of the developing world. It founded and shaped the Non-Aligned Movement based on the lessons learnt during its own struggle for independence, the strength of its syncretic civilisational values, and its solidarity with other underdeveloped Asian and African countries. These same values came into play when it led the struggle against the unequal world economic order, and the domination by the developed world, and for the rights of developing countries. It was also India that had the courage of its convictions to stand alone in 1971, backed by the Soviet veto, to espouse the cause of the people of Bangladesh and their human rights and assist in the birth of Bangladesh, redrawing the world map in the process.

> **These strengths and values, each in their own way, underpin the leading role that India plays in much of what happens in South Asia, the Indian Ocean Region, its extended neighbourhood and on the world stage.**

These strengths and values, each in their own way, underpin the leading role that India plays in much of what happens in South Asia, the Indian Ocean Region, its extended neighbourhood and on the world stage. The 75 years since independence have led to a transformation in India's economic and comprehensive national strength. The process of economic reforms initiated in 1991 and the opening up of the Indian economy to the world catapulted India to the front ranks of the world economies. Pokhran-2, the leading role played by the Indian IT industry and the forging of a new relationship with the US have all played their part in bringing India to where it is today - the 4th largest economy in the world in PPP terms, and a member of G-20.

India is an active player at the UN and in other multilateral fora, UNCTAD, UNIDO, UNICEF, UNHRC, CD, WHO, WTO, and the World Court etc. As one of the largest contributors to United Nations peacekeeping missions, India has assisted in mitigating conflicts around the world, and facilitating stabilisation and reconstruction. India has also led in addressing issues of energy, food, environmental security, climate change and sustainable development, not least by the manner in which it deals with these issues on its own domestic front, affecting the lives of over one sixth of humanity. It is active in setting the agenda and framing rules related to governance of the global commons, environment and trade, freedom and equity in use of space, as also cyber space, addressing non-traditional threats, pandemics and natural disasters. India leads the fight against extremism and terrorism. Its engagement with the Global South is also underlined through initiatives such as the Coalition for Disaster Resilient Infrastructure.

In addition to the fact of being the largest country and economy in South Asia, bilateral relations with other countries in the subcontinent rest on a solid base of a shared history, shared culture, strong trade, economic and people to people linkages, and growing connectivity. India has always taken an independent stance on issues relating to the subcontinent, Bangladesh 1971, being a case in point and it is important that it continues to do so. India is a major provider of assistance, both bilaterally and through regional groups such as SAARC and BBIN. The challenge it faces here are the growing presence and activism of China in the region and the refusal of Pakistan to work towards a constructive relationship.

To its East, India is playing an active role in the Indo-Pacific through active participation in ASEAN anchored platforms. It has taken a leadership role in other groupings in the region such as, BIMSTEC, IORA, IONS and frameworks such as Ganga-Mekong Cooperation. Along with the three other Quad countries, India is engaged on issues relating to connectivity and infrastructure, emerging technologies, climate action, education, responding to the COVID-19 pandemic through vaccines collaboration, and providing resilient and reliable supply chains. More importantly, its participation in the Quad underlines a common vision shared by a grouping of democracies for a free, open and inclusive Indo-Pacific Region, a rule based international order, free from coercion, with a respect for sovereignty and territorial integrity, and peaceful resolution of disputes. India's inability to join RCEP has, however, limited to a certain extent, its attempts to play a greater role in the region and its participation in resilient regional and global supply chains coming up post Covid.

> **Along with the three other Quad countries, India is engaged on issues relating to connectivity and infrastructure, emerging technologies, climate action, education, responding to the COVID-19 pandemic through vaccines collaboration, and providing resilient and reliable supply chains.**

India's Navy, the sixth largest in the world, enables India to play a significant role in addressing non-traditional security threats in the Indo-Pacific. It actively participates in anti-piracy efforts, ensuring maritime security, monitoring white shipping, strengthening surveillance, preparing for and being among the first responders to HADR situations. India has set up a maritime fusion centre for the region and its SAGAR — Security and Growth for All in the Region — policy underpins its vision for the Indian Ocean as well as the greater Indo-Pacific Region.

India's engagement with the west Asian Region is steadily intensifying, not least because of its expatriate population of over 8 million in the region. It is an active participant in connectivity initiatives such as the INSTC and the development of Chabahar port. The recent formation of the West Asian Quad is significant, especially in the possibilities that it opens up for further cooperation with other members of the group.

India's participation in plurilateral structures, such as the RIC, BRICS, Shanghai Cooperation Organisation — Regional Anti-Terrorism Structure (SCO-RATS) and the regional National Security Advisors forum, support its engagement with Central Asia. The recent Summit meeting with the five Central Asian leaders in January 2022, reflecting recognition of India's role in the region, covered cooperation on further enhancing regional security, connectivity, trade and human resources development, as well as addressing problems emanating from Afghanistan.

India's engagement with Africa is reflected in active and growing bilateral interactions, assistance programmes, and collective engagement through the India- Africa Forum Summit. India is today Africa's third largest trading partner, and provides considerable assistance including for human resource development. India is also a founder-member of the Contact Group on Piracy off the Coast of Somalia and has taken a lead role in coordination efforts among different naval forces in the region.

Last but not least, India enjoys close relations with the major powers — the USA, Russia, Europe, and Japan, and works with them on issues of common interest. The consultations that they hold regularly with India on regional and

global issues, and the steadily strengthening bilateral strategic relationships, are indicative of the role that India plays. The relationship with China has been significantly impacted by China's attempts to change the facts on the ground in the border areas of Sikkim, Ladakh, and Arunachal Pradesh. However, with the second largest standing army in the world, the sixth largest navy and the fourth largest air force, India has the determination to meet the challenge posed by China on its borders and will not be found wanting in doing so, notwithstanding the differences in economic strength.

India's investment in S&T and R&D is steadily rising. As an IT power with significant human resources, digital infrastructure and digital enablers, India is taking a leadership role in seeking equity for the developing world on digital issues such as data regulation, e-commerce regulation, and cyber security.

Today, as the world's third largest producer of pharmaceuticals, India is a pharmacy to the world. India has developed anti-Covid vaccines as well as technological solutions to deal with the Corona pandemic such as the Arogya-Setu App for tracking Corona infections and the CoWin portal for vaccination. It has helped save millions of lives by providing necessary medicines and vaccines to over a hundred countries. The International Solar Alliance launched by India in collaboration with France in 2015 has been successful in increasing the share of solar energy in energy consumption and is a major initiative in dealing with climate change.

Conclusion

India, as noted earlier in this article, has historically played a central role on the global stage. It has led also by the power of its own example as a democracy committed to a pluralistic and inclusive framework that respects the rule of law both within the country and without and has self-correcting mechanisms to ensure this. Like other leading powers in the world, India faces its own domestic challenges. These include low rates of growth, high unemployment, growing inequalities and divisions on account of caste, class and creed. These challenges need to be addressed if social coherence is to be maintained and India's leadership role in the evolving world order to be strengthened.

> **However, with the second largest standing army in the world, the sixth largest navy and the fourth largest air force, India has the determination to meet the challenge posed by China on its borders and will not be found wanting in doing so, notwithstanding the differences in economic strength.**

By 2050, India will still be a young country, with a population stabilised around 1.5bn, the third largest economy in the world in PPP terms, and the potential to play an even greater role on the world stage. It needs to leverage and build on the diverse strengths that it possesses in order to continue to play a leading role, and to firmly position itself in the geopolitical rebalancing presently under way.

Future of Quad and AUKUS: Stakes for India

Vice Admiral Satish Soni, PVSM, AVSM, NM (Retd)@

Abstract

The announcement of AUKUS, a hawkish Anglo-Saxon strategic alliance between Australia, the United Kingdom, and the United States (US) comes in the wake of the ongoing Quadrilateral Security Dialogue (Quad) which has been in the melting pot for over a decade. Ostensibly, these pluri-lateral groupings are not aimed at containing any particular country and yet could help stave off the unfolding Chinese challenge to the US led liberal order in the Indo-Pacific. Washington's decision to offer nuclear propulsion and the most sophisticated of its military technology and hardware to Australia is bound to have a profound influence on the maritime security architecture around us. Big power rivalry, reminiscent of the Cold War era, is brewing. The jury is still out on how Quad has fared so far and how these developments will impact India. The stakes for India on the high seas have certainly risen.

Introduction

Addressing the fifth Indian Ocean Conference in Abu Dhabi, on 04 December 2021, our external affairs minister Dr Jaishankar commented that, "We are entering a world of Pluri-lateralism, one that recognises the shortcomings of multilateralism, the limits of bilateralism and the untenability of unilateralism […]".[1] In short, we are going to witness an increase of small groupings to tackle specific challenges of global governance. Both Quad and AUKUS are relatively new initiatives which could become increasingly relevant to India in the long term as the now widely accepted geo-strategic construct the 'Indo-Pacific' takes root. What has been the journey so far and what lies ahead?

The Quad's Trajectory

Origins. The origins of the Quadrilateral Security Dialogue lie in the collective response to the December 2004 Sumatra-Andaman earthquake and subsequent Tsunami, which devastated Indonesia's Aceh province and much of South and Southeast Asia. Following the disaster, the United States, Australia, Japan, and India moved to form the Tsunami Core Group, allowing the four countries to coordinate their relief activities. Separately, and delinked from this, the Indian Navy had been conducting the Malabar series of joint exercises with the US Navy since 1992. For the exercise conducted in 2007, for the first time, India invited naval ships from Japan, Australia, and Singapore to join in. Though there was never any connection between the Malabar exercise and the Quad, the conduct of the exercise was interpreted as giving a military dimension to Quad. For this and other, largely political, reasons the dialogue faded into the back ground by 2008. After a 10-year gap, Quad 2.0 resumed in 2017 with biannual meetings between the four major

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Indo-Pacific democratic powers viz. the United States, Japan, India, and Australia. The Quad process has finally secured official traction amongst these countries and is considered a vital part of their Indo-Pacific strategies.

Summits. The first virtual summit, held on 12 March 2021, set a benchmark for Quad's future efforts by the launch of a Quad Vaccine Experts Group, the Quad Climate Working Group, and the Quad Critical and the Emerging Technology Working Group. Formation of a working group to manage security related issues was conspicuously absent. The virtual summit was followed by the first 'in person' summit in Washington on 24 September 21, wherein the leaders outlined ambitious initiatives to synergise medical, scientific, financing, manufacturing, critical emerging-technology, and developmental capabilities.[2] The agenda of Quad so far has been benign but it is 'about China'. Quad leadership have not formally announced a plan to expand but a 'Quad plus' could be in the works. A beginning may have been made in the convening of the 'Democracy Summit' by President Joe Biden on 09 December 21.[3] This summit marks an attempt to get all democracies on a common global platform against authoritarianism, addressing and fighting corruption, and promoting respect for human rights. Indo-Pacific Region is becoming the economic 'Centre of Gravity' with advanced navies like France, UK, and Germany indicating a desire to commit naval resources and show presence in this region. Conclusion of treaties/agreements on defence cooperation between countries concerned about Chinese obduracy have been on the rise with a 'Reciprocal Access Agreement' being concluded between Japan and Australia on 05 January 2022.[4] Formation of a secretariat with mechanisms to guide and monitor progress of specific initiatives would, however, be necessary or else, Quad could remain a 'Talk Shop'.

> **Whilst Quad may not have provided a platform for coalescing military capabilities, interoperability between navies has reached a 'Plug and Play' stage. An informal bulwark to Chinese maritime assertions has crystalised.**

Indian Navy's Engagement. Quad appears to be drawing India into the power play being enacted in the Western Pacific. Whilst India has fairly good naval cooperation with all regional and extra–regional navies, our engagement has witnessed an exponential increase with countries comprising the Quad. Since 2015, India has signed agreements (foundation and logistic) to get militarily closer to other members; six with the US and four each with Japan and Australia. In addition to the 'Malabar' Indo-US joint naval exercise, the Indian Navy has been participating in bilateral exercises with the Quad navies (Japan, Australia), extra regional navies including UK, France, and almost all regional navies. In what could be termed as a Quad Plus joint exercise, Indian Navy Ships, INS Satpura and INS Kiltan, along with P8I Long Range Maritime Patrol aircraft participated in the multi-lateral (France, US, Japan and Australia) maritime exercise *La Pérouse*, conducted in the Eastern Indian Ocean Region from 05 to 07 April 2021. The Theodore Roosevelt Carrier Strike Group conducted simultaneous joint multi-domain operations with the Indian Navy and Air Force in the Indian Ocean on 28-29 March 2021 and Indian naval units exercised with the Queen Elizabeth task group on 21-22 July 2021. Malabar Exercise-21 was conducted in two phases; the first phase held in the Philippines Sea between 26-29 August 2021 and the second phase held in the Bay of Bengal during 12 -15 October 2021.[5] Whilst Quad may not have provided a platform for coalescing military capabilities, interoperability between navies has reached a 'Plug and Play' stage. An informal bulwark to Chinese maritime assertions has crystalised.

The Present Status. Sabre-rattling in the South China Sea by way of freedom of navigation patrols, forward deployments of ships by most western navies, and shoring up of cooperative mechanisms have not stopped China from pursuing a focused aim of dominating its 'core' interest, the South China Sea. Taiwan air space is being coercively intruded and the Chinese coast guard, armed with a fresh legal mandate and modern ex PLA(N) warships in its arsenal, continues to intimidate maritime neighbours.[6] In an era of multidomain 'Grey Zone' warfare, a resolve to blunt Chinese aggression, militarily, has been sorely lacking. India, considered a lynchpin in the emerging coalition against Chinese expansionist tendencies, is often seen hedging her bets. Our security dynamics with regard to China and the Indo-Pacific are more complicated than other members of the Quad on account of an unresolved border dispute along the Line of Actual

Control. A more committed military alliance was, therefore, an impending need which could be the reason for the coming together of the Australia, United Kingdom and United States (AUKUS) Alliance announced on 15 September 2021.

AUKUS Alliance

The AUKUS framework builds on the legacy of previous Anglo-Saxon alliances such as the ANZUS Treaty (including New Zealand) or the 'Five Eyes' intelligence arrangements. As per the joint leaders' statement on AUKUS released on 15 September 2021, the partner countries '[…] resolve to deepen diplomatic, security, and defence cooperation in the Indo-Pacific Region, including by working with partners, to meet the challenges of the twenty-first century […] in particular, we will significantly deepen cooperation on a range of security and defence capabilities […]'.[7] For the US, the Alliance addresses its core security concerns in the Indo-Pacific and expands its sphere of influence. AUKUS enables Australia to acquire nuclear-powered submarines with assistance from the US and UK, and diversify its cooperation in cyber capabilities, artificial intelligence, quantum technology, and undersea capabilities. For the first time in 50 years, the US is sharing its submarine technology with other countries; it had previously only shared nuclear propulsion technology with Britain in 1958. Australia, the most critical strategic outpost of the Alliance, seems to have shed its strategic ambiguity and is standing by its traditional ally, the US; even as bilateral trade with China has continued to grow at an exponential rate over the preceding few decades. Japan, Vietnam, Taiwan, and the Philippines have welcomed the trilateral partnership, whereas, Indonesia and Malaysia have expressed concerns over the likely deployment of nuclear-powered submarines in their waters and the arms race that it could trigger. Termination of the multi-billion-dollar contract for building conventional submarines for Australia elicited a strong response from France and could impact on how Europe starts to view the role of the Anglo-Saxon clique in their own security matrix.[8] AUKUS could widen the divide in the relationship between the United States and Europe. India has chosen to downplay the announcement by stating that the new grouping 'is not likely to have any significant impact on the functioning of Quad'.[9] For UK, which is seeking a global role, AUKUS is as significant as it is for Australia. It complements Royal Navy's initiatives to recommission its naval base HMS Jufair in Bahrain and the ship/submarine support maintenance facilities at Duqm in Oman. The British Indian Ocean Territory in Diego Garcia, presently leased to the US, has been the cornerstone of the western Alliance in the Indian Ocean. During 2021, a Task Force led by the aircraft carrier Queen Elizabeth was on a seven-month deployment in the Indo-Pacific visiting over 40 countries.[10] Two Royal Navy patrol ships are presently on a five-year deployment to the Indo-Pacific. The region is going to see more of the Royal Navy in the coming years.

> **Japan, Vietnam, Taiwan, and the Philippines have welcomed the trilateral partnership, whereas, Indonesia and Malaysia have expressed concerns over the likely deployment of nuclear-powered submarines in their waters and the arms race that it could trigger.**

Beijing is understandably upset as the AUKUS announcement has come in the wake of a worsening relationship with Australia. AUKUS is a more definitive security challenge than Quad, which seems to be metamorphosising as a diplomatic grouping. It remains to be seen as to how China would respond as Australia's geography impacts not only the South China Sea but also the Indian Ocean and Oceania; waters where China is jostling for increased influence. Russia too has been critical as they feel that the existing ASEAN led structures would be marginalised by Quad and AUKUS.

Implications for India

AUKUS reaffirms recognition of China's expansionist tendencies and the need for the world community to come together for a push back. From an Indian perspective, it is a welcome initiative as it will provide us more strategic space and options in the Indo-Pacific. It would not diminish the role of Quad; rather, it would add a military dimension to the grouping, something the protagonists as well as bystanders have been unwilling to accept. It will hopefully be

a distraction for China and ease the pressure on our northern borders. Most importantly, AUKUS underscores the growing importance of the maritime domain.

India's declining defence outlay for capital acquisitions is a cause for concern. Asymmetry between China and India is increasing at an exponential rate and the advantage of geography in the Indian Ocean could well be overcome by an increased presence of PLA (Navy) ships and an impending collusion with the Pakistan Navy. The Indian Navy has around 130 odd ships and submarines. The time line to reach the 200 mark has been revised from 2027 to 2050. Given that around 20 ships have been commissioned during the last five years against the 25 odd decommissioned, it seems unlikely that we would be able to meet the timeframe of even the revised milepost. Shortages in the number of submarines needs immediate redressal which may not be possible in the near term. Induction of nuclear-powered submarines in a partner navy which could be deployed in the Indian Ocean to deter a common adversary would help India mitigate many challenges in the underwater domain.

Impact on the Maritime Domain

PLA (Navy) has been modernising at a steady pace and on an average commissions 15 to 20 ships/submarines a year. New projects on the anvil include a Type 003 CATOBAR Aircraft Carrier displacing 80,000 tonnes, Type 075 Landing Helicopter Deck (LHD) displacing 36,000 tonnes, and the Type 055 destroyer displacing over 10,000 tonnes. These, along with the 094A class SSBNs armed with JL-3 SLBMs, would help China dominate the South China Sea, threaten Pacific and Indian Oceans and extend their influence to their new found interests in Oceania. AUKUS appears to be an acceptance of a vulnerability of the existing US led alliance to stem Chinese maritime onslaught. It is also an acceptance of a non-military vision for the Quad. With AUKUS as its security adjunct, Quad's agenda in future could get limited to cooperation in addressing common non-traditional challenges, civilian technology, supply chains management, intelligence sharing, etc. From India's perspective, AUKUS must be viewed as a timely development as we were hesitant to commit ourselves militarily but now could benefit from the availability of more capable nuclear submarines and flow of advanced military technologies to the region. Both Quad and AUKUS could develop along different lines and yet, have room for convergence at a later stage.

> **Induction of nuclear-powered submarines in a partner navy which could be deployed in the Indian Ocean to deter a common adversary would help India mitigate many challenges in the underwater domain.**

Notwithstanding the commencement of the Malabar exercise in 1992, India's military cooperation with the US started in earnest only two decades later with the US acquiescence to clear P8I Long Range Maritime Patrol aircraft for export to the Indian Navy. Transfers of more high-end military equipment have followed but 'nuclear propulsion' remains elusive. Indian Navy's indigenous nuclear programme could benefit enormously from more advanced US technologies as we add to the existing number of SSBNs. The US climbdown to share such expertise with Australia, under the AUKUS Alliance, may have cracked open a closed door. India could use this as an opportunity to be more assertive in its bilateral ties with the US for transfer of other advanced military technologies viz. aircraft carriers, artificial intelligence, quantum computing, jet engines, advanced radars, etc.

Proliferation of Nuclear Propulsion

The centre piece of the tripartite strategic pact is the arming of Australia with eight nuclear powered submarines which have distinct advantages over their conventional counterparts in greater submerged endurance, range of deployment, and weapon carrying capacity. The countries that possess such submarines are the US (68), Russia (29), China (12), UK (11), France (8), and India (1). AUKUS could open the doors for other nuclear capable countries to make similar collaborations with aspiring navies. France, slighted by the cancellation of its submarine contract with Australia, would

be keen to help Brazil for whom she is building conventional submarines. China, which has expressed strong criticism of the tripartite agreement, may attempt to get even by making a similar pact with its ally, Pakistan. North Korea and Iran could also be potential Chinese customers. Lee Jae-Myung, a South Korean presidential candidate from the Democratic Party, has pledged to seek US support to build nuclear-powered submarines to better counter threats from North Korea.[11] Nuclear propulsion, hitherto a preserve of the privileged few and a zealously guarded niche capability, is set to proliferate.

Countering China's Maritime Ambitions in the Pacific Islands

In order to deploy its naval power, China seeks a secure, safe, and quick access to the Pacific. The island chains in the east come in the way. The First Island Chain, broadly defined as the Kuril Islands, the Japanese archipelago, Taiwan, and the Philippines, only leads them to a second one running from Japan down through Iwo Jima, onward to Guam and the Commonwealth of Northern Marianas, southwards through the Federated States of Micronesia, on to Indonesia, and Papua New Guinea. And then, there is also a Third Island Chain running from Alaska through Hawaii, through Midway on to Kiribati, and ending in Tonga or New Zealand. This explains where the Pacific Islands fit into China's grand strategy and why Beijing is keen to invest its Comprehensive National Power into Micronesia, Melanesia, and Polynesia. Under the Belt and Road Initiative, China is developing ports, airports, and other dual use infrastructure in many of these strategically located islands. Other Chinese engagements, as outlined in their white paper, include helping islands meet Sustainable Development Goals and overcome emerging challenges of climate change, amongst others.[12] 'The Pacific may well be the part of the world most likely to see a strategic surprise', the US Indo-Pacific coordinator Kurt Campbell said[13], apparently referring to possible Chinese ambitions to establish island bases in the region. The United States has "enormous moral, strategic, historical interests" in the Pacific, but had

> **AUKUS would be a mechanism to make amends and reiterate a US commitment in keeping the Chinese at bay in Micronesia, Melanesia, and Polynesia.**

not done enough to assist the region.[14] AUKUS would be a mechanism to make amends and reiterate a US commitment in keeping the Chinese at bay in Micronesia, Melanesia, and Polynesia.

Conclusion

Complementing the Quad, the AUKUS trilateral sends an unambiguous message to China, and brings like-minded countries a step closer to balance China in the Indo-Pacific Region. The pushback to China's belligerence has just got better clarity with a demarcation of the complementary roles AUKUS and Quad could play in future. Whilst it would likely be well over a decade before the nuclear submarines for Australia materialise, India's challenge to a China encirclement may have been mitigated to some extent in letter and spirit. The importance of the maritime domain has once again been underscored and India needs to make timely investments in improving its response to the waters around us.

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India's Quest for 'Reformed Multilateralism'

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Abstract

'Reformed multilateralism' is a declared objective of India's foreign policy since 2020. Its aim is to ensure equal participation in decision-making. It seeks to incorporate the ground realities through greater representation in the decision-making process. The main focus of 'reformed multilateralism' is on UN Security Council (UNSC) reform, which is being negotiated through the inter-governmental negotiations (IGN) presently underway in the UN General Assembly (UNGA) to amend the UN Charter. However, in the broader international context, 'reformed multilateralism' applies equally to all existing multilateral institutions, since the international community today accepts the interlinkage between peace, security, and development while responding to global challenges.

Introduction

India's call for 'reformed multilateralism'[1] flows from its political orientation as a democratic country with universal franchise, following independence from colonial rule in August 1947. This made India play a leading role in bringing together newly independent former colonial countries in the UN between 1947-1960 through the decolonisation movement, which ranks as one of the major achievements of multilateralism so far.

Democratising International Relations: Equitable and Representative Participation in Multilateral Decision-Making

At the core of decolonisation is the democratisation of the principle of one-country one-vote contained in Article 18 of the UN Charter. This became evident after the adoption of the historic unanimous UNGA Decolonisation Resolution in December 1960.[2] Decolonisation significantly influenced the way decisions were taken in the UNGA on 'important questions'. Article 18 of the UN Charter provides for majority voting, in case there is no consensus on important questions.

The second impact of decolonisation was to compel an expansion in the number of participants in the decision-making process. This enabled multilateral discussions to benefit from a variety of perspectives from the five regions of the world represented in the UNGA. By doing so, greater representation also contributed to a more effective implementation of UNGA decisions, as participants sought to operationalise their inputs into the decisions taken multilaterally through their national governance measures.

These two issues converged in December 1963, when the UNGA voted to amend the UN Charter for the first (and only) time after 1945 to provide for greater developing country representation in multilateral decision-making in the UNSC and the Economic and Social Council.[3]

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In the broader multilateral framework, the post-Cold War period has seen a trend towards bringing in representation from stakeholders apart from governments, beginning with the 1992 UN 'Earth Summit' held in Rio de Janeiro in Brazil. Despite objections from entrenched major powers in the multilateral system to any attempt to broaden participation in multilateral decision-making, today the UN has successfully incorporated 'multiple stakeholder' participation in its discussions on digital governance[4] as well as on sustainable development [5].

Peace, Security, Sustainable Development

India's current multilateral engagement seeking international cooperation through 'reformed multilateralism' prioritises two interlinked issues, viz., peace and security and sustainable development. The impact of threats posed by conflicts and terrorism to international peace, security, and development has been raised by India consistently in the UN. Two areas illustrate the challenges faced by India's effort to 'reform' multilateralism, viz., UN peacekeeping operations (PKOs), and countering terrorism.

UN Peacekeeping Operations

The use of PKOs was not considered in the UN Charter. In a *de facto* reform of the UN Charter, the UNSC decided in May 1948 to deploy troops contributed by UN member-states after the Arab-Israeli conflict to separate the parties to the conflict and provide political space for a negotiated resolution. Since then, the use of PKOs by the UNSC has grown with over 70 PKOs deployed till 2021. As many as 250,000 Indian troops have served under the UN flag in 49 of these PKOs. The big change in deployment of UN peacekeepers since 1948 is the nature of conflicts on the UNSC's agenda. Instead of keeping peace *between* member-states, the bulk of the current PKOs are deployed to respond to conflicts *within* member-states.

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The ineffectiveness of PKOs is largely due to the stranglehold over UNSC decisions on their deployment by the five permanent members (P5)[6], which ignores important inputs both, from elected non-permanent members from developing countries as well as from troop-contributing countries whose resources are deployed by the UNSC. India has spearheaded reforming the UNSC's decision-making process on deployment of PKOs.

An immediate reform sought by India is for the implementation of Article 44 of the UN Charter. This provision allows member-states contributing troops for UNSC mandated measures, if such member-states are not represented in the UNSC, "to participate in the decisions of the Security Council concerning the employment of contingents of that member's armed forces", if they so desire. India's advocacy for implementing Article 44 in letter and spirit by the UNSC stresses both equal and representative participation in UNSC decision-making by troop contributing states.[7] This objective will be relevant for India again once it ceases to be an elected member of the UNSC from January 2023.

India's thrust to reform UN peacekeeping on the ground to make it effective includes reiterating the principles and methods of PKOs. Building on India's own PKO experience, this asserts the need to uphold the three core principles, viz., consent of the parties, impartiality, and use of force in self-defence and defence of the mandate.[8] India has proposed (and implemented since mid-2021) using new technologies to make PKOs effective, including domain awareness technology to assist UN peacekeepers and protect civilians, through a platform called UNITE Aware.[9]

Countering International Terrorism

India's efforts have been two-pronged on using multilateralism to counter international terrorism through international cooperation. Since 1972, India has taken the lead to reform the UN's legal architecture for this purpose. The outcome of

these discussions was an Indian draft of a proposed Comprehensive Convention on International Terrorism (CCIT).[10] The CCIT has not been adopted so far due to disagreements between member-states on 'defining terrorism'. However, all UN member-states have unanimously adopted the UNGA Global Counter-Terrorism Strategy (GCTS) since 2006, which implies that they accept a *de facto* definition of terrorism.[11] The core principle of "prosecute or extradite" in the draft CCIT has been upheld as international law by the International Court of Justice.[12] It applies, for example, to bringing the perpetrators of the 2008 Mumbai attacks currently in Pakistan to justice.

The second prong of India's counterterrorism activity through multilateral institutions is the UNSC. Since the emergence of terrorist threats from groupings like Al Qaida and the Taliban in 1998, the UNSC has adopted more than 50 resolutions, which have the impact of international law, on countering terrorism.[13] The UNSC is the only multilateral body which has the power under Articles 41 (economic sanctions) and 42 (armed force) of the UN Charter to enforce its decisions. However, it has not used this power in a predictable or transparent manner due to the veto privilege of the P5, acquired before the UN Charter was adopted.[14]

India's experience of the double standards used in UNSC on countering terrorism from the AfPak Region directed against India is relevant to its calls for 'reformed multilateralism'. The UNSC was not able to adopt any resolution to bring to justice the perpetrators of the Mumbai 2008 terror attack. It took a decade for the UNSC to agree to place Masood Azhar (founder of the UNSC proscribed Jaish-e-Mohammed terror group) on its Sanctions List due to the veto of India's proposal by China.[15] The return of the Taliban regime in Afghanistan, from mid-August 2021, with several members of its interim cabinet consisting of terrorists on UNSC Sanctions Lists who have targeted India, has created urgency for calls to reform the UNSC.[16] This is due to the complicity of all P5 members of the UNSC in bringing the Taliban back into the political structure of Afghanistan, beginning with their

> **Due to confrontation between the United States and China, the UNSC failed to adopt a resolution to support a holistic response to the ongoing Covid-19 pandemic for over three months in 2020.**

unanimous adoption of UNSC resolution 1988 in June 2011, and culminating in their endorsement of the 'United States-Taliban Doha Agreement' through UNSC resolution 2513 in March 2020.

The P5's hesitation in making any assistance of the international community conditional on the promise in the Doha Agreement for an 'inclusive government' in Afghanistan is evident in ignoring calls for restructuring the existing UN Assistance Mission in Afghanistan (UNAMA) into a special political mission in December 2021.[17] This is in stark contrast to the UNSC's decisions on similar situations, as in Iraq, where UNSC mandated "political transition" missions like UNAMI assist the country to advance inclusive political dialogue, hold elections, protect human rights, and coordinate the UN's humanitarian and developmental efforts.[18]

Agenda 2030

The response of multilateral institutions to the situation in Afghanistan (and the other conflicts on the UNSC's agenda) illustrates their fractured functioning. This negates a holistic response to common challenges facing mankind today, although there is a holistic policy framework which was negotiated and unanimously agreed to by member-states in the UNGA in September 2015 when they adopted Agenda 2030 on Sustainable Development.[19]

Implementing Agenda 2030 is a focus for 'reformed multilateralism'. Currently, this is held up due to the increased polarisation between the P5 as well as the global Covid-19 pandemic. Due to confrontation between the United States and China, the UNSC failed to adopt a resolution to support a holistic response to the ongoing Covid-19 pandemic for over three months in 2020.[20] Ironically, this failure of the UNSC highlighted the shortcomings of the structures and working procedures of individual multilateral institutions working in silos.

Coordinating the work and respecting the mandates of multilateral bodies is a key outcome for 'reformed multilateralism'. The major bodies created by the UN after 1945 include the UN Development Programme (UNDP, founded in 1965), the UN Human Rights Council (HRC, founded in 2006), UN WOMEN (established in 2010), and the UN Office on Counter-Terrorism (UNOCT, established in 2017). These deal with the development, human rights, gender, and counter-terrorism pillars of the UN structure. In addition, 'reformed multilateralism' needs to look at the interlinked working of the UN's specialised funds, programmes and agencies.[21]

Outside the immediate purview of the UN system, three multilateral organisations come under the scope of 'reformed multilateralism' as well, as they were conceptualised during discussions on establishing the UN as critical institutions to "sustain" the peace that was to be "secured" by the UN after the Second World War. These three are the two Bretton Woods Institutions, the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD or World Bank, both founded in 1944), and the World Trade Organisation (WTO, founded in 1995).

India emphasised during the UN's review in 2020 of its experience in implementing Agenda 2030 that successful implementation depends on a "whole-of-society" approach.[22] As India's Prime Minister Narendra Modi said during the 75th anniversary session of the UNGA, this means, "reform in the responses, in the processes, in the character of the United Nations".[23]

The ongoing Covid-19 pandemic has been similar to a global cataclysm, with no country in the world untouched by its adverse effects. The World Bank estimates that the pandemic has pushed as many as 150 million people worldwide into extreme poverty.[24] In a sense, the pandemic has created the opportunity for 'reformed multilateralism' to make global structures responsive to current challenges, reflecting ground realities. This includes addressing the Fourth Industrial Revolution, which the UN Charter could not have foreseen in 1945.[25]

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The technological drivers of the Fourth Industrial Revolution are in the digital domain, which has been thrust into the UN's mainstream activities by the Covid-19 pandemic. A road map for a human-centric, multiple-stakeholder approach to securing and applying digital technologies has to include bridging growing "digital divides"[26] that threaten peace, security, and development.

Reviewing the UN Charter

It is clear that to meet these challenges, the UN Charter must be reviewed to make the UN, and the multilateral institutions supporting the objectives of the UN Charter, relevant and responsive. This is the biggest challenge facing the objective of 'reformed multilateralism' today. The challenge can be met by convening a UN General Conference to review the provisions of the 1945 UN Charter. Such a step is already provided for in Article 109 of the Charter, which stipulates that the decision on holding a UN General Conference is to be taken by 'a majority vote of the members of the General Assembly and by a vote of *any* seven members of the Security Council' (emphasis added) i.e., not necessarily the P5.[27]

'Reformed multilateralism' will require the UN Charter to be reviewed by such a General Conference with two broad objectives. One is to look at existing provisions of the UN Charter, taking out those that have been overtaken by history (such as the Trusteeship Council provisions of Articles 75 to 85 since the Trusteeship Council was wound up in 1994). Other provisions need review and amendment such as the Articles on the UNSC. The second objective will be to bring into the UN Charter provisions related to the areas of global governance that have preoccupied the multilateral

system since 1945, without being included in the Charter. These include issues of countering terrorism, sustainable development and climate change, gender empowerment, digital governance etc.

It is likely that the outcome of a General Conference will recommend restructuring the UN itself. Agenda 2030's commitment under SDG 16.8 calls for 'broadening and strengthening the participation of developing countries in the institutions of global governance'.[28] This provides the platform for India to create a broad support base for discussing and agreeing to 'reformed multilateralism' during the UN General Conference.

A restructured UN should take into account how multiple stakeholders have worked together on global issues over the past century. The example of the International Labour Organisation (ILO), created by the Treaty of Versailles, is relevant for this purpose. The 56-member Governing Body of the 187 countries forming the ILO comprises of three sets of stakeholders: 28 governments, 14 employers and 14 workers. Among the 28 governments represented in the ILO Governing Body, 10 are permanently designated as "countries of chief industrial importance" while the remaining 18 are elected from regional groups by rotation.[29] India has been among the 10 permanently designated governments in the ILO Governing Body since 1922.

As set out in Sustainable Development Goal 17 of Agenda 2030[30], "strong global partnerships and cooperation" at all levels is required to implement Agenda 2030 that is today the central agenda of multilateralism. The outcome of such partnerships can significantly sustain 'reformed multilateralism' in the 21st century.

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China-Russia Cyber Cooperation and the Impact of State Surveillance and Digital Authoritarianism on the Global Order

Dr Swasti Rao[@]

Abstract

The autocratic regime of the Chinese Communist Party (CCP) has set up the most sophisticated system of surveillance and influence operations that are connected with digital authoritarianism and espionage not only over its own people but also against the rest of the world. Over the years, People's Republic of China (PRC) has established a complex and dynamic system of exerting its influence in the world and hitting at the vulnerabilities of its adversaries by technology. In the absence of any democratic accountability, judicial checks or opposition, the CCP has embarked upon an array of unethical usages of technology as an integral part of its economic statecraft, particularly through networks like the Digital Silk Road (DSR). China has extended their surveillance and censorship technology to other autocratic regimes. The article also analyses the problematic fledgling alliance between PRC and Russia and its impact on global order.

Introduction

This article will analyse some key aspects in the Chinese grand strategy of information warfare and surveillance (Chinese influence operations) for strengthening the Chinese state. Subsequent sections will discuss its domestic and international impact on the world. It will conclude with discussing the gravity of the fledgling cyber-alliance between China and Russia and its impact on global order including countries like India.

Key Concepts

For analysing Chinese influence operations, key concepts and key actors responsible for operationalising the concepts mentioned above need to be understood:[1]

- ➢ **'United Front'** refers to a Chinese Communist Party (CCP) policy that consists in eliminating internal and external enemies by controlling groups that could defy its authority and constructing a structure around the Party to serve its interests, simultaneously projecting its influence abroad.[2] 'It refers to unity in purpose among different actions that must lead to the same goal.

- ➢ **'Three Warfares'** represent the core of China's 'political warfare', i.e., a form of non-kinetic proneness to conflict aimed at overcoming an opponent without a fighting through the creation of an environment favourable to China.[3] A wartime and peacetime undertaking, it encompasses influencing, shaping and controlling public opinion, and perpetrating psychological and legal warfare. To support and reiterate these warfare techniques of the CCP, Beijing also indulges in 'Active Measures', these include unethical measures like disinformation, counterfeiting, sabotage, discredit operations, destabilising foreign governments, provocations, false-flag operations and manipulation, aimed at weakening social cohesion and the creation of front organisations to carry out different aspects of the three warfares.[4]

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Key Actors

Beijing has delegated the task to key actors to implement the above-mentioned Chinese influence operations. These actors are subsidiaries of the party, the state, the army, and the national and private companies; the four arms of the state. All the below-mentioned actors use the data collected to prepare and feed influence operations within China and abroad, intensify surveillance, and strengthen the Chinese state:

➢ **Within the Communist Party**. Three key departments need mention in this regard. This includes the Propaganda Department[5], which oversees ideology, controls the entire media spectrum and all the cultural production in the country; the United Front Work Department with its twelve offices reflecting its main targets[6]; and the International Liaison Department which maintains relations with foreign political parties[7].

➢ **Within the State**. Two bodies in particular are involved in influence operations at this level: The Ministry of State Security[8], which is the main civilian intelligence agency, and the Taiwan Affairs Office which is in charge of the propaganda aimed at Taiwan.

➢ **Within the People's Liberation Army (PLA)**. The Strategic Support Force operating from Base 311 is at the forefront through its Network Systems Department. It has the resources and is entrusted with missions in the informational domain.[9]

➢ **Public and Private Companies.** These play an important role in collecting the data needed to decide which population cohort should be targeted by influence operations and how. New technologies and digital platforms such as WeChat, Weibo, TikTok, and Chinese giants like Beidou and Huawei create and store databases on which China's digital authoritarianism thrives.[10]

> **The Covid-19 pandemic has been beneficial to China which has used the pandemic as a legitimising tool. The pandemic situation has been exploited by China to legitimise state surveillance.**

Covid-19 Pandemic

The Covid-19 pandemic has been beneficial to China which has used the pandemic as a legitimising tool. The pandemic situation has been exploited by China to legitimise state surveillance by focusing on the practical utility of maintaining records of citizens' data for vaccination and rising infections. However, in reality, it aids in the deepening of state control over the lives of its citizens in unprecedented ways.[11]

Domestic and International Digital Authoritarianism by China

Domestic Surveillance in China. Control of information has been key in perpetuating the rule of the CCP since 1949, in suppression of minorities, stifling dissent and cracking down on separatism — more so after the Tiananmen Square incident of 1989. The region of Xinjiang has been referred to as the biggest prison in the world with large concentration camps where 1.2 million people from the Uighur minority are being re-educated by the CCP.[12] Leaked documents have revealed that the Chinese tech giant Huawei is behind the surveillance technology used in Xinjiang. Equally disturbing is the Great Firewall of China. This internet firewall is much bigger than a simplistic banning of domains.[13] It spies on the internet behaviour of 1.4 billion people and accordingly develops tactics to identify and control them. Contrary to popular imagination, the Great Firewall of China can be jumped through purchased VPNs. What explains the insidious behaviour of the CCP goes beyond the purchased VPNs. The CCP controls the population without giving them the impression that they are being controlled. From 1994 to present times, a massive state apparatus to control and monitor the internet has emerged.

How does the Great Firewall Work? The purpose of censorship is not to merely suppress criticism of the state or the Communist party. Indeed, despite widespread censorship of social media, it is found that the Chinese people do write criticisms of their government and its leaders. Instead, the purpose of the censorship program is to reduce the probability of collective action by clipping social ties whenever any collective movement is in evidence or expected. This working of the firewall has been explored extensively by Margaret E. Roberts (2018).[14] She has outlined three methods (3 Fs) deployed by the CCP to control the internet namely, *fear* (instilling fear in population which could be immediately effective but not in long term because it turns people against the state); *flooding* (drowning sensitive content in a sea of delusional information and creating confusion with contradicting information to frustrate people so that the person gives up his search); and *friction* (increasing the cost in terms of time or money or access - slowing down the site and making the public pay by purchasing VPNs). That is how the Great Firewall perpetuates an invisible control over the Chinese people, aided by state machinery and the public and private companies.

International Digital Authoritarianism by China: The Chinese Cyberwarfare

A Pentagon report on China's increased military capacities singled out Beijing's growing cyber capabilities as a destabilising factor in the Asia Pacific.[15] PLA researchers view strong cyber capabilities crucial for winning modern wars in the information age. China believes that cyber-attack, defence, and reconnaissance should make up a unified, integrated effort. According to the report, PLA writings advocate seizing cyberspace superiority by using offensive cyber operations to deter or degrade an adversary's ability to conduct military operations against the PRC, even during peacetime, thereby allowing the PRC to manage the escalation of a conflict with a low-cost deterrent.[16]

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Role of China's Digital Silk Route (DSR). China has been ramping up its censorship practices around the world through the DSR. On the macro level, the DSR is about the development and interoperability of critical digital infrastructure such as terrestrial and submarine data cables, 5G cellular networks, data storage centres, and global satellite navigation systems. In one of the most recent moves, China completed the launch of its global satellite system, BeiDou, which, in some regions, is more accurate than the United States' global positioning system (GPS). In Asia — countries like Pakistan, Laos, Brunei, and Thailand have adopted BeiDou,[17] and there is growing use of the same in West Asia and Africa.[18] The DSR is far more than just an infrastructure project. For China, the DSR is a strategy to weaken the US-centric and further a Sino-centric Asian and global digital order. China pursues this goal by enabling the opening of new markets for Chinese tech giants such as Alibaba, Tencent, and Huawei, and by strengthening the world's digital connectivity with China thereby enabling China to control their digital spaces as well.[19]

Role of Chinese Tech Giant Huawei. The best-known Chinese tech company is Huawei. Leaked documents have time and again revealed that Huawei has close contacts with the CCP.[20] As mentioned earlier, Huawei has been behind the Urumqi Public Security Digital Forensics Unit Dynamic Face System helping in catching suspects and sending people in the concentration camps in Xinjiang.[21] Huawei's spokesperson, however, denied the allegations. Eventually the leaked papers became the reason why the company was banned by US and other European powers. Huawei has become CCP's toolbox for blocking online discussion it deems sensitive. This information has been confirmed by the French too. The French Ministry of Defence released a report on Influential Chinese Actions (CCP). The lengthy report reveals Huawei's close relationship with the CCP, and the latter's use of state-owned and private companies like Huawei to collect vast amounts of data globally.[22] For over a decade, the Chinese Communist Party (CCP) has been using its tech giants in collecting and stealing huge amounts of data globally and distributing it for civilian and military intelligence, propaganda, and information operations. Because of the CCP's support, Huawei has grown into a telecommunication 'giant'. Countries all over the world are concerned about Huawei's security issues.

India's Backlash Against Huawei. As of August 2021, India has seen a 261 percent annual increase in Chinese-backed cyber-attacks.[23] China has been deflecting the blame by accusing India of a failed hacking attempt, unleashing a vitriolic attack via its State-owned newspaper.[24] Huawei and ZTE are under scrutiny in India for allegedly installing 'backdoor' vulnerabilities to spy for the Chinese Government.[25] China expressed anger and concerns over India's decision to ban another 54 Chinese apps over security concerns on 15 February 2022 bringing the total tally of banned apps to 321.[26] In the past week, Indian authorities had also raided the premises of Huawei.[27] Earlier, Chinese phone manufacturer Xiaomi had faced similar probes for tax evasions. In January this year, Xiaomi was served a notice for Rs 653 crores for tax evasions.[28] India has been taking a rightful stand against the Chinese tech giants who are well known for breaching trust and cyber ethics world over.

Europe's Backlash Against Huawei. The year 2020 was a difficult one for Huawei. After the 2019 Trump shocks[29], the company found itself under growing pressure in Europe. The United Kingdom, France, Sweden, Poland, and Romania have banned Huawei from participating in their fifth-generation (5G) mobile networks.[30] According to French News agency, AFP, two former managers of Huawei's Czech Republic branch, on conditions of anonymity, told Czech Public Radio in 2019 that the Huawei branch was secretly collecting personal data of customers, officials, and business partners, including the number of children, preferences, and financial status, among other things, to enter into the corporation's database. Huawei Corporation in Mainland China is in charge of this database.[31]

> In 2015, Russia and China signed an extensive cybersecurity pact, under which the two countries have promised not to hack each other, reserving their formidable cyber prowess for adversaries.

Huawei shifting base to Russia in 2019. The outbreak of the Ukraine crisis in 2014, and the subsequent deterioration in relations between Russia and the West, created new opportunities for Huawei. In response to United States and European sanctions, Russian President Vladimir Putin signed a series of laws aimed at technologically decoupling Russia from the West. Huawei started shifting its US investments to Russia after the Trump administration imposed restrictions on the Chinese tech giant.[32] Washington has slapped restrictions on many Chinese companies, including Huawei, for their alleged links to the Communist Party of China. Huawei went live in Russia after an agreement was signed between China's President Xi Jinping and his Russian counterpart Vladimir Putin at the 2019 St Petersburg International Economic Forum.[33]

The fledgling Cyber Alliance Between China and Russia

Mass Surveillance in Russia. Putin has been building the Russian version of the Chinese Firewall. Russia has been working on incorporating elements of China's Great Firewall into the "Red Web", the country's system of internet filtering and control, after unprecedented cyber collaboration between the countries.[34] Part of a package of reforms known as the "Yarovaya laws", co-authored by conservative United Russia lawmaker Irina Yarovaya, was signed by President Vladimir Putin in July 2016. The legislation has been widely criticised by activists.[35] Russians want technology from China. Russia has no means of handling the vast amounts of data required by Yarovaya's law and it cannot rely on western technologies because of sanctions. The new data storage law forces mobile and internet companies to log the text messages, phone conversations, and chat activity of customers. In 2015, Russia and China signed an extensive cybersecurity pact, under which the two countries have promised not to hack each other, reserving their formidable cyber prowess for adversaries.[36] Since then, Russia collaborates with Chinese Great Firewall security officials in implementing its data retention and filtering infrastructure.[37] Putin had been making changes in the Russian legal architecture since 2012 which got a major boost after joining hands with China in 2015. The following paragraphs briefly look into the restrictive laws that Russia has passed since 2012.[38]

The 2012 Federal Law 139-FZ, 2013 Federal Law 389-FZ and 2014 Bloggers Law. These laws created the internet blacklist registry managed by the Roskomnadzor (Federal Service for Supervision of Communications and Information Technology and Mass Media) and mandated the service providers to block access to any objectionable site. From 2012 to 2021, Google received 2,34,000 requests for removal of about three million items from Russia alone.[39] The 2013 law

gave the prosecutor general the power to immediately order to take down sites that disseminate calls for mass riots, extremist activities or participation in unsanctioned mass public events. It was under this law that Apple and Google were forced to remove a tactical voting app from their app stores that followers of Alexei Navalny used.[40] It redefined a new level of pressure against US technology companies in Russia. The 2014 law compelled any Russian blogger with more than 3000 visits per day to register with the government. The laws that followed the 2015 Russia-China cybersecurity pact saw the Chinese firewalling technology being openly imported to Russia. Details of the laws are as under:

> **2015 Federal Law 242-FZ**. This required that the data about Russian citizens must be stored in Russia.

> **2016 Federal Law 375 FZ**. This required internet service providers and other telecommunications companies to retain the contents of all communications for 6 months and other details about those communications for three years.[41]

> **2019 Sovereign Internet Law**. This gave government officials the power to pull the plug of the internet if needed.

As a result of all the above, by 2021 Russian Courts started targeting tech giants like Alphabet, the parent company of Google, penalising them with 7.2 billion roubles ($ 98 million) and Meta, the parent company of Facebook, with 2 billion roubles ($27 million) for repeatedly failing to delete illegal content.[42] In line with the Chinese model, the singular objective of the Russian firewalling is to curtail expression and dissent. Furthermore, two subsidiaries from Gazprom (Russia's state gas company), Sogaz and Gazprom Media, took over Russia's largest social media network[43] enabling direct state control over top social media networks.

> The PRC is exploiting Russia's clash with the West. Russia, under Putin, has been systematically crushing dissent and lending more power and authority to the state. Under sanctions from the west, Russia has been falling deeper in the Chinese embrace.

Huawei has been instrumental in helping Russia to make its own digital iron curtain by providing technological assistance.[44] Russia has started deploying two types of black boxes for that purpose.[45] System for operative investigative activities black boxes (SORM) focus on surveillance and are directly controlled by the Federal Security Bureau **(**FSB), the internal counterintelligence agency of the Russian Federation (successor to the KGB). These black boxes intercept and monitor connections collecting data as required and are also used by government agencies to block websites on the internet registry blacklist. Both of the above are ultimately installed in the internet service providers' servers under a broad mandate allowing the government to force the installation of technical equipment for counteracting threats to stability, security, and functional integrity. Both put together constitute the very definition of surveillance and censorship as emerging in Russia with the help of Chinese tech giants like Huawei.

Conclusion

The PRC is exploiting Russia's clash with the West. Russia, under Putin, has been systematically crushing dissent and lending more power and authority to the state. Under sanctions from the west, Russia has been falling deeper in the Chinese embrace.[46] Together, they are striving for a new world order. Both China and Russia have been perpetrating cyber-attacks on their domestic and international adversaries in renewed effort since 2015 and have taken their bilateral cyberspace capabilities further notches up since 2019.[47] Other countries have taken note of this fledgling alliance and have responded with signing a pact on ethical cyber practices condemning practices like decade-long hacking campaigns by China and the infamous NotPetya ransomware worm by Russia, which spiralled out of control and locked up computers around the world.[48] However, the question remains — is that enough? From the perspective of India's national interest, this could be problematic considering that Russia is a traditional friend of India. India needs to compensate for its vulnerability by ramping up its technical capabilities through intelligence sharing with friendly countries.[49]

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Russia-Ukraine Conflict: Implications for India

Dr Raj Kumar Sharma@

Abstract

The Russia-Ukraine crisis may not prove to be an earth-shattering event until and unless nuclear weapons are used. For India, it has proven to be a moment where national interest has to be protected above everything else, at a time when a border standoff continues with China in the high Himalayas. India's biggest lesson from this conflict is to be self-reliant in areas that are critical to protect core national interest as dependence on any foreign country would be counter-productive. Until this aim is achieved, India has to exercise nimble-footed diplomacy to deal with the current flux in great power relations so as to deftly handle security challenges.

Introduction

Europe is facing a major conventional conflict, since the end of the Second World War, courtesy the Russia-Ukraine conflict. This has also put Europe at the centre of great power politics while its reverberations could be heard in almost all parts of the world. Geopolitics and a careful reading of Russia-Ukraine relations amply make it clear that this conflict is the climax of Russia's contested relationship with the US and the North Atlantic Treaty Organisation (NATO) on one hand and the troubled, yet uncertain, evolution of European security architecture on the other. One of the American stalwarts in Russian studies, late Professor Stephen F Cohen had said that the US and its Western allies lost Russia as a potential strategic partner from 1990 onwards. This was the year when the US and its Western allies promised Russia not to expand NATO in Eastern Europe but all these promises were broken later. The US promised Russia not to expand NATO *'one inch forward'* which led Mikhail Gorbachev to agree for German unification knowing very well that unified Germany would be part of NATO.[1] Cohen's observations are based on declassified US, French, British, Soviet and German documents posted by the National Security Archive of the George Washington University in 2017.[2] It may sound anachronistic but former President of Russia, Boris Yeltsin, had proposed in 1991 that joining NATO was a long-term political aim of Russia that would create a new security system from Vancouver to Vladivostok. Russia sought economic and security integration with the West after dissolution of the Soviet Union as its foreign policy was dominated by the *Atlanticists*, policy makers who supported close relations with the US and its Western allies.

However, such hopes and assurances were not implemented by the US and its European allies while the stage was set up for NATO's eastward expansion, a development called 'original sin' by Professor Cohen. As it turned out, fourteen countries including former Soviet republics and Soviet aligned countries have become NATO members after end of the Cold War in 1991.[3] Despite attempts to restore trust, Russia-NATO relations have deteriorated after Russia's takeover of Crimea in 2014 while Cold War fail-safe mechanisms like arms control verification and lines of communication have fallen apart.[4] According to a former deputy US Ambassador to Germany, NATO had indeed failed

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to engage with the view that Russia had been betrayed by the West.[5] Russia also made attempts to emphasise on its European identity in order to secure its place in European security architecture. Gorbachev had proposed and supported the idea of '*common European home*' during his address to Council of Europe on July 6, 1989. The Council suspended Russia on February 25, 2022, one day after the start of Russia-Ukraine conflict. European Union has followed NATO's footprints and has added new members which comprise of former Soviet republics and countries which were earlier aligned with the Soviet Union.

Ukraine became a pawn in this great power rivalry between Russia and the US. As a former Soviet republic which inherited its nuclear weapons, Ukraine refused to retain them in early 1990s and gave up its nuclear option after getting security and economic guarantees from the US and Russia. However, geopolitics changed after that and Russia's relations with the US, NATO and Europe deteriorated as explained earlier. A new dimension was added to Russia-US competition in Ukraine in 2004 when during the 'Orange revolution', the US backed civil society and other groups protested against the candidate supported by Russia. Mass protests backed by massive funding have been source of political instability and regime change in many former Soviet republics including Ukraine. They help in bringing to power pro-West leaders who seek close economic and security integration with the US and its allies. In 2014, pro-Russia President Victor Yanukovych was thrown out of power and this process culminated in Volodymyr Zelensky assuming office of President in 2019. Earlier in the same year, Ukraine had amended its constitution and its political aims of joining the EU and NATO were included in its preamble. These developments were seen as an existential threat by Russia given the poor state of its relations with the West. Historically, a number of invasions have occurred on Russia via Ukraine, and Moscow sees a neutral Ukraine essential for its security. Once Ukraine joins NATO, sophisticated weapons and missiles would be installed on its territory by NATO which would directly threaten Russia's survival. The American response to the Cuban missile crisis in 1962 is a grim reminder that great powers, irrespective of their nature of

> **Historically, a number of invasions have occurred on Russia via Ukraine, and Moscow sees a neutral Ukraine essential for its security. Once Ukraine joins NATO, sophisticated weapons and missiles would be installed on its territory by NATO which would directly threaten Russia's survival.**

government (democracy or authoritarian), look at security in their neighbourhood strictly from a realist perspective (zero-sum game) and Russia's response to Ukraine's flirtation with NATO and EU memberships was fraught with risks right from the beginning.

India's Diplomatic Stand on Russia-Ukraine Conflict

For the Government of India, Russia-Ukraine conflict has proven to be a diplomatic minefield as New Delhi tries to carefully walk the tightrope between Russia and the Western countries in order to safeguard its own national interest. Russia, expectedly, has come under severe criticism from the US and the European countries. Unlike its strategic partners in the West, India has not condemned Moscow and refrained from using the word 'invasion' to describe Russia's actions in Ukraine. New Delhi has also abstained from the UN Security Council and UN Human Rights vote on the issue while it also abstained from the UN General Assembly resolution criticising Russia. At the same time, India also abstained from resolutions brought by Russia on this situation, maintaining strict neutrality.

Many Western governments, their press and think-tank circles have criticised India for not doing anything to isolate Russia in international politics. Such a view not only omits West's double standards on Yugoslavia (1999), Iraq (2003) and Libya (2011) but also lacks sensitivity towards India's strategic concerns in which Russia helps India to balance China through diplomatic and military means. There is a domestic debate ongoing in India as well. Some experts believe India should stand with the West against Russia and make efforts to weaken its dependence on Moscow. This is an ongoing process which is already underway and India's import of weapons from Russia has been steadily declining over the years. Others have cited India's good political relations with Russia and stressed the need to stay away from the new Cold War between Russia and the West. Neither India can prevent this structural change in international politics nor

can it shape the US-Russia relations. Hence, it may be a better option to steer clear of this rivalry and protect its interests with both sides — but that would not be easy. Unlike some of the western commentaries which cite military dependence as the sole factor, India's stand on the Ukraine crisis is quite layered and complex that also has other important factors involved as given below:

➢ *First*, India shares a disputed border with China and a border standoff is ongoing between the two Asian giants in high Himalayas. To maintain balance of power, it is important to tackle China through diplomatic and military means. In the Eurasian Region, Moscow has been supplying critical military hardware to India and is the only country to have made attempts to diffuse tensions between India and China by facilitating contact and interaction between their leaders in last one and half year. India could not have ignored China's stand on the Ukraine situation as Beijing too chose not to condemn Moscow. India's traditional rival, Pakistan has also resisted Western pressure to isolate Russia. India wants to avoid a Russia-China-Pakistan axis that could further complicate its security interests. This is also in sync with the spirit of India's membership in forums like RIC, BRICS and SCO.

➢ *Second*, historical and public memory in India and Russia with regards to the days of former 'Empire' and their current neighbourhood is similar. Pakistan was created after the British Empire decolonised in 1947. Similarly, Ukraine became independent after disintegration of Soviet Union in 1991. During the Cold War, Pakistan's alliance with the US had created security problems for India. The current China-Pakistan nexus also has security implications for India. In the same way, Russia has had historical apprehensions about NATO's role in its neighbourhood and former Soviet republics becoming NATO members crosses Russia's security threshold. Although India and Russia profess multi-polarity at the global level, they aspire to maintain their regional primacy. Some of these sentiments were indirectly expressed when Foreign Minister S Jaishankar said in Paris, in February 2022, that the situation in Ukraine was about post-Soviet politics, NATO's expansion and troubled history between Russia and the West.

> **It is not long ago that the US decided to supply its sophisticated nuclear technology to its other fellow Quad member, Australia while India was overlooked raising some questions over Quad and its future among some Indian experts.**

➢ *Third*, despite India's deepening ties with the US, India continues to depend on Russia for military hardware. Contrary to the oft cited figure of 60-70 percent, a study by Stimson Centre, US, found in 2021 that India's dependence on Russia for arms supplies is as high as 85 percent. Indian military facing China on its northern borders depends on Russia for critical supplies and antagonising Moscow at such a juncture remains impossible. The military-technical cooperation between India and Russia remains ahead of what is or may be there between India and the US. It is not long ago that the US decided to supply its sophisticated nuclear technology to its other fellow Quad member, Australia while India was overlooked raising some questions over Quad and its future among some Indian experts. America's propensity to uphold values and principles in global politics has declined over the years. In India's vicinity, the US abruptly ended its military campaign in Afghanistan last year and handed over Afghanistan to Pakistan. The US had no qualms in negotiating a deal with the Taliban sacrificing values like human rights, women empowerment, democracy, and pluralism showcasing the plight of the Western liberal order. Speaking at the Raisina Dialogue, in April 2022, Jaishankar had asked the Western countries that which part of the 'rules-based order' justified what they did in Afghanistan.

➢ *Lastly*, evacuation of almost 20,000 Indian students, initially stranded amidst the Ukrainian battlefield, was the main priority of the Modi administration. The previous experience suggests that cooperation is needed from all parties involved in the conflict to carry out a successful evacuation operation. Some media outlets in India have also highlighted Ukraine's insensitivity towards India's security concerns like its considerable defence ties with

Pakistan and its negative role in the UNSC after India's nuclear tests in 1998. However, this is unlikely to have been a factor in India's stand on Russia-Ukraine conflict as Ukraine is also involved in defence deals with India like gas turbine engines for frigates and upgrading Indian Air Force's transport helicopters.

Differences between India and Russia

Despite their existence, the differences between India and Russia on the issue have not found much space in public domain. During his phone call with President Putin in early March 2022, Prime Minister Modi had conveyed his concerns highlighting need to respect territorial sovereignty and integrity of other nations. For sure, India would not recognise the two breakaway regions of Ukraine, Donetsk and Luhansk whom Russia has recognised as independent. It is because India does not support right to secede away from a country based on self-determination as it goes against its Kashmir policy. Consistent with this policy, India has not recognised Kosovo, South Ossetia, and Abkhazia as independent countries. On 02 March 2022, India's permanent representative to the UN reminded Russia that all states should follow the UN Charter and respect territorial sovereignty and integrity of other states. This statement is different from the one India made in January end where New Delhi talked of 'legitimate security interests' of all sides. This change is India's effort to strike a neutral position in the current conflict between the West and Russia to safeguard its interests in the Quad and Indo-Pacific aiming to balance China. From India's point of view, initiatives like the Quad and Indo-Pacific are not directed against Russia, and New Delhi has been quite vocal in getting Moscow involved in its Indo-Pacific vision. Differences do exist between India and Russia on the ongoing situation in Ukraine but that has been the nature of India-Russia relationship since decades where difference of opinion has not impacted their bilateral ties. In line with the Realist perspective, India has tried to safeguard its national interests in this situation.

> **From India's point of view, initiatives like the Quad and Indo-Pacific are not directed against Russia, and New Delhi has been quite vocal in getting Moscow involved in its Indo-Pacific vision.**

Implications for India

This conflict has also profoundly impacted India and has brought consequences for India in many domains although New Delhi is at a diplomatic sweet spot in order to deal with the fallouts of this crisis. Following are the implications and lessons for India arising out of the Russia-Ukraine crisis:

➢ **National Security**. In terms of India's national security, following issues merit attention from policymakers:

❖ **Self-reliance in Defence**. This conflict has made it amply clear that to win a major war, a nation should be self-dependent to fulfil military needs of its armed forces. India's overwhelming dependence on any country including Russia for military hardware does not auger well for its national security. Moscow's economy would be hit by Western sanctions while its military industrial complex would be fulfilling needs of its own military first which may delay arms supplies to India. New Delhi has to be careful not to create other such dependencies (like the US, France or Israel) and should give a push to its Make-in-India campaign in defence sector. At the same time, India should also assess the performance of Russian arms and weapon systems in Ukraine conflict (as New Delhi also uses the same platforms) and decide whether to continue or gradually phase them out.

❖ **Technology**. India's military modernisation has to be based on latest technologies that are suited to Indian context and conditions. Technology is a great leveller and acts as an equaliser in situations where the military gap is big between two adversaries. This applies to India's troubled relations with China and the ever-present threat of Two-Front war (China-Pakistan).

❖ **Information Warfare**. Efficient perception management and information warfare have allowed Ukraine to have an upper hand in the battle of hearts and minds against Russia. This has allowed Ukraine advantages in three areas — in boosting the morale of its own citizens, facilitating military support from other countries and receiving support from people within Russia who sympathise with Ukrainians.[6] Indian policy makers need to study and analyse how Ukraine managed this against Russia's superior information and hybrid warfare capabilities, that would offer takeaways for India.

❖ **Strategic Communication**. There is an urgent need to enhance strategic communication between foreign policy and national security to achieve our national interest. The two should not operate in different silos. There would be a lot of pressure on India to scale down its relations with Russia in coming months but we would be better prepared to deal with this by having greater degree of strategic communication between our foreign policy and national security.

❖ **Tank v/s Drone Warfare**. Armed forces of Ukraine have no official drone unit but with a lot of assistance from Western countries, have been able to use drones to target Russian tanks[7] This is a development which India's Armed Forces need to take note of and plan accordingly for potential conflicts in future.

> ➢ **Diplomacy and Foreign Policy**. India faces turbulence in following areas of diplomacy and foreign policy:

> ❖ **Europe v/s Indo-Pacific**. Russia-Ukraine conflict has taken away the limelight from Indo-Pacific making Europe the new epicentre of global politics. This does not bode well for India as New Delhi has been strengthening its strategic partnerships with like-minded countries like the US, France, Japan and Australia in the Indo-Pacific to balance China. India is the only country in the Quad which has not condemned Russia. India's

> policy of multi-alignment which depended on stable relations between great powers has been wrecked by Russia's actions in Ukraine.[8] India would not be comfortable with the New Cold War (Russia v/s the West) but there will be pressure on India in coming days to distance itself from Russia. New Delhi has to exercise some deft diplomacy to ride through the stormy waters ahead.

India would not be comfortable with the New Cold War (Russia v/s the West) but there will be pressure on India in coming days to distance itself from Russia. New Delhi has to exercise some deft diplomacy to ride through the stormy waters ahead.

❖ **Possibility of G-2**. The US and the European countries have been equally pressurising China to distance itself from Russia. However, if China does so, it would extract something in return from the US and any signs of US-China rapprochement would be a nightmare scenario for India, an eventuality that India would like to avoid.[9]

❖ **Russia-China Proximity**. This is a reality that India has to face but according to India's former Ambassador to Russia and former Chairman, National Security Advisory Board of India, PS Raghavan, three things are important in this context:[10]

  ▪ India should reduce dependence on Russian military hardware.

  ▪ As long as Russia has an ambition of its own without being dependent on anyone, India would be important for Russia in sustaining this desire.

  ▪ Reduction in tensions between the US and Russia would bring some relief for India.

> **Economics**. This crisis has dealt a blow to globalisation while supply chains have been disrupted. Finance has now become a full-fledged weapon of war which is as effective as missiles and bombs. Nuclear weapons will never be a deterrent against economic warfare and we should devise mechanisms to deal with such a situation in future.[11]

> **Energy Security**. India is third largest energy consumer in the world and Russia-Ukraine conflict has impacted its energy security. Hydrocarbons have become an important tool of geopolitics and comprehensive national power for the states which possess them in abundance. On the other hand, the countries which depend on their imports have become victims of energy geopolitics. India imports almost 80 per cent of its oil and 45 per cent of its natural gas needed for consumption.[12] The European countries continue to buy energy from Russia but want India not do so which shows their hypocrisy. The long-term and sustainable option for an energy hungry country like India is to transition to renewable sources of energy. One such area is liquid hydrogen as due to scale and size of Indian market and suitable climatic conditions; India has the potential to emerge as the cheapest producer of green hydrogen.[13]

Conclusion

Until nuclear weapons are used, Russia-Ukraine crisis is unlikely to prove an earth-shattering event that would change global politics like the two world wars did. However, it has galvanised the Trans-Atlantic security alliance and could pave the way for Russia's long-term isolation from the West. India's biggest lesson from this conflict is to be self-reliant in areas that are critical to protect core national interests as dependence on any foreign country would be counter-productive. Until this aim is achieved, India has to exercise nimble footed diplomacy to deal with the current flux in great power relations so as to deftly handle security challenges.

> Finance has now become a full-fledged weapon of war which is as effective as missiles and bombs. Nuclear weapons will never be a deterrent against economic warfare and we should devise mechanisms to deal with such a situation in future.

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Section VI

National Security Capacity Building

Transformation of the Indian Military: Talks by the three Service Chiefs at the USI of India

The USI Editorial Team@

Abstract

During the month of August 2021, the three Service Chiefs addressed the serving and retired members of the USI fraternity and distinguished strategic, defence and security experts from India. A large number of the audience also got connected through the audio-visual facility at the USI. Besides this, transmission on the USI YouTube channel and Meta live was also watched by many. This article is an edited and amalgamated compilation of their addresses. All Chiefs stressed upon not only mere jointness but transiting rapidly to full scale integration for the digital era combat as also in the pursuit of greater interoperability. Their underlying message was that we need to recognise the scale and magnitude of the challenge, and move with greater rapidity in the sphere of integration in combat. They also stressed upon cross-governmental fusion and complete dissolution of inter–agency as also civil and military silos.

Introduction

Military transformation is a progression that involves new concepts, doctrine, processes, capabilities, organisations, technology, trained personnel to handle these changes, along with a profound change in the organisational culture. Transformation for the Indian military is a necessity that is already clearly manifest because of the exponential rising costs of defence, especially in a security environment where intractable conflicts and disputes exist. Throughout history, there have been profound developments, geo-political, technological and even doctrinal, that have brought about transformative changes in the character of conflict and prosecution of war. Those who have remained rooted to old forms, and convictions, had to make way for the nimble and fleet footed, both in thought and action. That all the three Services individually and in unison are striving to transform comes through clearly in the gist of the three addresses given in the succeeding paragraphs.

Talk by the Chief of the Army Staff (COAS) General Manoj Mukund Naravane, PVSM, AVSM, SM, VSM, ADC

The COAS started by drawing attention to the question as to what has really changed, and is this change transformative or merely an evolutionary development over time? He gave out a scenario of an unexpected outbreak of war where the social media is rife with conflicting, misleading and sensational messages. In this haze and confusion, it is near impossible to distinguish the real from the fake. Up on the frontline, commanders are awaiting orders but no orders come because the command-and-control centres, airfields, depots and strategic communication nodes in depth take the first hit from stand-off vectors with precision targeting. Swarms of low flying autonomous drones breach or overwhelm the Air Defence cover in the second wave, targeting the artillery guns, missile bases and tank concentrations. Rocket and missile attacks from stand-off distances degrade conventional capabilities and soften the targets. Operations unfold in

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'Reverse Linearity' with the forward defences possibly being the last to be addressed, if at all. This is the impact of new age technology on the conduct of war.

Technology Boom Altering Character of Warfare

Various versions of this scenario have been played out, in different forms, in recent conflicts. One key lesson that has emerged is that the concentration of aircraft, ships and other forces to reinforce each other's combat power make them sitting ducks to the use of high technology systems. The tendency to converge to fight, makes you vulnerable to the precision fires available to the adversary. There is, therefore, a need to aggregate fires rather than platforms. This is the future of war. The impact of technologies on strategic-military affairs in recent times has been profoundly disruptive. This technology boom is altering the very character of warfare, it is impacting the combined arms balance and the combat framework of Tactics, Techniques and Procedures. Technology is increasingly becoming a Core Combat Capability and even a key Principle of War. It is already making unequal on the battlefield equal, and is also impacting the very basic mechanics of the company and squadron assaults and the nature of the physical fight. The Ends, Ways and Means construct has been turned on its head which was the primary methodology for evolving doctrines and concepts. Today, technology has become the driver for formulating doctrines and concepts. By way of impact and influence, it will exceed the Industrial Revolution by several orders of magnitude.

Technology: Vital Tool to Address Military Asymmetry at Northern Borders

Technology is a vital tool in addressing power and military asymmetries, especially in our strategic competition with our northern neighbour. With a large gap in defence spending, it is the suitable utilisation of technology that can enable us to temper and even out the military imbalance. This technology boom comes at a time of significant changes in the global power calculus, the shift in balance of power to Asia, a contest for the global commons and threat to the Rules Based Order. This challenge to accepted norms and agreements

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has manifested in a notion of superiority or lawlessness as evidenced by the expansionist agenda resulting in unilateral actions on our northern borders to change the status quo. On one side, there are new threats on the horizon, but on the other, the legacy challenges with regard to our unsettled borders remain. Therefore, the threats to the preservation of our territorial integrity and sovereignty cannot be wished away.

Imperatives from the Appraisal of the Future Operational Environment

To answer that, draw an analogy, with a game of Football being played between two teams. Visualise that on one side they are playing European style Soccer. An orderly game, where the rules are pretty stringent. The second team though, is preparing for a totally different kind of football, American style rugby. The game, unlike the earlier one, is intensely physical and complex. Even the shape of the ball is different, as is the goal and the scoring system. Not to mention the cheer-leaders to distract attention — classic Information Warfare! In such a contest, there is little doubt as to who will win. It needs no emphasis that the first team better change — and change fast! This is why we must transform.

Indian Army needs to Transform

For years, our adversaries have studied the weaknesses of western style militaries in war-fighting. The Indian Army too is schooled in many of those Western precepts. In order to counter our operational experience and preparedness in hard core kinetics, our adversaries have developed stratagems and focused their energies in the ambiguous grey zone. They have sought to out manoeuvre us in the spectrum short of all out conflict, taking the battle to the newer domains of space, cyber, and informatics, drawing us out into areas where they enjoy a natural advantage and are

significantly prepared. With Western militaries focusing on amassing massive combat power through the aggregation of large military platforms like tanks, guns and aircraft carrier led huge naval armadas, our adversaries have invested in creating a formidable stand-off enterprise in the form of long-range precision fires, hypersonic vehicles and robust air defence capacities, apart from an impressive array of space, cyber and information operations tools and terrorism. With all these developments we cannot continue with European style Soccer, we too need to transform our game.

Macro Determinants for Transformation

Some macro determinants of this transformation are:

Human Capital. From a young soldier or a Lieutenant of 20 plus years to the senior leadership between 50 to 60 years, there is a span of 3-4 decades. The aspirations, perceptions and outlook have generational gaps. With rapid urbanisation, societal norms too have undergone significant changes. While that has always been so, what makes this gap more formidable is the rapid, almost exponential change brought about by technology. There is no denying that the younger lot is a product of the information age and therefore more adept at handling technology. The new generation is different, not indifferent. It is for the older generation to adapt, rather than try to mould the younger generation into versions of themselves. There is a need to develop an understanding of the current environment and own the change that is in the offing. A directive style of leadership with greater freedom of action at each level and decentralised control is the only way to develop the capability in commanders at all levels to act in consonance with the larger objective, in the absence of orders.

> **The new generation is different, not indifferent. It is for the older generation to adapt, rather than try to mould the younger generation into versions of themselves.**

Technological Capacities. While raising the technical threshold, there is also the need to concurrently develop multi-domain competencies currently present, for effective integration. These new skills are required to handle modern technologies and systems in cross-domain operations. Commanders will have to be comfortable using AI enabled systems while making decisions. They would need to understand the limitations of AI and the mistakes that they may commit. Therefore, these intelligent and autonomous systems will have to be complemented with carefully calibrated levels of human control for legal and ethical assurance. There is lot of work underway to train, reorient and empower this human capital to new age warfare. The Shimla based Army Training Command has restructured the training curriculum of various courses to this end. We are working towards domain specialisation in niche areas. There is focus on providing cross-domain exposure and multi-skilling for optimal employment.

Realign Doctrinal Precepts. Reappraisal of our doctrine, tactics, techniques and procedures to adapt to the realities of the contemporary battlefield environment is important. It is not easy to anticipate the contours of the next war, especially in the context of the scenario outlined earlier. Our own Design of Battle must flow out from the envisaged Enemy Pattern of Operations. If our adversary has shown greater inclination for Non-Contact Warfare, we too need to develop greater prowess in the new domains of space, cyber and the digital spheres to shape the battlefield. While being prepared for war, we must also be equally adept at countering competition and confrontation, below the threshold of hostilities, in the Grey Zone. In order to execute a strategy that flows from our doctrinal precepts, we must have the right structures and organisations. Force structuring, therefore, becomes the next operational imperative.

Force Structuring. We cannot hope to fight and win the next war with legacy structures evolved from the past. Our force structures must be agile, flexible, modular and networked. While being organised to fight, we should be able to strike the right balance between the combat and the support elements — the teeth to tail ratio. Our structures must support faster decision making. The ongoing transformation into Integrated Battle Groups or IBGisation not only configures the structure to its operational task but also shortens the OODA loop by removing a layer from the existing hierarchy of command and control. At the Joint Services level, the transition to Theatre Commands is already

going through initial considerations. All changes will be carried out after detailed deliberations and war-gaming. Force structuring can be correct if we also keep capability development central to our mind.

Capability Development. There is a dynamic relationship between evolving security threats and capability development, each trying to outsmart the other. Military capability development today is not the sole preserve of the defence industry alone. The race for dual use cutting edge technology the world over, has led to an unprecedented civil-military fusion not seen in the past. Military, technology entrepreneurs and traditional centres of excellence in science, are coming together for the larger military good.

Civil-Military Fusion. In the Indian context, the twin challenges of COVID, and the belligerence of our adversary on the Northern Borders, have brought to fore the vulnerability of global supply chains, underscoring the critical need for self-reliance. However, it must be appreciated, that the dual requirement of fast-tracking modernisation, and simultaneously promoting self-reliance, are indeed challenging objectives for a developing nation like India. Considering the quick pace of defence modernisation being undertaken by our adversaries we cannot afford to be lagging behind.

What are We Doing?

In the last few years, we have tried to reduce our reliance on exports by boosting indigenisation and focusing on dual-purpose, high-end technology. This approach, will not only ensure self-reliance, but will also hold good, during times of emergency. We are committed towards all-out support, to enable our industry — especially in the domain of R&D, which will provide cutting edge technology to win the wars of tomorrow. It may be noted that 75% of Priority 1 projects of the 13th Army Plan, costing over Rs 1,50,000 crore are supporting our efforts towards indigenisation.

> At the Joint Services level, the transition to Theatre Commands is already going through initial considerations. All changes will be carried out after detailed deliberations and war-gaming.

The Army Design Bureau (ADB). Since its inception in 2017, the ADB is harnessing the potential of the local industry and academia, for addressing the requirements of the Indian Army. The huge potential of technological research offered by the IITs and the Start-up Incubation Centres established by these premier Institutes is being tapped for progressing indigenous development of niche technologies. Hand holding of industry by providing firing ranges, testing facilities, equipment and weapon system, innovation competitions, 'def-expo' etc, have resulted in coherent development of capabilities aligned to the requirements of the Indian Army.

Organisational Changes. Major structural changes in our organisation have been done by aligning both the revenue and capital routes of procurement under the Deputy Chief of Army Staff (Capability Development and Sustenance). However, this alone is not enough. Our procurement process unfortunately has not kept pace with the requirements of time. Many procedural lacunae have crept into the acquisition process which due to the over bearing nature of our rules & regulations is leading to a 'Zero Error Syndrome'. This is further aggravated by our own interpretation of rules. We end up not being able to fast track the process of acquisition, because we try to cater for every contingency and plug every loophole. This results in the acquisition process being tied up in knots. The needs of information era warfare cannot be hamstrung by the procedures of the Industrial Age. The need of the hour is to have a metamorphosis, perhaps even doing away with the concept of the L1 vendor altogether. For real transformation to take place, we require a Revolution in Bureaucratic Affairs.

Concluding Points

To sum up, the Indian Army is undergoing a silent transformation, to remain a potent and capable instrument of the nation to face future challenges. Rebalancing of forces, organisational restructuring, and capability development in new domains of warfare are concurrently taking place alongside investment in human capital.

Talk by the Chief of the Naval Staff (CNS) Admiral Karambir Singh, PVSM, AVSM, ADC

The first edition of the USI journal had an article published in 1870, titled "Rough Notes on Information, Equipment and Dispatch of a Force from India for Service Beyond India's Seas". I think it's only befitting that at the USI, which has valued India's maritime orientation for several years, we are talking today and looking beyond the near seas of India into the wider Indo-Pacific.

Overview of the Indo-Pacific

Significance and the Trends. The Indo-Pacific waters wash the shores of six out of the seven global continents, they house about 61 percent of the global population, have a 62 percent contribution to the global GDP and 63 of the island nations of the world lie within it. The fact that nearly a dozen or so countries have started the process of publishing their Indo-Pacific strategies or have published it points to the fact that it's an extremely important region. These countries include the likes of the US, France, Germany, UK, EU, Netherlands, ASEAN and Japan. Also, the great power competition is being played out fairly vigorously in its waters. This is a change because in the previous Cold War great power competition these were backwaters.

Value of the Area. The value of the Indo-Pacific lies not in the constituent area but in the core underlying idea itself. When you look geographically or cartographically you can divide an area either as a physical area which is based on natural geographic demarcation like land, water, mountains, deserts, seas, oceans or you can have a political map where you look at political boundaries, countries, continents and Islands. We have to consider both aspects. India is at the core of this defining idea of our time and therefore the maritime orientation of the Indo-Pacific is something that we cannot lose sight of. Mackinder spoke about the heartland theory. It was also a conceptual demarcation just like the Indo-Pacific

> **The value of the Indo-Pacific lies not in the constituent area but in the core underlying idea itself.**

but it was land oriented. It prioritised continental competition and control. Indo-Pacific by contrast is a maritime construct. Given this predominant maritime orientation there's a natural tendency for nations to engage and collaborate because the seas are a lifeline of global trade and prosperity. Nearly 50 percent of global trade passes through the Indo-Pacific. Most nations within and beyond the Indo-Pacific have a core interest in keeping Indo-Pacific free for commerce.

However, maritime orientation, by itself, does not assure any global conciliation and consensus. What we are seeing today is some countries or states applying a very land-centric approach and a territorial kind of mindset to the basic idea of global commons attempting to seek greater domination and control. Therefore, the increasing challenge to international rules, regulations, reinterpretation of conventions which has the danger of undermining global commons. And, as the basic precepts of the maritime orientation of Indo-Pacific are challenged, competition in the Indo-Pacific is becoming more diverse. You are having levers of diplomacy, commerce, ideology, values, science and technology everything apart from military being applied. There's a situation of a complex competition-continuum that is shaping the Indo-Pacific. There are three elements to this competition:

➢ Firstly, we are transitioning from a period of busy peace. Earlier, we were used to this idea that there'd be war and we would subjugate the enemy and there would be peace and we'd prepare for war, but this is more diffused now.

➢ Secondly, there is an aspect of competition continuum. We so far have been used to a very linear escalation ladder but this is not so in this competition. The CDS of the United Kingdom has described this escalation ladder not as an escalation ladder but as an interwoven spider's web of escalation where an escalation in one domain can be responded to in another domain. Therefore, what this implies is that we need tighter integration of all sources of national power.

> ➤ Thirdly, we have to face the fact that autocratic powers enjoy a natural advantage wherein, they are able to apply all their leverages in a focused and managed manner.

Significance and Challenges for India

Economic. Seven out of 10 export destinations of India are in the Indo-Pacific, 90 percent of our trade by volume, 70 percent by value is transported by the seas. Four fifths of India 's oil, half of India's natural gas and LPG, is imported from Indo-Pacific nations and therefore India 's trade and economic partnership and hence prosperity are deeply integrated with the maritime domain.

Culture. India's cultural and civilisational footprint is deeply embedded into the Indo-Pacific. Whether it's the eastern coast of Africa or East Asia and add to that a large diaspora which is all spread across this Indo-Pacific. These are important linkages and leverages for India's soft power.

Soft Power through Seeking Opportunities. India is an aspirational power. We have one fifth of humanity's young population and aim to be a five trillion-dollar economy in a few years. The only way to do this is to move outwards to seek opportunities in the world. We cannot get prosperity by sitting within our boundaries. Here the Indo-Pacific provides us several opportunities and an underlying conceptual glue to engage closely and proactively.

Geostrategy. Finally, in terms of geo-strategy, the Indo-Pacific offers an opportunity for us to break out of this mould of land-centric and border-focused nation that hitherto has been our dominant approach. The border focused approach limits us truly from harnessing our fullest potential for expanding our geostrategic gaze and influence to the wider globe. The waters of Indo-Pacific offer such an opportunity to move outwards and seek India's rightful place in global affairs.

> **The Indo-Pacific offers an opportunity for us to break out of this mould of land-centric and border-focused nation that hitherto has been our dominant approach.**

India's Approach to become a Key Maritime Force

The Indian Navy (IN) is making the following five lines of effort to further India's interests:

Collaboration and Cooperation with like-minded partners for Comprehensive Maritime Security. If we are to secure India's interests, and the regions interest, safe and secure seas become imperative. The Indo-Pacific is 20 times the landmass of India, therefore, we realise that no one can do it alone. Hence, we need to collaborate with like-minded partners and in this endeavour, India is guided by our overarching concept of 'Security and Growth for All in The Region (SAGAR)' and 'Act East' which goes beyond 'Look East' as it includes security.

> ➤ **Collective Maritime Competence**. This is an important mission statement for the IN and aims to strengthen the collective maritime competence of our region. Each navy and each nation bring certain unique capabilities to the table. Whether it is expertise in certain kinds of warfare, whether it's intelligence, whether it's technology, whether it's geographical location or assets we can harness, all these tackle the challenges together by creating a participative inclusive ecosystem rather than a prohibitive elitist one. We have the Indian Ocean Naval Symposium (IONS) which is now over a decade old and has achieved significant strides in promoting collaborative engagements.

> ➤ **Developing Interoperability with other Large and Developed Navies**. We need interoperability because, firstly, it will help us collectively respond to a situation when needed. Secondly, it helps us learn best practices for exercises and engagement. What the IN is aiming to do is to become a preferred security partner in the Indo-Pacific.

➢ **To Win Peace on a Day to Day Basis**. For this, the first start point is to get conceptual clarity on how to operate in this kind of continuum. In the past, we've been accustomed to thinking of conflict and peace as binaries. This all-or-nothing approach when confronted with something which doesn't fit into either will not work. Hence, we need to develop tools and support systems to create options for day-to-day peacetime competition.

➢ **Shaping the Environment**. For this, leveraging foreign cooperation is the key. We do not want to be people who react when the water rises above the head. We have to shape the environment on a day-to-day basis. We have to play a participative role in common challenges, build trust by participating in HADR, anti-piracy, anti-drug smuggling, and training and capacity building. We have to be the first responders for littorals. We have to remain forward deployed and present to assist.

Building Maritime Domain Awareness and Understanding

In this, information is the key as information leads to awareness and awareness leads to understanding. For this, the IN has created something called the Information Management and Analysis Centre (IMAC) at Gurgaon. The IMAC is maintaining an amalgamated picture with artificial intelligence-based management software keeping track of shipping in the Indian Ocean using information from all sources.

Presently the Coast Guard, Marine Police and a few other agencies are part of IMAC, but we want to expand this to seven Ministries and 15 agencies in a project called National Maritime Domain Awareness. To keep track of the Indo-Pacific, we have formed the Information Fusion Centre (IFC) of the Indian Ocean Region (IOR) where we collaborate and together pool operational information in concert with friendly foreign countries. This IFC, IOR has links with 21 countries and 24 maritime security centres. We also have six international liaison officers. Three more are likely to join from Seychelles, Mauritius, and Myanmar. The aim is that the information can be pooled to make the whole more than the sum of its parts.

> **Eventually we are aiming to leverage our central location and geography as also our soft power prowess to get the desired maritime domain awareness.**

A linked element to maritime domain awareness is persistent surveillance. Here we are leveraging assets like the P8I Poseidon, the HALE and MALE drones and satellites. Mission-based deployments which our ships are undergoing at various choke points in the IOR help in updating the situation in this maritime domain. Eventually we are aiming to leverage our central location and geography as also our soft power prowess to get the desired maritime domain awareness.

The fourth line of effort that the IN is doing is to coordinate efforts across the Government of India stakeholders involved with the maritime issues; therefore, we are planning to have a National Maritime Security Coordinator. The aim is to develop something called the integrated maritime capability to allow response options across varied situations. We are stressing on capabilities and not platforms. A lot of emphasis is being laid by the navy on the unmanned system in a big way. Our roadmap for the next 10 years is already underway and we are also looking to maximise the capability of each platform through force multipliers, for instance networking seamlessly by leveraging information technology and communications.

Concluding Points

The Indo-Pacific is huge. In this massive expanse, there are complexities such as maritime and air traffic, jurisdiction, flags, economic zones and activities etc. This is a very complex environment and one thing we must ensure is that we

don't want to get surprised. Therefore, the focus in perspective planning of the IN is to transform into a future proof, balanced fleet with blue and brown water capabilities.

Talk by the Chief of the Air Staff (CAS) Air Chief Marshal Rakesh Kumar Singh Bhadauria, PVSM, AVSM, VM, ADC

The Indian Air Force (IAF) transformation perspective is to get an edge because staying ahead [of adversaries] is what matters. In transforming the IAF, we have looked at all aspects be it our strategy, our technological application, our organisation, development of niche capabilities — especially in AI, data handling, and IT prowess. Most importantly, we have wanted to do it in our own way.

Security Perspective

The recent set of incidents starting from Uri and Balakot are indicators of the paradigm shifts that happened in our area. Our reactions clarify our thought process that we will not accept actions like this. After our proactive reaction, there have been no major terror activities. However, the usage of drones in terms of supplying drugs, arms or money in the border areas, and use of armed drones in Jammu area are developments that the IAF should keep an eye on. Use of drones, both armed and unarmed, can strengthen the hands of non-state actors in terms of their missions.

> **The emergence of China on the world stage is signalled by their [aggressive] diplomacy, their market dominance, their military belligerence in the Indo-Pacific, as well as their scientific prowess.**

The emergence of China on the world stage is signalled by their [aggressive] diplomacy, their market dominance, their military belligerence in the Indo-Pacific, as well as their scientific prowess. They have paid attention to indigenous development in terms of weapons, technologies, and use of cyber space. These are important when seen in light of their willingness to use it.

The rising Iran-US and the Iran-Israeli tension are important security scenario factors. The Armenia-Azerbaijan conflict brought into focus the use of UAVs. The armed drone template may not be directly applicable to our scenario because in terms of environment, adversaries and their capabilities, the level of conflict that will come up in our case is different; but there are lessons to be learnt.

Conflict between Israel and Hamas also requires study. The 'Guardian of Walls' campaign gave a clear demonstration of what an integrated system in terms of ISR and intelligence and, in terms of, ability to see, ability to recognise in real-time, ability to carry out precision targeting combined with the use of aerospace power to deliver, can achieve. The Israelis largely achieved all the aims of the campaign within about 11 days with surgical precision with minimum collateral damage. And, yet, they did not invoke any major adverse action or reaction on the world stage. So, the ability to use air power without major escalation in the [no-war no-peace] sub-continent situations has undergone a paradigm shift and we need to keep this on track as we go ahead.

What happened at Galwan in Ladakh evidenced different dynamics in terms of the level of escalation, the rapidity of escalation and our deployment post Galwan. This needs to be catered in a peace environment, in a no war no peace situation and of course in any conflict scenario. These are the key drivers of our current transformation.

Our Transformation Focus

Command and Control (C2). Keeping the security perspective in mind we started strengthening our network. We have an indigenous Integrated Command and Control System (ICCS) in place which was in development for over 10 years. We have gone to the next level in the ICCS and have almost completed the total upgradation of our systems. We are well on the way to progressing to the next level of networking and integration with the AWACS and ISR platforms, and the weapon systems. This is the single most important backbone network and has been a major achievement in terms of

where we are today and the transformation being done. Our ability of networking or ability of C2 automation decision support system and ability to do real-time targeting was in theory five years back. However, in the past two to three years we have refined and exercised with these systems and today we can use them as routine.

Cyber Security. Post Galwan, our focus got on to cyber security which was identified as an area of concern mainly because some of the actions that the adversary was taking gave him the ability to disrupt our networks. Resultantly, a huge effort towards implementing cyber security has been made.

Offensive Weapon Platforms. Our ability to hit our targets through offensive capability platforms is the focus. Rafale was at the leading edge of it in terms of bringing the next level of transformation. With Rafale induction along with the kind of weapons and capabilities that it has brought, we have taken the IAF offensive capability to a higher level. It is not only the Rafale but using forces like the SU-30 and Mirages in combination with the Rafale that creates a totally different ball game. This has been aided with a large induction of long reach weapons and air to ground precision capability because of which, if required, Balakot kind of mission is easily possible.

Strategic Lift Capability. The offensive long reach capability has been supported with heavy lift and strategic lift ability. It is important to understand the speed and rapidity with which we moved in this sphere. There was not a single mission that was asked by the army and was not implemented in quick time. This capability has been boosted because of the induction of the C-17 and C-130. The strategic lift capability was demonstrated when we supported the war against Covid by moving oxygen generators and vaccines from, and to, far flung areas.

> **Post Galwan, our focus got on to cyber security which was identified as an area of concern mainly because some of the actions that the adversary was taking gave him the ability to disrupt our networks.**

Helicopters. Chinooks and Apaches have added to heli-lift capability by night in high-altitude areas as also our attack capability.

Electronic Warfare & Data Links. We have weaknesses in our data link and electronic warfare system. Work is half way through to set it right. Our efforts with respect to drones — which was again the focus area — has started to bear fruit. One type of jammer is already inducted, the second variety of jammers are on the way and should be coming soon. When Jammu happened, we did not have sufficient capability as at that time the jammers we had were at more critical places due to the situation in northern Ladakh.

Human Resources

Along with equipment, human resources are very important. We have done a sea change in terms of transformation of our training methodology, especially operational training. Along with that automation and the use of all electronic digitisation has been an element of transformation which has fructified. We have also improved administrative efficiency. This is an element that has been completed and I'm sure in time to come we can work on it even more.

The Edge

This focus is what gives us the edge today. The edge comes from a combination of weapons, either with the Rafale or with latest indigenous weapons, our training, the distance we can influence, our networked environment and lastly our ability to react fast, respond fast and hit fast. This is the edge we have and must maintain on both our fronts. With this edge the next five years we can look after all the situations and scenarios that are likely to arise. But if you look beyond five years up to a 15 year horizon, then we have to progress the projects we are working on, some of which are cleared and some which require clearance. I would highlight the AMCA which is there along with some of the sixth-generation technologies and more LCA versions following up. On the weapons side we have to improve our array of weapons be it in air to ground, anti-radiation or air-to-air missiles and they must be all indigenous. On the networking side the next

level will be AI and Big Data handling ability to support faster decision-making. Quick BDS assessment be it ISR or intelligence, is an area that we have looked at. In the 5 to 10 years horizon, these will bring in a lot of projects.

Threat Scenario

We are looking at:

➢ A full-fledged conventional war, on either the western or northern front, individually or in collusion. In such a war or even in peace, our aim is to not cede an inch of territory.

➢ An outright victory against the western foe and to deter and hold our own against the northern foe.

Planning

With that perspective, we have to have our aim for building up with a 15, 20 and 30 year horizon. For air capabilities, it takes at least 10 years to reach a particular desired level. Every domain is interlinked, and with a future perspective the most critical are cyber and space. To these, one must add the use of AI for recognition of targets, especially in the sub-conventional domain situation or as a response situation. From the transformation perspective, we need to set our targets and start working today. We have the basics in place, in pockets we also have niche technologies in place. The issue is to integrate and to build an operational system that will work to give the results.

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From the perspective of multi-domain operations, cyber is very important. This is more important in a no-war-no-peace situation. In peacetime, our adversaries will take actions to harm our interests more in the cyber domain. We have seen signs of this happening post Galwan. We need to be very clear that in the future we need to build traceability on our net system; an ability to track and, therefore, ability to attribute. If on the western side we need to deal with nonstate actors and proliferation of small arms, then on northern side it will be the next type of sub conventional conflict.

Combination of Manned and Unmanned Systems. There are elements of transformation in terms of a manned and unmanned aircraft combination. The unmanned combat aircraft is our next focus. Since targeting has to take place in a very contested space, unmanned combat aircraft would give us better results, and a combination of manned and combat would give us both a quick decision and flexibility in the air. In the unmanned area things have not moved fast enough as the requirement is to have combat drones, armed drones, and low RCS drones, which have stealth and long range. Drones which are detected late and can hit farther would be the top end. The technical infrastructure needs to be looked at carefully, and that is where apart from your network every single technical infrastructure, technology capabilities must be survivable.

Concluding Points

Without dominance and control of the aerospace in this world of multiple multi domain warfare you cannot have a successful campaign. That being the ground reality, it is important how we organise ourselves and integrate our efforts. We want to come to structures that can not only synergise, but also shorten our decision loop. The overall acquisition process has undergone a significant change with the Department of Military Affairs (DMA). Earlier, each Service would make their perspective plans and they used to be collated into the LTIPP. Today we're doing it the other way around, getting together by going through a system called the ICADS, the Integrated Capability Development System,

into which we feed our requirements. And in doing all this capability development, we remain firmly focused on *Atmanirbharta* by partnering with the industry.

Conclusion

Transformation is impossible without effective long-term perspective planning. This is extremely crucial in a funds-constrained environment. It helps to develop options across the spectrum of competition and conflict. Wars today, more than ever before, require a 'Whole of Nation' effort. The transformation of the Indian Armed Forces needs to be resource informed. Efforts to remain at the cutting-edge are ongoing and will ensure that the Indian military remains a very effective force ensuring national defence and security. The Indian industry needs to become an important pillar in transformation of our combat capabilities because networks and combat equipment cannot be tailormade to our requirements and integrated unless the industry has full knowledge and visibility into your system.

Towards Comprehensive National Development

Dr Sanjay Baru[@]

Abstract

The objective of planned economic development since independence has been to secure the country's comprehensive national development. Comprehensive development entails eliminating poverty, ensuring gainful employment to all, investing in human capital formation, and building a globally competitive economy. The immediate and medium-term challenge for India, with a view to ensuring comprehensive national development, is to return to the 8.0 percent annual average growth path that was set on during the first decade of the 21st century. High rates of economic growth yield higher revenues for the government to be able to invest more in both development and defence, and reduce poverty. Restoring momentum to national income growth requires reversing the recent trend of a decline in the investment ratio.

Introduction

The concept of 'comprehensive national development' and 'comprehensive national power' have been well developed in the literature on the economics of development and power. Economic capability and power have been central to the concept of national power in both developed and developing economies. Prime Minister Atal Bihari Vajpayee constituted the first National Security Advisory Board in January 1999 and gave it the mandate of preparing a Strategic Defence Review (SDR) with a view to outlining the strategy for India's 'comprehensive national development' and the enhancement of India's 'comprehensive national power'.[1]

The SDR suggested that the economic security challenge for India is to pursue above average national income growth at the annual rate of at least 7.0 to 8.0 percent so that India can address the development challenge it faces at home. The acceleration of national income growth from an annual average of 3.5 percent in 1950–80 and 5.5 percent in 1980–2000 to 7.5 percent in 2000–2015, with the period 2003–08 registering close to 9.0 percent growth, addressed this objective set out in the SDR. However, since 2012 there has been a slowing down of India's economic growth to an average annual rate of between 6.0–7.0 percent, with a sharp fall and recovery due to Covid. Reversing this trend and returning the economy to a growth path of an annual average rate of 8.0 to 9.0 percent must be the medium-term national objective.

Legacy of Planned Development

The leadership of the Indian national movement as well as the leadership of Indian business devoted considerable time and effort to identifying the objectives of national economic development. The proceedings of the National Planning Committee of the Indian National Congress, chaired by Netaji Subhas Chandra Bose and Pandit Jawaharlal Nehru, as well as the document titled *A Plan for Economic Development for India* published in 1944 by the leadership of

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Indian business, clearly spelt out the roadmap for India's economic modernisation.[2] The latter document, that came to be popularly referred to as the 'Bombay Plan', was authored by JRD Tata, GD Birla, Purushottamdas Thakurdas, Lala Shriram and John Mathai, among others.

The Bombay Plan defined the goal of national economic development as the modernisation of agriculture, industry and services economy, a doubling of per capita income, and the generation of adequate revenues for sustaining public investment in infrastructure, education, and health within a 15-year period. Written in 1944, the Bombay Plan captures the essence of a plan for national development even today. Echoing these objectives, the First Five Year Plan document stated:

> "The central objective of planning in India at the present stage is to initiate a process of development which will raise living standards and open out to the people new opportunities for a richer and more varied life. The problem of development of an underdeveloped economy is one of utilising more effectively the potential resources available to the community, and it is this which involves economic planning. But the economic condition of a country at any given time is a product of the broader social environment, and economic planning has to be viewed as an integral part of a wider process aiming not merely at the development of resources in a narrow technical sense, but at the development of human faculties and the building up of an institutional framework adequate to the needs and aspirations of the people."[3]

The Second Five Year Plan, that constituted the basis of industrialisation, reiterated the objectives of planning as:

> **The Bombay Plan defined the goal of national economic development as the modernisation of agriculture, industry and services economy, a doubling of per capita income, and the generation of adequate revenues for sustaining public investment in infrastructure, education, and health within a 15-year period.**

- ➢ A sizeable increase in national income so as to raise the level of living in the country.

- ➢ Rapid industrialisation with particular emphasis on the development of basic and heavy industries.

- ➢ A large expansion of employment opportunities.

- ➢ Reduction of inequalities in income and wealth and a more even distribution of economic power.

Any roadmap for 'comprehensive national development' today can only be a reiteration of these objectives. India adopted a 'mixed economy' model in which the state was given primary responsibility for creating the foundations of industrialisation and for ensuring access to education and health care. India's performance through planned development compared favourably with other developing economies through the first decade of planning. However, a series of crises, beginning with the foreign exchange crisis of 1958, the two wars of the 1960s — with China and Pakistan — and the serious setback to food grains production due to the drought of 1965–67, set economic growth back and spurred high rates of inflation. The liberation of Bangladesh in 1971 also imposed costs on the public exchequer and economic growth. Consequently, national income growth decelerated, and the average annual rate of national income growth was 3.5 percent in the period 1950 to 1980.

Two developments helped lift economic growth up during the 1980s. First and foremost, the positive impact of the Green Revolution in agriculture introduced during the late 1960s. An increase in farm out and incomes beginning with the mid-to-late 1970s contributed to an improvement in manufacturing sector growth in the 1980s. As a result, the growth rate of national income went up to an annual average of 5.6 percent in 1980–90. While a balance of payments and fiscal crisis in 1989–90 resulted in a sharp fall in output, with the year 1991 recording a low growth rate of 1.6 percent, the economic reforms of 1991 contributed to a recovery in growth with the period 1992–96 posting an impressive growth rate of 6.5 percent.

The Post-Liberalisation Era

The significance of the 1991 reforms cannot be under-estimated. They not only contributed to an increase in the rate of private investment and savings, but they also helped increase labour and capital productivity, reduced the ratio of government deficit and domestic and foreign debt in national income, improved government finances and, above all, increased the share of foreign trade in national income. The increase in India's share of world trade testified to the increased competitiveness of the Indian economy. The 1990s saw an acceleration in the rate of national income growth to an average of over 6.0 percent per year. In the period 2000–2015, the average annual rate of growth of the economy was an impressive 7.5 percent.

Where India lagged, and, as a result, fell behind the rapidly industrialising economies of East Asia, beginning with Japan and followed by Taiwan, South Korea, some of the ASEAN economies and eventually China, was in not achieving higher rates of capital, land, and labour productivity. A key reason for this was the inadequate investment India had made, especially compared to East Asia's rapidly rising economies, in human capital formation, science and technology, and efficient infrastructure development.

The post-liberalisation era was marked by improved growth rate, a reduction in poverty, increased employment opportunities, and the emergence of a globally competitive services economy. Thanks to these positive trends, the poverty ratio, as estimated by the Planning Commission, fell from 45.3 percent in 1993–94 to 37.2 in 2004–05 and further to 21.9 percent by 2011–12. The 'golden era of growth' from 2003 to 2008 saw India recording the highest ever rates of annual economic growth of 8.7 percent, with the average rate of growth for the decade 2003–2012 being around 8.0 percent.

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It was this growth performance that the world noticed and began referring to India as a 'Rising Power'.[4] While even these numbers are not as impressive as China's economic growth during the quarter century of 1990–2015, they certainly generated optimism about India catching up with China. Even an India-sceptic such as Lee Kuan Yew, the founder-leader of the Republic of Singapore, named China and India as the 'twin engines of Asia's rise' in an essay published in 2007.[5]

Despite this impressive improvement in India's growth performance, the country continued to lag in human capital formation — with inadequate investment in education and health care — and in industrial development. While the Covid-19 pandemic has finally forced the political leadership at the national and state levels to pay greater attention to public health, India continues to lag behind East Asia in imparting education to all.

In 2006, the National Manufacturing Competitiveness Council published a *National Strategy on Manufacturing*, setting the target that the share of manufacturing in national income should be increased from 16 percent to 25 percent by 2020. The Narendra Modi government reiterated this objective in 2014 crafting a strategy for industrialisation based on 'Make in India'. However, this share remains stuck at 16 percent despite government trying various policies aimed at promoting industrial development including, most recently, the production linked incentives (PLI) scheme. The slow progress of 'Make in India' programme has also imposed limitations on the indigenisation of defence equipment manufacturing. Given these inadequacies of the growth process, a 'roadmap' going forward defines itself.

The Slowdown

The 'golden era of growth' ended almost a decade ago when growth rates began to decelerate. Several factors have contributed to this deceleration. First, the global slowdown prompted by the trans-Atlantic financial crisis of 2008–09;

second, policy induced delays in sustaining the investment boom of the first decade, including the shift to a goods and services tax; third, the burden of non-performing assets, built during the high growth era, both on the banking and financial sector and on corporate bottom lines; finally, inadequate policy response after 2014 due to an initial under-estimation of the threat to growth. While economists disagree both on the numbers, due to issues relating to data quality and comparability, and on the factors responsible for the slowdown, the fact is that the investment cycle did turn down. Gross capital formation as a share of national income went up from around 25 percent in 1997–2003 to around 36 percent in 2008–2012 and has since declined to less than 29 percent by 2020.

The decline in both investment and savings rates has contributed to a medium-term decline in growth. To make matters worse, the Covid-19 lockdown further hurt the growth process and has contributed to extended uncertainty about future growth prospects. While growth optimism fuelled the growth cycle in the 2000–2010 decade, growth pessimism has contributed to the slowdown in investment and consumption over the past five years. The Reserve Bank of India's Business Assessment Index and Consumer Confidence Index continue to remain subdued, with a declining trend over the past five years.[6]

A Roadmap

Any roadmap for sustaining comprehensive national development over the medium term must begin with restoring the growth momentum of the 2003–12 period. This requires appropriate short term and long-term policies aimed first at restoring confidence among both consumers and investors. Going forward the country needs a strategy for comprehensive human capital formation through investment in education and training and an acceleration of manufacturing sector growth. No country in the world has been able to build a modern economy without universal literacy, an educated workforce, investment in research, and a domestic manufacturing base that not only absorbs surplus labour from the agrarian economy but also forms the foundation of independent strategic capability.

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If public policy must be prioritised, it must aim at an increase in quality investment in education and localisation of manufacturing. It is on the foundations of these two investments that the country's technological development will have to be pursued. India presently lags behind the industrial economies of Asia, not to mention Europe and the US, in terms of research and development. The next wave of global growth is being fuelled by new technologies and new sources of energy. These must be captured for sustaining the growth process going forward.

Foreign trade was an important engine of growth during the 1990–2012 cycle. India's share of world merchandise exports increased from 0.6 percent in 1990 to 1.7 percent by 2015 and has subsequently stagnated there, while trade in services continues to be the main engine of trade growth. More importantly, the share of foreign trade in national income that had increased from around 15 percent in 1990 to 55 percent by 2011, has since come down to 36 percent. Changes in trade policy over the past five years, with India adopting a more inward-oriented development model, will have to be reversed and the economy must once again seek higher output and income growth through promoting external trade. This requires a change in mindset not only within the government but also within the domestic corporate sector that must become more globally competitive.

An important component of the roadmap for comprehensive national development will have to be an improvement in the fiscal capacity of the state. The state's fiscal capacity, which had been under pressure through the 1980s and early 1990s enforcing limits to state spending, improved significantly through 1995–2012 enabling the government to spend on infrastructure, welfare and development and defence. A deterioration in the state's fiscal capacity both on account

of a growth slowdown and the change over to the new goods and services tax regime has reduced the capacity of the state to spend both on development and defence. This has imposed constraints both on economic growth and national security.

A medium strategy for comprehensive national development requires a strategy for prioritisation of spending decisions by the union and state governments. It must have a fiscal strategy that outlines the plan for resource mobilisation and an investment strategy that prioritises government spending across sectors and regions over a fixed period. This is what India's five-year plans drafted by the Planning Commission used to attempt. In 2014, Government of India abolished the Planning Commission and set up the NITI Aayog. The Aayog prepared a document in 2018 titled 'Strategy for New India @75'. It identifies 41 crucial areas for policy action. It defined its goal as increasing India's national income from close to US $3.0 trillion in 2019 to US $4 trillion by 2022, and further to US $5 trillion by 2030.[7]

While the NITI Aayog strategy document is a useful framework to analyse government policies and priorities, it does not delineate the time path for moving from $3 trillion to $5 trillion. To reach this target level of GDP by 2030, the rate of growth of national income will have to be stepped up to over 8.0 percent per annum over the decade. Presently the economy is growing at an average of anywhere between 5.0 and 6.0 percent. A sharp increase in GDP growth requires an increase in both public and private investment and a turnaround in export growth. This article hopes that the investment rate would be increased from the present rate of 29 percent to 36 percent by 2022–23, with half of the increase coming from public investment. It hopes that India's exports, presently below US $400 billion, would touch US $800 billion and that tax-GDP ratio would be increased from 17 percent to 22 percent by 2022–23.

> **A medium strategy for comprehensive national development requires a strategy for prioritisation of spending decisions by the union and state governments. It must have a fiscal strategy that outlines the plan for resource mobilisation and an investment strategy that prioritises government spending across sectors and regions over a fixed period.**

Finally, in a sub-continental country like ours, any 'comprehensive national development' strategy must be implemented by all three levels of government — union, state, and local. A purely top-down model will not deliver balanced and inclusive development. The union government should revitalise federal institutions like the National Development Council and the political leadership at all three levels of government will have to work to a plan for revitalising the growth process, returning the economy to the 'golden era of growth'.

If India succeeds in this endeavour it would emerge as the third biggest economy following the US and China, or China and the US, depending on how China performs during this decade. Even so, India's size would still be a third to a quarter of China's. Managing this economic gap, and the consequent power differential, will remain India's most important national security challenge given the trajectory of India-China relations.

Endnotes

1   On the concept of Comprehensive National Power (CNP) and India's strategy to obtain it see, among others, Sanjaya Baru, *Strategic Consequences of India's Economic Performance*, Academic Foundation, New Delhi, 2006. Chapters 1-4; Sanjaya Baru, 'Defining National Power and Capability', Indian School of Public Policy, February 2020, Accessed at: https://policyreview.in/on-national-power-and-capability-by-sanjaya-baru/; J.S. Bajwa, Defining Elements of Comprehensive National Power, CLAWS, 2008. Accessed at: https://www.claws.in/images/journals_doc/1302263399_JSBajwa.pdf Y.K. Gera, S Dewan and P.K. Singh (Editors), *Comprehensive National Power: A Model for India*, USI of India, VIJ Books, New Delhi, 2014

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Transformation Pathways for India's Ascendance to Power

Lieutenant General (Dr) Prakash Menon, PVSM, AVSM, VSM (Retd)[@]

Abstract

In the decade ahead, India's external and internal challenges will have to be dealt with in an environment of scanty international cooperation that may be coupled with armed coercion. Increasingly 'might is right' and the law of the jungle has come to occupy greater space in the conduct of international relations. In contemporary times, it is the danger of dominance by China that is a central global political concern. The reach for dominance by China is being contested by the USA and its allies, and partners, including India. For India, the task of negotiating the complex military and social challenges it faces has to be undertaken while ensuring economic progress as it is a necessary prerequisite of power. The overall goal is to pursue a series of changes that in combination can result in an increase in capability that can redefine our political approach and pave the path for India's transformation.

Introduction

The focus of this article is on the pre-conditions that must be satisfied in order to undertake the journey on the transformation pathways for India's ascendance as a global power. The path has already been identified in a report titled 'India's Path to Power: Strategy in a World Adrift'[1] that was released by a group of which the author was a member. The report was anchored in an earlier report, 'Nonalignment 2.0'[2] that was published nearly a decade ago. The new report was considered necessary due to the tectonic shifts that were underway in India's external and internal environment. Internally, the foundational sources of power that rested on the four pillars of domestic economic growth, social inclusion, political democracy, and a liberal constitutional order were under stress caused by endogenous and exogenous vectors. Externally, the intensification of the structural rivalry between the USA and China encompasses the domains of geopolitics; security; global trade; investment and finance; manufacturing and supply chains; technological innovations and standards; global governance and fundamental political values.

But unlike in the Cold War era, the U.S.-China economic relationship remains enmeshed even as globalisation, that earlier provided opportunities for growth is undergoing significant changes. The trend has been to shift away from global to regional economic arrangements. The Coronavirus pandemic has accelerated the trend and also revealed the need to address the global ecological crisis. The 2021 and 2022 assessment[3] of the inter-governmental panel on climate change highlights the emergency in that field. The impact of climate change on India calls for a major review of its developmental model.

External Challenges

In the decade ahead, India's external and internal challenges will have to be dealt with in an environment of scanty international cooperation that may be coupled with armed coercion. Externally, armed coercion as a means to settle

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disputes seems to be gaining currency. Most dispute settlement mechanisms under the UNO have been rendered ineffective, especially when the parties involved are the powers that wield the veto. Might is right and the law of the jungle has come to occupy greater space in the conduct of international relations. Consequently, the lengthening shadow of wars under a nuclear overhang is darkening across greater areas and larger populations around the globe. War has broken out in Ukraine. That apart, Eastern Europe, East Asia, South China Sea, Indo-Pacific, West and South Asia, and the Sino-Indian border are some of the areas of concern. Terrorism is gaining strength in the Pakistan-Afghanistan belt. In essence, these are contestations for dominance of geographic spaces and violations of sovereignty by the parties concerned.

Physical force represents the core of violence in human affairs. The threat of death is its ultimate power that is expected to deliver subjugation and dominance. In contemporary times, with technological advancement, death can be threatened and executed from larger distances, in the shortest possible time. At the same time, information of an occurrence in any part of the world can spread globally depending on many human and machine interfaces that are coupled with the growing possibility of multiple distorted versions impacting the perceptions of varied audiences. Technology has boosted the propensity to spread hatred which can provoke and sustain violence between political entities. But the purpose of violence between clashing entities, which was to get the other to accept dominance, remains the same though the means of infliction, that is on offer, continue to expand in scope and scale. But for dominance to endure, the subject population has to be kept pacified. The process of pacification if done through violence may not be sustained for long, as technology has empowered individuals and small groups to fight back like never before. Such an empowerment has disadvantaged major powers whose success at neo-colonialism has to rely on the subjugated not developing sufficient will to pick up arms and fight the oppressors.

> **The western bloc nations are already involved in a proxy war in Ukraine through supply of arms and sanctions covering domains of economics, technology, and finance. This could result in the military aspect of war escalating horizontally and vertically.**

Russia's invasion of Ukraine, in end February 2022, engenders the repercussions to it in terms of occupying territory with hostile populations. Even if Russia succeeds in installing a friendly government in Kyiv, the Ukrainians with support from the western bloc could tie down Russia in an insurgency campaign that can politically, militarily, and economically undo the success it has achieved through use of violence and strategically bleed Russia and weaken it. While it is not possible to predict the outcome nor the duration of the war in Ukraine, the impact of war on India's relations with the other nations especially the U.S., Russia and China demand anticipation to facilitate adoption of political options and postures that can protect and promote India's national interests.

The western bloc nations are already involved in a proxy war in Ukraine through supply of arms and sanctions covering domains of economics, technology, and finance. This could result in the military aspect of war escalating horizontally and vertically. With nuclear powers involved on both sides, the danger is evident. Ever since Hiroshima and Nagasaki, amongst nuclear powers, the use of force directly has by and large been avoided. At worst, the exchange has been confined to limited land, maritime, and air skirmishes. But in the last two decades, cyber and space domains are witnessing significant increases in adversarial actions and a large part of it is deniable. Both domains are also in need of international governance norms that are currently difficult to institutionalise, due to the contemporary unstable global political ambience.

The foundational principles of the UN eschew the use of violence to settle disputes between the parties concerned except in self-defence. Therefore, actions undertaken for protection under the principle of self-defence could be justified. The purpose of protection could be understood as a derivative of self-defence unlike when the purpose is dominance. But considering the inherent anarchical nature of the world, self-defence is often hijacked by dominance masquerading as protection.

In contemporary times, it is the danger of dominance by China that is a central global political concern. The reach for dominance by China is being contested by the USA and its allies and partners including India. Viewed historically, China is seeking to displace the USA and its allies as the dominant global political community. Distrust and suspicion overshadow China's conception and design of a new world order. Not that Indians believe that the USA is peopled by saints. So, a multipolar world order with greater collective decision making has been India's choice. The world has been described as to be 'Between Orders'.[44] It is no longer unipolar nor is it bipolar or multipolar. India's political choices in terms of alignments or partnerships would play a major role in shaping the transformation path that Indian can adopt. India's has preferred 'partnerships' to 'alliances' as the political construct to design the architecture of its relationship structure with different countries. In essence, each structure is context based. India, therefore, finds itself in groupings like Quadrilateral Security Dialogue (QUAD India-USA-Japan-Australia), Shanghai Cooperation Organisation (SCO), Brazil-Russia-India-China-South Africa (BRICS) and RIC (Russia-India-China). In terms of its alignment posture in a world 'Between Orders' that can be expected to span this decade, India has so far preferred to 'sit in different tents' with varying group of countries, depending on the context of issues being addressed. It has resisted both external and internal pressure to join the USA led bloc and steadfastly held on to its foreign policy preference that it will not be part of any 'camp'. India's abstention from vote on Ukraine-related resolutions at the United Nations is a reflection of its preference. It is one that can be expected to be challenged by the dynamics of growing strife between major powers at the global level.

India's ability to maintain its preferred foreign policy posture is expected be the best defence against involvement in wars that do not serve its national interests. It could keep India from being drawn into wars between blocs led by the USA and China. It is definitely a tight rope strategic walk for India but one that holds promise for promoting the avoidance of wars. War avoidance must be the political objective. However, with growing instability in global and regional geopolitics, resort to force in self-defence may be necessitated in the domains of territorial integrity, sovereignty and key nodes in its interdependence equations with the world. An illustrative list could include responses to territorial losses

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through any change of status quo, acts of terrorism, violations of agreements to not use force, non-kinetic attack on critical infrastructure and strategic assets, securing trade routes through maritime, land and air spaces especially in the Indo-Pacific, securing assets abroad and in the global commons and challenges to internal security.[55] India should respond to calls for military assistance from friendly countries in the manner it deems fit. Coordinated use of force with strategic partners could be resorted to with prior agreement and understanding. In a multilateral context, India's military forces could be placed under the UN Command or operate with strategic partners under mutual agreements.

It must continue to preserve the basic tenets of its nuclear doctrine that are founded in the principle that nuclear weapons have only a core deterrence role that is based on a No First Use (NFU) posture. It should strive to foster support for a Global No First Use (GNFU) Treaty that is based on acceptance of mutual vulnerability and lowering of alert levels.

India's ability to avoid war also hinges on strengthening its military capability, especially against its potential adversaries — China and Pakistan. The strengthening is likely to be rendered difficult because of deepened economic constraints that are a result of external and internal forces. Managing the constraints through optimisation must be a perpetual process that has to be combined with vigorous efforts of self-reliance. *Atmanirbharta* is the new name for a laudable goal that India has sought for decades but with limited success.

In summary, political alignments based on partnerships and war avoidance as a political objective are the two pre-conditions that could lend substance and strength to India's transformation pathways. This would necessitate deft political and diplomatic manoeuvres backed by military power. India's socio-economic growth, will to a large extent,

dictate their feasibility. This is an internal issue but one that is not unconnected from its external challenges, especially in terms of shaping India's capacity to deal with it.

Internal Challenges

Historically, India as a modern state was born of the religious divide between Hindus and Muslims. The Partition of 1947 and its aftermath continue to lurk in India's socio-political landscape though its impact is varied in terms of space and time. The Constitution makers struggled with the relationship between religion and the State. The struggle has remained alive in India's political landscape and surfaced with greater force since the demolition of the Babri Masjid in 1992. Thereafter, the Hindu-Muslim divide as a faultline of the Indian State, harbours the potential to pose the gravest threat to India's unity. The trajectory of domestic politics has deepened polarisation on religious grounds and has been unravelling its social fabric. It has blended with other existing historic divides like caste, regionalism and inequality. Terrorism aided by Pakistan and Hindu-Muslim communal riots has been one of its manifestations. Such tensions continue to soak up India's internal energy at the cost of distracting it from addressing its socio-economic challenges spanning the provision of security, health and education.

There is popular political support for the narrative that appeasement of Muslims must be rolled back. Such support is evident in the growing popularity of the ruling Bharatiya Janta Party (BJP) and is reflected in their success at the polls for over two decades. A primary driver of its success is its ability to leverage the Hindu sentiment that is directed against religious minorities, especially the sizable Muslim population.

In 2026, India is scheduled to carry out a delimitation exercise wherein it will restructure the allocation of parliamentary and assembly seats based on the latest census as base. Given the uneven growth in population between the northern and southern states, the northern states are highly likely to benefit. This issue may fuel sub-nationalism and put to test its federal fabric. It will call for deft political and institutional maturity.

> **The management of volatile and emotional contestation in domestic political discourse is challenged not only by the vectors betrothed from the issues under contestation but also by the weakening of democratic institutions that are expected to arbitrate political differences and provide the checks and balances for peaceful change.**

The management of volatile and emotional contestation in domestic political discourse is challenged not only by the vectors betrothed from the issues under contestation but also by the weakening of democratic institutions that are expected to arbitrate political differences and provide the checks and balances for peaceful change. The effectiveness of the institutions primarily depends on the quality of the elected representatives. However, there has been an increasing share of criminality among elected representatives in the Parliament and state assemblies. The Law Commission of India in 1990 and the National Commission to review the working of the Constitution in 2002 had identified the shortcomings of electoral system based on 'first past the post' that resulted in lowering the quality of the elected and was also unrepresentative of the electorate. The issue of criminality has got exacerbated over a period of time by the skyrocketing costs of electoral campaigns. The introduction of the electoral bonds has added opacity to electoral funding and made matters worse. There is an urgent and crying need to strengthen democracy by reform of first-past-the-post system and it is a necessary precondition for India's transformation. Understandably, it is unlikely that the political classes who are the beneficiaries of the existing system will usher in the change. Hope lies in the legal rod wrapped in scientific innovation.[66]

The task of negotiating the complex social challenges has to be undertaken while ensuring economic progress as it is a necessary prerequisite of power. There is no alternative to power other than sustained economic growth.

Economic Growth

A vital transformation pathway is the double digit inclusive economic growth. Such growth will entail growing exports and private investments and also massive investment in physical and human capital. Commitment to market-oriented reforms, openness on trade and employment-oriented growth are warranted. Building state capacity in the fiscal, administrative and institutional dimensions is the imperative here.

High and inclusive growth can address poverty, improve quality of life and facilitate external projection of power. The requirement is to leverage the purchasing power of domestic and international consumers. Openness must be embraced to provide for trade, inflow of investments and participation in global value chains.

The pandemic has hardened the existing sentiment against globalisation. Disruption of supply chains has highlighted vulnerabilities wrought by excessive dependence on other nations. But it would be unwise to react with a turn towards insularity and a protectionist economy. The quest for self-reliance or *Atmanirbharta* must not suffocate the potential that lies in India's connectedness to the prosperity of the global economy.

It is in the realm of military power that *Atmanirbharta* poses a major challenge. While India's strategic autonomy is adversely impacted through dependence on arms import, the quest for *Atmanirbharta* has to be undertaken without adverse impact on the ongoing quest for military effectiveness. It is challenged by India's economic growth as well its technological capability. While several measures are underway, India's ability to manufacture key military platforms will always require budgetary support and participation in the global supply chain. It will also be time consuming and therefore *Atmanirbharta* as a magic remedy cannot be allowed to impact India's military preparations as military threats are imminent and cannot be wished away.

> **It is in the realm of military power that *Atmanirbharta* poses a major challenge. While India's strategic autonomy is adversely impacted through dependence on arms import, the quest for *Atmanirbharta* has to be undertaken without adverse impact on the ongoing quest for military effectiveness.**

Conclusion

In the decade of the 2020s, the management of change in internal and external environment is likely to face greater headwinds. The Indian political ethic of development and progress must view the political role of force in the conduct of its affairs as based on righteous violence. This should be applicable differently for the internal and external dimensions. Both internally and externally, force should to be utilised only in self-defence. The greatest danger presents itself when there is a nexus between internal and external threats. Among the two, for a country of India's size and capability, the internal danger has a special place. The reason is because India's body politic is woven by a consensual social fabric that is sensitive to inequality, religious intolerance and many social inequities.

Externally, violence presents the greatest danger if it emanates from a source that has the will and resources to seek and achieve dominance. The policy preference for the external dimension has been to uphold the capability of strategic autonomy in the conduct of affairs with other nations and international entities. Resisting domination by other powers will persist as the staple external challenge for India. The potential of India's human capital is the ultimate source of strength that must be unleashed and directed to pave the path of its transformation. An absolute precondition is an enlightened political leadership that functions within India's constitutional and democratic framework and forges internal unity. Such leadership has to ensure reform in India's electoral system. The overall goal is to pursue a series of changes that in combination can result in an increase in capability that can redefine our political approach and pave the path for India's transformation.

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Drone Warfare: The Indian Context

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Abstract

The article starts with a premise that ever since the advent of the unmanned phenomenon, the prosecution of the air threat and defence, therefore, has never been the same. This is particularly true considering the proliferation of small drones and swarms in the tactical battlefield. In light of the above, the work examines two verticals. In the first, it flags the drone threats we face from our potential adversaries and in the second, it analyses the drone and counter drone capabilities of the country to prosecute the drone war, as well as to field an effective counter against the drone threats we face from our potential adversaries.

Setting the Backdrop

Drone power has arrived…whether it was the battlefield of Nagorno-Karabakh in late 2020 or it is the trail of death and destruction in the on-going Russo-Ukrainian war, one common takeaway is that *Drone Power has arrived,* and it has arrived in all its multiple hues.[1] It was drones which turned the tide for Azerbaijan in Sep 2020 against Armenia;[2] it is drones again that are standing against the mighty Russian air and ground forces by claiming disproportionate kills.[3] It is also relevant to remember the consternation that was caused by a single drone attack in the Jammu air base on the night of 26/27 Jun 2021.[4] Thus the following inferences ring loud and clear:

➢ Ever since the advent of the 'unmanned,' the tactical battlefield has never been the same.

➢ It is the drone power in all its multiple forms which is re-writing the DNA of how the air threat will be prosecuted in times to come.

➢ On the other side of the fence, the drone power is dictating what changes are required in the defender's inventory in dealing with the little monsters.

Against the above backdrop, this article attempts to find answers to the following posers: firstly, what threats do we face from drone power? And secondly, where are we in drone and counter-drone capability?

The Threats We Face from Drone Power

Identifying Multiple Threat Verticals. Starting from its humble beginnings of no more than a 'look-see over the hill', today drone power stands to pose a lethal threat across five verticals. These are:

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- ➤ **The ISTAR vertical.**[5] ISTAR is an acronym that stands for Intelligence, Surveillance, Target Acquisition and Reconnaissance. ISTAR made its beginning in the first and second generation unmanned machines (80s-90s) that could perform the basic battle functions as listed in the acronym above. The current trend is to produce ISTAR machines that have inexhaustible energy packs (solar powered), super high-altitude capability (like pseudo-satellites in the low-earth-orbit), and phenomenal endurance (weeks-months-years).

- ➤ **Unmanned Combat Vehicles (UCAVs).**[6] Over a period of time, ISTAR machines got weaponised. Guided rockets, bombs, precision guided munitions (PGMs) air-to-surface missiles (ASMs), beyond visual range air-to-air missiles (BVRAAMs), smart/loiter munitions, soft kill weapons, electronic warfare (EW) weapons and more were added to its arsenal — UCAVs were born.

- ➤ **Manned and Unmanned Teaming (MUMT).**[7] Initially, the UCAVs stood to pose a threat all on their own. Later, these teamed up with the manned platforms; a combination that goes by the name. This teaming is a win – win as it provides the combat pilot the phenomenal power of the unmanned (situational awareness plus kill capability).

- ➤ **Small Drone threat.**[8] This has become evident after the TB2 or lower class of drones being used effectively in Nagorno-Karabakh or in Ukraine. These are the little-monsters of today's aerial warfare. Avoiding radar detection, these sense their prey with multiple electronic and electro-optical (EO) sensors and take them on with their lethal weapon loads of rockets, missiles, PGMs and more.

- ➤ **Drone Swarms Threat.**[9] Powered by Artificial Intelligence (AI) and possessing a mind of its own, tens and hundreds of these micro-drones gridded as deadly swarms, constitute the face of the future air threat. Inspired by the amazing intelligence of a locust, these can mount precision attacks of 'peep-n-kill' by precisely recognising their prey. 'Determined and motivated' swarms conduct 'autonomous warfare' by taking kill decisions, showing great tolerance for ambiguity, and displaying a will to survive.

Drone Threat from China

Well past the earlier generation of ISTAR machine, China is into the cutting edge with very high altitude (60,000 ft and above) solar-powered drones. Open sources have recently reported heightened use of high altitude ISTAR drones by China all along the LAC.[10] In the field of UCAVs, China has a comprehensive inventory of both the HALE (high altitude long endurance – altitude ceiling >30,000 ft, endurance > 48 hrs) as well as MALE (medium altitude long endurance - altitude ceiling 10,000-30,000ft, endurance 24-48 hrs) drones.[11] Specific machines include EA 03 and WZ 7 in HALE class and BZK 005, GJ 1 and GJ 2 etc. in MALE category.[12] Of course their front-ranking unmanned aircraft system (UAS) is Wing Loog II. This machine has a range 4000 km, endurance of 20 hrs, service ceiling 5000 metre, and a maximum speed of 370 km/h. It is MUMT capable and can carry a variety of payloads like bombs (FT series 7.9, 10), guided rockets (AKD 10, GB 10), ARMs, anti-ship missiles (YJ9E), air-to-ground missiles (YZ212, BA7), laser-guided cluster bombs (YJ 102A), and PGMs. Their some other MUMT-capable UCAVs include Tianying/Skyhawk drone (speed 200 km/h, endurance 6-12 hrs), Gongji 11 (combat radius 1000 km) and WZ8 supersonic ISTAR platforms.[13] As to swarming drones, China has both the fixed as well as rotary wing swarms.[14] Open sources reported in Sep 21 about the successful testing of 1000 strong drone swarm in launching co-ordinated attacks.[15]

Drone Threat from Pakistan

The Pakistani drone threat is to be seen as a collusive threat with China. In the case of Pakistan, leaving aside the first generation indigenous ISTAR machines (Ababeel, Bazz, Uquaab, Jasoos etc.)[16], some UAS worthy of note are imported ASN series from China, Luna from Germany, Snipe and Streak from UK, Falco from Italy and Seeker from South Africa.[17,18] Having failed to get the U.S. Predator[19,20], the UCAV which Pak made over seven years, starting 2009, is the Burraq UCAV.[21] It has a range of 1000 km, altitude ceiling of 7500 m and endurance of 12 hours. Payload includes guided bombs (YC 200) and AR-1 ASM.[22,23] It can also carry a Barq ASM laser-guided missiles.[24] The main Pakistani drone threat will lie in the Chinese Wing Loong likely to be made available from China (2018 deal - 48 Wing Loong on Transfer-of-Technology from China).[25,26] While the current status of this deal is not known, four Wing Loong UCAVs were reportedly given to Pak in Jul 2020 for security of Gwadar and China Pakistan Economic Corridor (CPEC).[27] Later, Pakistan received four CH4 Chinese UCAVs. (similar to Wing Loong- payload 345ks, speed 235 km/h).[28]

An Assessment of Indian Drone and Counter-Drone Capability

The ISTAR. India has a substantial ISTAR capability. This is based out of a large number of first and second generation ISTAR UAVs held in the armed forces' inventory. Some major ones include Heron, Searcher Mk 1 and II and Harop UAVs from Israel, Rustom, Tapas, Netra and Nishant etc. from the DRDO, and the gold class Sea-Guardian on lease from U.S.. In the field of high-altitude surveillance, India has made progress by developing the Ultra High-altitude Drone. This machine developed by HAL in a Joint Venture (JV) with a company named New Space Research &Technology. It is capable of conducting seamless ISTAR operations end-to-end. It can operate at altitudes of 65000-70000 ft and has an endurance of several weeks at a

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stretch.[29,30] Besides, the products already realised, the requirement of ISTAR at high altitude is so high that the MoD is continuously looking for suitable equipment. It has recently issued an RFI (05 May 22) seeking the vendors to provide surveillance quadcopters for high altitude extreme weather operations (take off altitude of 5500 m, temp range -20 to-10^{0}C). Besides public sector (DRDO, HAL), the industry is also gearing up to meet demand. In Mar 2022, a Hyderabad based start-up (Hindustan UAV systems) has claimed to have produced a tested product for unhindered operations in Himalayas a up to a height of 18000 ft.[31] Another private sector player, ideaForge, in Jan 2021 won a 20 million USD contract to make ultra-light surveillance high altitude drones beating some 12 global competitors (SWITCH drone). Repeat order also followed.[32]

Growing Capabilities in the MUMT Domain

India started the MUMT journey sometime in Sep 2015, when it finalised a procurement deal for 22 AH-64E Apache attack helicopter from U.S. Apache is a known MUMT platform with multiple combat virtues. The machines are expected to be flying in from early 2023.[33] Going further, the Defence Acquisition Council (DAC) in Jun 2016 approved the procurement of 22 Sea guardian drones for the Navy[34], again an MUMT capable platform. In the pipeline is a deal to procure 30 MQ9 Predator drones — a gold class MUMT machine — from the U.S. which is 'hanging fire' since Feb 2020. Contradictory reports appeared in the open source in Feb 2022, one saying that deal is in the advanced stage; while the other claimed that the same is cancelled in favour of indigenous production[35]. On the indigenous front, the Cabinet Committee on Security (CCS) has approved procurement of 15 Light Combat Helicopter by HAL which will be MUMT capable with all the advanced features.[36] It has also been reported that *Ghatak,* stealthy unmanned combat air vehicles which are under development by DRDO, with its first flight slated in 2024-25 will also be MUMT enabled.[37]

Indian Swarm Drone Capabilities

India is moving strongly in acquiring the swarm drone capability. HAL has been in a joint venture with another prominent player New Space Research and Technology (the company that makes Persistent Drones for Earth Observation and Communications). [38,39] The venture has produced a small drone useable as a swarm. It is called ALFA-S standing for Air launched Flexible Asset-Swarm. It is a small drone of dimension 1-2m, each capable of carrying a warhead of 1.5 T. The weapon can be launched by Su-30MKI and upgraded Jaguar. ALFA-S, on command, can destroy the intended target in a catastrophic collision mode (kamikaze). The weapon upon deployment remains in contact with the mother aircraft on the EO and IR channels. ALFA-S has stealth features and it can do up to 100 km per hour once deployed. The other asset being developed is the Robotic Wingman. The technology transfer for the product has been made possible under the aegis of Indo-U.S. Defence Trade and Technology Initiative (DTTI). Wingman is an MUMT capable machine. In a typical formation, three to four Robotic Wingmen are designed to operate in concert with manned mission. Its reach out range is up to 100 km. Wingman can provide uninterrupted situational awareness. It can also be programmed for precision strikes. For this, it carries a variety of arsenal like the PGMs, laser guided bombs, air-to surface missiles etc.

Counter Drone Capability

Steady progress is taking place in acquiring counter-drone capability. Such a capability has to surmount two main challenges; firstly, detection challenge and; secondly, kill challenge.

> India is in the list of front-ranking nations who possess indigenous anti-drone capability. For effective detection of small RCS drones and drone swarms, EO and IR surveillance devices have been found to be effective.

➢ **Detection Challenge.** Drones in general and small drones in particular have a very small Radar Cross Section (RCS). Simply put, RCS is a degree of detectability of an object to an electronic surveillance device such as radar. Higher the RCS, greater will be the visibility of the object to the radar. A typical RCS of a drone may be just 0.3- 0.5m². How small is this can be judged by comparing some typical RCS of combat aircraft — Mig 21 - 3 m², SU 30 MKI 4m², F16 C – 1.2m².[40,41] Due to this, the drones, particularly small drones, remain undetected by conventional radars.

➢ **Kill Challenge.** The point at issue is of balance. In that, it is imperative that the 'cost of kill' must have a degree of equivalence to the 'cost of attack'. In other words, there is no point in killing a few thousand dollars drone with SAMs each costing millions of dollars. Low-cost drones require low-cost kills.

Conclusion

India is in the list of front-ranking nations who possess indigenous anti-drone capability. For effective detection of small RCS drones and drone swarms, EO and IR surveillance devices have been found to be effective. As to radar detection, X Ku and Ka band radars operation g in the band of 6-15 GHZ have been found effective. Also experiments with low RCS vehicles have shown that AESA (Active Electronic Scan Array) radars have shown high detectability for small RCS drones. Both the Indian public as well as the Private sectors are now into manufacturing of above stated drone surveillance devices based on EO and IR. Both the DRDO as well as the big private sector players (Tata, L&T, Adani, and Mahindra etc.) have the AESA technology to produce radars capable of detecting small drones.

Multiple low-cost kill means are in the field for anti-drone operations. These range from small arms (AK 47, AK 203 etc.), jamming systems based on RF that can disrupt the navigational link of drones to GPS /satellites or command link to its Ground Control Station (GCS), and/or laser means that can cripple the electronics and electromagnetics on board the drones. These are also EW kill options like hacking/phishing of drones. DRDO has come out with an integrated anti drone solution called ADS. It has EO/IR sensors including frequency-modulated continuous wave

(FMCW) radar for small RCS drone detection up to a range of 4 km. For kill system, it has an RF/GNSS jamming system with a range up to 3 km and a laser kill system with a range of 150m to 1 km. Similarly, Zen Technologies Ltd, a front-ranking combat training and drone kill solution provider, has come out with its ADS based on EO and RF based surveillance, and RF (jamming) kill. The Company is also developing hard kill options based on MMG or an air defence gun. Another very prominent private sector player M2K technologies ltd has been making multiple types of anti-drone weapons based on RF kill as well as kill through small arms.

It can be stated, as a bottom line, that keeping in mind the threats we face, we are concentrating upon not only launching drone-power in prosecution of the air threat against our foes, but also on addressing the drone threat launched against us by them.

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Role of Niche and Disruptive Technologies in India's Deterrence and War Fighting Capabilities

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Abstract

This is a condensed version of the USI National Security Paper 2021 written by Lieutenant General PJS Pannu. The paper is available for purchase through the USI of India.

Introduction

In India's security environment, the possible future contests in the Indo-Pacific oceans have to now be added to the border wars which we have hitherto focussed upon with respect to China and Pakistan. In this environment, technology is rapidly transforming all military doctrinal discourses, pushing the world into a 'Grey Zone' of Hybrid War. The outbreak of Covid-19 (seen in some quarters as a manifestation of Bio-War) has catapulted perceived Chinese belligerence to another level, resulting in global responses such as an impetus to 'QUAD' and AUKUS. This, among deteriorating international cohesion, is heating up chances of war where use of technology would be seen as the greatest cause of disruption.[1] Tech-power should be a main component of Comprehensive National Power (CNP) as it alone provides technological deterrence.

Disruptive Technology

Disruptive Technology is the sum of cutting edge and transformative technologies that are leading a change, making current systems based on traditional technologies redundant. The Fourth Industrial age (4.0) has brought in 'Information' as a new paradigm where operations have become more complex as threats are difficult to assimilate. Nations have understood the value of Artificial Intelligence (AI), linked to communications and technology. To counter the impact of disruptive technology the aim should be not only to nullify the technological edge of adversary, but to build technological deterrence through superiority, making the military systems of the opponent redundant. In this context the Indian Armed Forces must maintain a high-tech edge for the purpose of discouraging an attack from adversaries, instilling in them a fear of punishment.

The Chinese Threat

The threat from Sino-Pak Collusivity has been growing. Pakistan has got easy access to Chinese military hardware and technology. CPEC works as an economic and military corridor making Pak 'a reliable and a slave partner' for helping Chinese to build a military base at Gwadar. China is using combative diplomacy and debt trapping to align the fence sitters, threatening them of consequences, should they align with the QUAD. China is heavily invested in disruptive military technologies that directly challenge India. The Belt and Road Initiative (BRI) is a strategic step towards making

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economic and security inroads into most countries in the world. BRI would be making multipurpose digital corridors along with security, trade and commerce elements intrinsic to it.

Other Threats. Heavy investment in 5G technologies in Pakistan and neighbours of India such as Nepal, Bangladesh, Myanmar, Sri Lanka and Pakistan has serious ramifications for India. India is already facing a Hybrid War situation.[2] This would continue to grow in form, intensity, complexity, means and understanding. Targeting through AI platforms is fast becoming a reality. There would be a need to guard the hinterland from cyber-attacks by hardening critical infrastructure in all forms.

Chinese Belligerency in Eastern Ladakh. The clash on the Northern borders at Galwan saw quick deployment of forces at multiple points with use of IW and high tech surveillance to capture data and information during border talks. China has announced recruitment programmes in Tibet and plans to build more infrastructure on the plateau with priority to the border areas. It is rapidly upgrading the airbases, missile sites and logistic support through a large rail-road-tunnel network. PLA has increasingly utilised UAVs to undertake small-scale resupply missions, and it may use UAV technology to boost the tempo of operations along the borders.[3] This makes it important that India must focus on matching Chinese capabilities in the next 8-10 years and global standards over 25 years.

India's Current Deterrence

Conventional deterrence can be circumvented by the adversary's strategy and plans. There is no dispute that nuclear weapons are not meant for war fighting, therefore, relevance for its deterrence is gradually eroding, especially in Hybrid Warfare conditions. As we see the direction that warfare is taking, the actual deterrence shall come from use of technology which is highly usable and deniable in the same plane. Technological deterrence is fast emerging as the alternative to nuclear deterrence.

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Revolution in Military Affairs (RMA). RMA would have to be led by a transformation that makes the Military into fighting high-tech 'autonomous' rather than currently 'analogous' battles. Established the fact that Future Wars are going to be technology based and technology-driven, the Digital warfare would draw new baselines for making ICT (Information Communication Technology) a new leader to trigger this change. Therefore, large investments in technology military hardware are going into paddling the doctrine of 'winning wars without fighting'.

Non-Contact and Non-Kinetic Applications

In 2004, the UN Secretary General's High-Level Panel on Threats, Challenges and Change in their report, titled '*A More Secure World: Our Shared Responsibility*' identified six clusters and challenges: wars between states; violence between states including Civil Wars; large scale human rights abuses and genocide; poverty, infectious diseases and environmental degradation; nuclear, radiological, chemical and biological weapons; terrorism and transnational organised crime. The security threats and challenges went beyond the traditional concept of security.[4] Offensive use of Information Warfare, especially in cyberspace, and options of Non-Contact War will give the adversary the ability to cause disruption and destruction and degrade war potential even before the battle is joined.[5] While there are numerous 'non-contact disruptive technologies' with relevant use cases, the most significant ones in this segment are discussed in the succeeding paragraphs.

Cyber Warfare. The militarisation of cyberspace and development of cyber weapons are raising the spectre of a cyber war.[6] Cyber Warfare would mean hitting the electronic or digital nerve of the adversary while securing your own. It covers a very large canvas from Information Systems to data that moves the digital platforms which are networked. There are no defined Cyber borders — it is all pervasive. All critical infrastructure such as power supply, movements means such

as railways, aircrafts and military platforms can be attacked. Electric Power Grids are regulated and controlled through a network of computers. A knock on the power cyber grid shall bring the country to a grinding halt. Worse, as the government is rapidly moving to e-governance, ending the need of maintaining physical files, an attack would not only make these files and data inaccessible to us but also can steal the files. Even though, firewalls, encryptions and protocols are regularly updated, what is most concerning is that, most often, it is the staff of the enterprise managing the database-developers, administrators, and others, who end up creating an unsecured environment facilitating a cyber-attack.[7]

Information and Psychological War. Effective psywar is the ability to put forward and defend an idea, or to offer a better way that is appealing to the recipient and not merely the giver.[8] Intelligence agencies use soft power as an influence tool. Dislocating the mind of an adversary and capturing it would mean hitting the centre of gravity without a physical attack. Information warfare is a combination of cyber, space, electronic, propaganda, psychological, media and social media wars.[9]

Space Warfare. Space Wars would be relevant because of the universal application of space technology to most digital platforms. PNT (Place, Navigation and Time), Communication, Surveillance, planetary dominance and counterspace assets would dominate the future security paradigm. Increasingly 5G and beyond — IoT (Internet of Thing) would be all pervasive in moving IoMT (Internet of Military Things) for strategic applications in warfighting. Surveillance and Target Acquisition would be passed over to Satellites that provide better resolution, clearly identify targets and engage with precision missile munitions.

> **Airborne Early Warning Aircraft have better ability to detect and recognise targets as compared to surface based radars, observation systems and ground sensors.**

ISR (Intelligence, Surveillance and Reconnaissance). 'Knowing the adversary' has always been the most significant part of warfare, with technology becoming its prime-driver, ISR is emerging as a tool to fight precise battles. If an adversary is seen, identified and tracked, it can be targeted, using weapons of choice. Space has emerged as the most important tool for ISR. Most satellites in LEO and MEO are ideal, however, being on the lower orbit, these satellites are mobile and need many satellites requiring a number of passes for constant imagery updates.

Aerial Photography. Indian Army currently uses Israeli Heron I for surveillance with a ceiling altitude of 35000 ft and are set to acquire Heron II with 45 hours endurance.[10] Airborne Early Warning Aircraft have better ability to detect and recognise targets as compared to surface based radars, observation systems and ground sensors. The PLA has built the digital surveillance wall along the borders with India for EW and targeting.[11]

Weather and Climate War. Weather manipulation is a form of warfare that is clearly disruptive.[12] This is entirely possible in the younger and unstable Himalayan ranges. An explosion in and around the unstable rock plates can trigger earthquakes or Tsunami, though there is no evidence of any success of such triggers.

Triggered Nature Attacks. These can be resorted to by the adversary to degrade human ability to fight. Such indirect attacks are deniable and covered under the act of nature or 'Acts of God'. Coronavirus attacks should be seen under this category.[13] Even news of this kind could create havoc. It is getting difficult to draw lines between fake news or fake products.

Biological War. Though Wuhan labs have recently become infamous due to Covid, however, many countries have virology labs all over the world. The US has maintained a Biological Weapons Command, establishing labs and running experiments in many parts of the world.[14] Two characteristics make bioweapons an ideal choice for an aggressor — their invisibility and their delayed effect. The COVID-19 pandemic has been the closest thing to a mass bio-attack and it is clear that even advanced western nations are far from ready to handle it.

Non-Contact: Kinetic

In the future wars, stand-off engagements would be more pronounced, making eye-ball to eye-ball contact virtually redundant. Kinetic capabilities would increasingly be sharpened with higher lethality, high precision and longer strike ranges. The counter to such stand-off attacks by the adversary is in having credible missile defence, that intercepts and destroys munitions before they are delivered. It would be necessary to detect the launch sites of adversaries ahead of time. Passive defensive means certainly include 'hiding and hardening' own assets.

Strategic Forces. Such forces are usually referred to a club of weapons under one umbrella organisation that controls strategic weapons. Strategic Forces would in fact control both Non-Kinetic and Kinetic applications for warfare. Nuclear Forces are the Kinetic part of this classification. Chinese in 2015 raised the Strategic Support Force (SFF) to manage the military's space, cyber, and electronic warfare missions.[15] Strategists in PLA regard "the ability to use space-based systems and deny them to adversaries as central to enabling modern warfare under the conditions of Informatisation".[16]

Rocket Forces. These are seen as the delivery vehicles for long and medium range delivery of payloads. The ever increasing ranges, enhanced accuracy and lethality of conventional warheads make rocket forces the most potent force.

Weapons of Mass Destruction (WsMD). WsMD are currently clubbed as CBRN (Chemical, Biological, Radiological and Nuclear) weapons. Out of these four domains, Nuclear Weapons are the only ones which have been overtly used, formalised and recognised by the global community, with nations declaring their policies and doctrines. In Spite of Chemical, Biological and Radiological (CBR) weapons being banned by the Geneva conventions, nations still possess them. These are a preferred choice of nations who do not have Nuclear material and technology. Such weapons are also considered as poor-man's WsMD.

> **LAWS on a broad scale can transform the structure of war by bringing in AI into systems governing weapons, where humans would remain out of the loop.**

Counter Space or the Anti-Satellite (ASAT). ASAT weapons are becoming intrinsic to Space Warfare. The space now becomes a rapidly contested global common, the space-faring nations are increasingly concerned about securing their space assets. Directed Energy weapons, Space Based Second Strike are an important part of counter-space technology

LAWS (Lethal Autonomous Weapons). LAWS are a type of autonomous military system that can independently search and engage targets based on programmed constraints and descriptions. Hence LAWS on a broad scale can transform the structure of war by bringing in AI into systems governing weapons, where humans would remain out of the loop. The most common autonomous defensive weaponry is the Missile Defence Systems (MDS).[17]

Air Power. This is a more traditional means of ISR and to deliver stand-off strikes. Stealth aircraft are the future of airpower.

Naval Power

Platforms are not the only part of the equation when it comes to measuring naval power, weapon systems enabled by sensors, communications networks, well-trained sailors and sound operating concepts are also critical. China and the United States are both developing and fielding new missiles and other advanced weaponry through their navies, and the race is on to see who can pack the most punch Both the U.S. and China are also working on game changing technology in hyper sonics to improve air and underwater launch testing capabilities for the conventional prompt strike program.

Unmanned Naval Assets. These are incrementally being considered for deployment. It is known that the Chinese plan to develop an unmanned ship similar to the U.S. Navy's Sea Hunter.[18] Although manned platforms will remain a key component of navies, unmanned systems are the wave of the future. They are expected to be less expensive and keep

sailors out of harm's way. Robotic vessels could be used for a variety of missions, including intelligence, surveillance and reconnaissance, and offensive strike operations.

Air Defence (AD). AD is gaining prominence as the aerial platforms are getting smarter, stealthier and faster. We need a comprehensive radar coverage including Airborne Warning and Control Systems (AWACS). Low level warning radars are important to detect cruise and hypersonic missiles. Even advanced Air Defence missiles such as S-400/500, Iron Dome, Barak missiles, need protection against Hypersonic missiles. The arrangements have to be based on hybrid radar plus satellite systems to detect hypersonic missiles and hit them with speed and accuracy.

BMD (Ballistic Missile Defence). BMD systems are based on the same principles as the AD, however, with a mix of ICBMs and shorter range missiles. It is important to identify the missile threat right from the time it is launched. The requirement is to detect the launch and track the movement of ballistic missiles during their passage in space and when they re-enter the atmosphere, to home on to the target.

Drones. Drones are increasingly becoming aerial intruders which can be used for multifarious purposes. Being a very small and versatile target it is difficult to engage a full range of drones. The multi spectrum frequency waves would be necessary to disrupt the drone command and control links. It would be necessary to deploy anti-drone surveillance drones constantly flying sentry sorties and then have defensive drones destroying intruding drones.

Anti-Detection and Protection Systems. Such systems are becoming increasingly necessary for survival which is the most important aspect of warfare. Stealth technologies are being used such as anti-radiation paints and materials to avoid detection by radars and electronic cameras to defeat the adversary's ISR. China has been building underground facilities and related infrastructure to ensure their logistics bases, missile sites and military hardware in concentration areas are not picked up by satellite images.[19] To avoid detection more and more Navies in the world are investing in silent nuclear powered submarines, which have longer radius of operations as they can stay underwater for months.

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Contact: Kinetic

'Contact Wars' are likely to transform dramatically, since these involve enormous human effort and risk. Technology would ensure that soldiers in the frontline are more at ease, have better protective and survival equipment and have better situational awareness.

Infantry. Robotic systems are likely to be an important part of the mix of future ground-based warfighting capabilities and key contributors to reducing the risks to troops by improving sensing and targeting, reducing the danger of collateral damage. The boots on ground would reduce as gradually the robotics and AI powered soldiers shall replace human involvement. There will, however, be a need for some 'boots on the ground' in case there is a need to interact with the local population.

Special Forces (SF). These need to achieve undetected penetration behind enemy lines. Carry out stealth operations for a prolonged period to include recce and direction action tasks and exfiltrate rapidly.

Protracted Engagements. These would be a norm in Hybrid war scenarios. The security agencies and systems would need round the clock vigil in all spheres. Due to the continuous state of security alerts, nations, if not already engaged, would need to remain prepared for war.

Unmanned and Autonomous Systems. Vehicles, aircraft and ships would see a larger role in the battlefield. The pilotless, driverless or crewless fighting machines would be pervasive. The ranges or the radius of action and stamina of these machines would be enhanced through efficient power of hybrid engines requiring low maintenance or charging. The warheads could be Kinetic, High Energy or Radiological.

Stealth Technologies. These with novel drive systems that reduce engine heat signatures could also enhance survivability without the need to build on more metal, by making tomorrow's tanks and AFVs harder to detect and more difficult to hit. The future battlefield would see unmanned armoured ground vehicles playing their part as we target greater automation which has made it possible for drones to have remotely controlled unmanned turrets.

Artillery. The artillery would improve Recce Surveillance and Target Acquisition (RSTA) by automation, providing the army with exceptional battlefield capabilities both by day and night. Satellites and UAVs have revolutionised RSTA. Precision Guidance Munition (PGM),[20] Long-range, quick response, surface-to-surface Tactical Missile Systems would be effective, against mobile and other targets and would gradually replace guns. These can be used for better accuracy such as 'Beyond line-of-sight' fire.

Enhancement of Lethality and Precision. This is also enhanced with more advanced systems such as explosively formed jets (EFJ) and self-forging penetrators (SFP) used for precision strike against targets such as armoured vehicles and reinforced structures.

> Robotics are a major game changer in the medium to long term. Artificial Intelligence would power machines and humans in a major way. AI power cannot be realised unless nations invest rightly in digital platforms.

Attack Helicopters (AH). These are considered as the manoeuvre arm of the Army. AHs are also referred to as flying Battle Tanks or the third dimensional armour and are incrementally adding high speeds, agility and protection. They are armed with mixed arsenal such as guided missiles, rockets, cannons and guns shooting at rapid and cyclical rates. They have excellent surveillance, navigation, protection and communication systems on board. Apache AH-64E (I) helicopters have been recently inducted into the IAF.

Technology Enablers and Future

Artificial Intelligence (AI). AI using the power of 'Data' is another name of machine intelligence, where computers use data to analyse, process and provide machine logic. Since machines would replace humans, the first field of jobs handed over to the machine would be the most dangerous job — a job of a foot soldier through robots. Hence, robotics are a major game changer in the medium to long term. Artificial Intelligence would power machines and humans in a major way. AI power cannot be realised unless nations invest rightly in digital platforms.

Science and Technology. This remains a baseline for technological growth. China aims at reducing reliance on foreign technology by 2025. It has made a roadmap to make milestone contributions to the global scientific community by 2030 and ultimately be able to become the Science and Technology powerhouse by 2050.

Data. Data is being sold at huge costs from various agencies that come under the garb of innocent service providers. These companies offer so many freebies that a customer gets very tempted to buy the product such as Apps, games and instant global connection. Machines process huge amounts of data in a matter of seconds and establish a 'cause and effect' relationship and make quick comparative analysis shortening the OODA (Observe Orient Decide and Act) loop to a mere instant process. The side which employs smarter and faster machines would win the 'first draw' engagements instantly.

Indian Industry

Our Defence industry needs an urgent re-orientation. Digitisation and indigenisation has to go hand in hand, right from designing to fabrication, all or most of it to be done on Indian soil. Indian industry has sufficient capacities to scale up ICT (Information and communication Technologies) provided the budgets and policies are supportive.

The Indian Armed Forces, despite the existence of Indian Defence Industry, have been heavily dependent on import of military hardware. It is time that Indian Defence Forces lead the Defence Industry to produce high tech warfare equipment ahead of Industry 4.0. This 'lead' must be pushed at least by half a notch creating new 'Military 4.5 standards'. This would need strong R&D, investment in AI and cutting edge technologies.

Emerging Warfare Concepts For New Age Technologies

The future of warfare would be dictated by the whole of 'Nation' seen as one warfighting entity and not to be fought by a military or soldiers on the frontline. As is evident, the definition of borders and frontlines would change, the targets would be less visible as such attacks by the adversary would be on the vital infrastructure that makes the nation strong.

The centres of gravity would shift from borders to breaking the core strength of the adversary in the hinterland with the combination of means. This is the complexity of a Hybrid war, where technology would make it possible to hit an adversary while hiding its own identity; surviving through deniability or lack of detection. Some of the new concepts which merit attention are discussed in subsequent paragraphs.

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Precision Battles. To ensure that the Army fights economically, without collateral damage, and applies just military power, it is necessary for the nations to fight precise battles so that the desired end state is achieved earlier and without adding to the burden on humanity. Target acquisition must be done with calibration.

Digital Wars. These would be configured around C5I2-STAR2. Command, Control, Communication, Computers and Cyber (C-5) would ensure all platforms are connected to the Nerve Centre that would act as Communication, Data and a network hub. Information and Intelligence (I-2) would empower decision making and Surveillance, Target Acquisition, Reconnaissance and Robotics (STAR-2) would ensure that the decisions are implemented, modified and delivered with complete impact and transparency.

Remote Controlled Warfare. This would be an extension of 'Systems of Systems' Network. The digital arena and the industry 4.0 would make it possible for creating a network with C-5 (Command, Control, Communications, Computers and Cyber) and connect the machines with the surveillance means enmeshing ground and aerial platforms including drones and Satellites, making ISR a real time possibility. The Sky and Space would provide a strategic vantage point for a decision maker at operational and strategic levels.

Network Redundancies. These would be like contingency positions and contingency planning. A military which cannot bring in flexibility of changing network domains at will, re-configure and create flexibility and adaptability would suffer heavily at the hands of adversaries frequently interfering in systems or destroying them, bringing the digital battlefield to a grinding halt.

Low Cost Expendable Military Inventory. This would be mandatory for the industry to cut costs of warfighting. Today, large conventional war machines are not usable due to the deterrence of Weapons of Mass Destruction (WMD). Similarly, Hybrid Wars have made the deterrence value of WMD less significant since the wars could not be completely prevented.

Subterranean Operations. Such operations would be the norm in the era of complete battlefield transparency. Tunnelling, borewell tubes and shelters that are not visible from the sky and ground would be a necessity. The logistic nodes, command and control centres and weapon platforms would need to be located underground and underwater. Undersea Operations would be an extension of the Subterranean Warfare. Undersea warfare would be a new challenge to coastal Defence and surface assets.

Reverse Front. This would mean that attacker would turn defences by suddenly appearing in the rear. The third dimensional — vertical envelopment has been the age old concept; however, with autonomous multi-domain fighting machines it would be possible to penetrate through various means and attack more intensely in the rear areas with a combination of rockets, robot-soldiers, special forces and tunnelled approaches.

Fighting through Alliances and Collaborative Technologies. They would bring a paradigm shift in war fighting. Data and technology compatibility and long-range vectors would make military alliances work differently. Space, Cyber and Missile Warfare would be elements to pool since they are global commons and know no boundaries.

Recommendations

The following recommendations are made:

> **Robotic Labs need to be set up in the country where digital technology can be incubated for introducing Swarm systems for drones, tanks, robot soldiers.**

- ➤ Need based, Advanced R&D and empowerment of Defence Industrial Complex.

- ➤ Future warfare shall need ICT infrastructure, as a baseline, necessary to power digital battlefield systems. Development of ICT is a long term sustainable process, comparable to a 15 years submarine development programme. Such infrastructure would need long term, assured and priority budgetary allocation.

- ➤ We must work our bandwidth requirements for the War Zone to meet all requirements from tactical to strategic.

- ➤ Border Guarding forces must be powered with technology.

- ➤ The Nation in general and Indian Armed Forces in particular need to adopt and infuse AI in warfare.

- ➤ Robotic Labs need to be set up in the country where digital technology can be incubated for introducing Swarm systems for drones, tanks, robot soldiers.

- ➤ Indigenous UAV platforms are the most essential investment Indian Defence R&D and manufacturing capability needs to address.

- ➤ Sourcing of identified rare earth materials like Cobalt, silicon, germanium, aluminium, carbon fibre etc are important to produce indigenous military grade hardware without depending on imports.

- ➤ Prioritise and Invest in the PME (Power, Materials and Electronics) domain to build indigenous systems.

- ➤ Cyber defence and deterrence must be achieved by ensuring indigenous data centres and securing digital infrastructure. Quantum Technology is essential to create secure and speedy communication and efficient digital applications.

- ➤ We must set up a minimum scale of Manufacturing Chips and semiconductors for defence applications.

- ➤ Our regulations have to be a soft touch to allow the industry to field 5G systems.

➢ We must invest in warning systems for identification of Radiological, Chemical and Biological attacks.

➢ We need to ensure our BMD and AD systems are capable of giving us autonomous shields from such attacks.

➢ We need to invest in 5th and later 6th generation advanced jet fighters, as also invest in stealth technology.

➢ In the era of enhanced battle field transparency and longer reach of precision weapons we need to ensure we invest in passive defence in a major way. Subterranean war strategies and surface survival and electronic and physical camouflage from the enemy and weather would be essential.

Conclusion

The military is increasingly becoming technology reliant and therefore industry dependent. Hybrid warfare, the current flavour of warfighting, is fast transforming into a technology-based, non-contact, ambiguous and transitory model. Today we are deep into Industrial Revolution 4.0, marked by data and machine learning. The current security dynamics dictate that the Military must do that, albeit with caution, to finally pull a half-level ahead of industry. Armed Forces must set the tone for technology-based warfare and create the roadmap so it can reach "Military 4.5" as quickly as possible and guide the industry rather than be dictated by it. Right now, we have yet to fully subsume the elements of Industrial Revolution 4.0; we are frankly closer to 3.5. The Armed Forces are best to determine what is needed and put forth to the Industry. We need industry to deliver today on the most promising technologies of tomorrow.

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Theaterisation: Challenges and the Way Ahead

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"The only thing harder than getting a new idea into the military mind is to get the old one out"

— Sir BH Liddell Hart

Abstract

The Indian Armed Forces are known for their valour and professionalism. However, remaining focussed largely on Pakistan for long, the Indian Armed Forces stayed glued to numbers and a strategy of attrition warfare. Now with China emerging as a major threat, a realisation has dawned to re-structure, re-orient, and re-equip to face a modernised adversary. While the transformation to Theaterisation may be a much-needed change to address the emerging security challenges as also match up to the growing aspirations of India, the sudden jerky step without prior inclusive deliberations and preparation of a comprehensive 'Vision Document' has led to apprehensions and internal differences between the three Services over the structures and scope, and thrown up numerous challenges. The article analyses all issues comprehensively, and suggests a way forward to facilitate a smooth transition.

Backdrop

In the new millennium, the rise of China, resurgence of Russia, internal dissensions within Europe, perceived retraction of the US towards domestic priorities and emergence of numerous Middle Powers is hurtling the world towards multi-polarity. Therefore, the ongoing jostling among nations is likely to continue till a semblance of a 'new global balance or order' is achieved. The Chinese forays in the South China Sea and its claim on Taiwan, followed by Russian invasion of Ukraine, and the near helplessness or hesitation of QUAD and NATO to put their act together against China and Russia respectively are but the glaring examples of possibilities in this transitional phase. Concurrently, the advancements in technology have not only revolutionised the military affairs and weapon systems making the nature of warfare extremely complex, but has provided enough tools and means to target an adversary across multiple domains. This technological empowerment could only further embolden the competitors.

In this nebulous global environment, India with almost 15,100 km of land frontiers, 7,500 km of sea frontiers and two active colluding adversaries located alongside, is beset with huge security challenges, the ongoing face-off at LAC being just a prelude to more serious possibilities. The yawning asymmetry, both in numbers but largely in technology, only adds to the magnitude of these challenges. The test of apex military leadership, therefore, largely lies in undertaking well deliberated force re-structuring tailor-made to Indian conditions and requirements for synergised employment of the available military means, and concurrently build capacity in identified fields to reduce the asymmetry and achieve 'conventional military deterrence' to deter belligerence and safeguard national interests.

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With the reality of a Two Front threat looming large, the appointment of the CDS with a mandate to facilitate jointmanship and integration between the three Services was a step in the right direction. However, the related plans of Theaterisation seem to be facing strong head winds too early. 'Unity of Command' and 'Synergy of Effort' have been time tested principles of war fighting. But it seems that resistance to Theaterisation is more due to lack of any serious prior deliberations on the subject and consequent absence of a guiding document / strategy, leading to differing understanding of the concept and lack of clarity on the overall architecture to be finally achieved, which has not only thrown up numerous questions / challenges, but have also possibly given rise to parochial sentiments of 'turf guarding' within each Service manifesting as resistance and resentment.

Challenges to the Concept, Structure and Need of Theaterisation

Despite a general go ahead having been given by the Government to adopt Theaterisation, the very concept and its need seem to be under challenge as is very evident from the various questions and queries being asked / raised in the environment.

In military parlance, Theatre means a well identified geographical area or expanse (of land, sea or space, or a combination thereof) of expected operations for which resources can be / need to be allocated separately and grouped under one commander to achieve benefits of unity of command and synergy of efforts for better results. The concept can be better understood by perusing and analysing the models adopted and refined by the US (the first to adopt) and China (the latest to adopt).

> **US Model**. The concept of Theaterisation evolved in the US when it was involved in operations in various regions across the continents during World War II. Having emerged as a leading power with global aspirations after the war, the concept got firmed in to establish and maintain a global footprint, wherein the US divided the globe into various geographical Theatres and assigned forces. The point to note is that the US having no direct threat to its mainland follows a Homeland Security Model for its domestic needs, and the Theatre Concept is largely applicable for its Expeditionary Forces deployed across the globe in various bases, and which get employed for varying tasks. However, based on subsequent operational, logistics and administrative experiences, three distinct models have emerged with respect to allocation / division of resources[1]:

> ❖ **Geographic Integration Model**. This was the initial model mentioned above, wherein the US divided the land and sea areas of the globe into distinct geographic Theatres, and made a Command responsible for each Theatre. Presently these are the USINDOPACOM (United States Indo-Pacific Command), USNORTHCOM (United States Northern Command), USSOUTHCOM (United States Southern Command), USEUCOM (United States European Command), USCENTCOM (United States Central Command), USAFRICOM (United States Africa Command). The Indian ANC (Andaman & Nicobar Command) is based on this model. Each Theatre has an independent Commander with distinct responsibility leading to a unified strategy and a cohesive plan. The Command is made self-sufficient in resources based on felt needs / expected challenges. Additional requirements, if any during operations, are easily and quickly built up from other dormant Commands. However, this model, tailor-made for expeditionary operations in widely separated areas, needs huge resources which need to be allotted separately to various theatres, and therefore is too demanding on the national exchequer.

> **'Unity of Command' and 'Synergy of Effort' have been time tested principles of war fighting. But it seems that resistance to Theaterisation is more due to lack of any serious prior deliberations on the subject and consequent absence of a guiding document / strategy, leading to differing understanding of the concept.**

❖ **Functional Integration Model**. With changing war fighting techniques, it was felt that resources for some activities of similar functions could be coalesced for coordinated functioning, which brought in the Functional Integration Models. NORAD (North American Aerospace Defence Command)[2] was an initial example. However, now there are other US Commands based on this model, namely USSTRATCOM (United States Strategic Command), USSOCOM (United States Special Operations Command), United States Space Command and US Cyber Command. The Indian SFC (Strategic Forces Command) is also based on this functional integration model. This model enables centralised control over scarce Force Multiplier resources, which can then be allocated as per the need across the Theatre Commands.

❖ **Resource Integration Model**. This model may be adopted when resources are scarce, for better management, maintenance and training. UK's Joint Helicopter Command[3] is one such example. However, such model can seriously impinge upon flexibility at theatre levels, due to differing priorities.

➢ **Chinese Model**. The Chinese military initially evolved for its mainland security, and accordingly all its elements have been deployed within the geographical boundaries of China. Even during major re-structuring undertaken recently to match up with its growing aspirations during the new millennium, all five newly created Theatre Commands are still located on its own territory. Their geographical spread and force allocation varies widely as per the homogeneity of terrain and perceived internal and external threats, and the change seems to be based on Geographic Integration Model e.g. the WTC (Western Theatre Command) facing India has the largest spread, has boundaries with many countries, has the two most threatening internal security challenges viz. Uighurs and Tibetans, but still has been allocated only two Group Armies, whereas the ETC (Eastern Theatre Command) has a much smaller expanse, has no boundaries with other nations, but has three Group Armies allocated to it, possibly presuming threats from sea or its own long term designs. However, the other newly created Commands like PLARF (PLA Rocket Force) and PLASSF (PLA Strategic Support Force), which controls Space, Cyber, EW and Psychological Operations, have followed the Functional Integration model.

> The concept of Theaterisation, and models of integration, whether geographical or functional, adopted and tested by the two most advanced militaries, accrue significant operational, logistic and administrative benefits.

It would be very evident from the above that the concept of Theaterisation, and models of integration, whether geographical or functional, adopted and tested by the two most advanced militaries, accrue significant operational, logistic and administrative benefits. The concept can be adopted for both, expeditionary forces as well as for forces deployed for defence of own borders and internal threats, with required modifications and combinations. The concept would, therefore, definitely facilitate a unified approach resulting in better planning and improved military response, and reduce costs in the long run.[4]

Relevance of the concept of Theaterisation to our Environment / Situation

India has had boundary issues with Pakistan and China since independence, and wars have been fought on many occasions. However, somehow after 1962, the Chinese threat was made secondary and the Indian Military got fully gravitated towards the western adversary leading to a lop-sided development of structures and capabilities. The internal security challenges since 1980s only added to this western focus. However, the surfacing of the enhanced Chinese threat lately, and its collusivity with Pakistan, has changed the entire dynamics. From a feeling of superiority and confidence against Pakistan, India now faces a serious asymmetric challenge as regards its territorial integrity and regional influence against China and a supportive Pakistan.

This threat is in three different directions viz. the Chinese in the North & East, Pakistan in the West, and the maritime threat along its entire coastline. All the three areas are widely separated, have distinct topographical and terrain characteristics, and are also very different in terms of demography and area development. These can be termed as three distinct Theatres faced with different adversaries and challenges, which have to be countered in different ways and with different methodologies and equipment.

However, despite this hard reality, there are still views to say that Indian Armed Forces have fared well till now in all operations with its present organisation, and there is no need to fix anything which has not broken! In this context, it may be noted that after 1971, India has not faced any full-blown conventional war. Even during limited Kargil Operations, and now during initial stages of LAC face-off with China, Indian Armed Forces were found scurrying for weapons and equipment, and resorted to total adhocism in allocating and moving of forces and equipment from all over to meet the threat. The stringent operations against terrorists, and successful surgical strikes in Uri and Balakot, may be an indication of improving political resolve, but are hardly a measure of overall combat readiness and effectiveness of Indian Armed Forces. The not so integrated Higher Defence Organisation (HDO), the urge to guard and remain in respective Service silos, making do with immense equipment hollowness, and general lack lustre approach to adopt / graduate to modern war fighting technologies, are enough indications and imperatives to bring in progressive changes to an outdated war machine!

India's military resources are currently far out-numbered and out-weighed against the collusive threat, and with China emerging as a global power with huge resources, India could at best think of only preventing the increase in this asymmetry. Theaterisation, with a combination of geographical and functional integration models, therefore, could be the best choice to synergise its limited resources, as also adopt and adapt to new generation warfare to develop a 'conventional military deterrence' against the diverse emerging challenges / threats.

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The Right Time and Mindset for Change

There are views to say that, is it wise to deliberately rock the boat in the storm i.e., disturb an existing stable system, and bring in a change especially when India is faced with myriad challenges viz. the collusive threat from China and Pakistan, military deficiencies, and economic impacts of the corona pandemic.[5] The following questions need consideration:

➢ Isn't India already too late in anticipating the major threat from China? And shouldn't necessary amends now be made expeditiously before it is too late?

➢ Indian Armed Forces are currently holding a very high proportion of vintage equipment. There are also huge deficiencies in its current authorisations of manpower and equipment. Isn't it a right time to re-organise, when India's military preparedness is possibly at its low ebb, to create/re-orient organisations and re-build capabilities with desired technology upgrades, rather than continue to reinforce well identified organisational and capability weaknesses or voids?

➢ Moreover, it needs to be understood that such major organisational changes cannot be brought in overnight. Each step/change would need to be carefully thought through, war-gamed for its efficacy, and then brought in possibly in phases to retain overall balance during the transition. However, isn't it an opportune moment for India, when it is possibly faced with its worst set of challenges and is drawing rich experiences, to start the deliberations on the NSS, changes required in the HDO and on the desired overall architecture of Theaterisation, to facilitate preparation of a well deliberated Theaterisation Plan Document to usher in a smooth transition when ready / required?

> ➢ Are we trying to situate 'A View' on Theaterisation i.e., Attempting to create Theatres even before the NSS is drafted and finalised, and without taking all stakeholders on board? And in that too, acting piecemeal — going first for low hanging fruits viz. creation of Air Defence Command followed by the Maritime Theatre Command, which seem to be easily do-able. Is it well deliberated, or the rush is to show quick progress on the mandate assigned! Army's Northern Command would not be disturbed for the present, but why are the numbers and proposed structures of the Continental Theatre Commands still being kept under wraps?

Some Answers to the Questions

Forethought about an imminent/future development or threat, and making of a timely strategy or plan to tackle it, has been a general weakness of the Indian system. The concept of 'Strategic Fore-Thought' seems to be missing. This is the basic reason for a 'reactive approach' in almost all situations. Even in the military, whether it was Kargil or now the LAC face-off, the response has been reactive. Despite fighting numerous wars with our adversaries, and facing the ever-ongoing proxy war, India till date has not been able to draft and issue a National Security Strategy (NSS), a document which should be specifying various threats, the organisational structures required to tackle these, the funding for timely acquisition of resources, and lateral linkages with various Ministries and CAPFs for smooth functioning of the Armed Forces. There is also a debate in some quarters regarding the sequence of reforms — which states that HDO reforms must be a precursor to Theatre Commands Reforms and War Fighting Function Reforms. As such, structuring of Theatre Commands without the NSS document in place could be a major flaw in the process of and progression to Theaterisation.

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Announcing of the formation of an Air Defence Command by a particular date, without taking all stakeholders onboard, and without delving deep into the feasibility and implications of sharing the scarce air defence resources between the proposed Air Defence Command and other theatre commands and field formations, snow-balled into a major controversy[6] and has emerged as a major stumbling block in the process. Many quarters opine that once all the air defence resources are fully net-worked, air defence becomes a procedural issue for which a separate Air Defence Command is not required.

As regards the non-official version of Maritime Theatre Command doing rounds, there seem to be almost no objections as all naval assets would be divided under the Eastern and Western Naval Fleets, and the Southern Naval Fleet Commander may don the hat of Maritime Theatre Commander. Even the ANC (Andaman & Nicobar Command) may be subsumed into the Eastern Naval Fleet, as an add-on and an additional element in the kitty. However, the issue surfacing is whether the span of control being contemplated for the Maritime Theatre Commander be manageable!

Whispers regarding retention of the Northern Command in its present form due to the ongoing security situation makes sense, and is understood by all. However, continuing suspense over the numbers and structures of the continental theatre commands is definitely creating apprehensions in the minds of already smitten Indian Air Force (IAF), and may be causing concerns amongst the Army's top brass as well.

IAF Resistance to Theaterisation[7]

The apprehensions of the IAF are discussed below:

> ➢ The air force, with its tremendous reach, speed, flexibility of employment, and capabilities of ISR, destruction and transportation, is definitely a strategic asset for the military the world over. The IAF too, in keeping with its combat potential, has proved its mettle in all operations since independence.

➢ The IAF has been maintaining a requirement of 42 squadrons for it to address a 'two front threat'. However, over the years, the numbers have fallen to 30/32 squadrons, and it may take more than a decade to build the numbers back.

➢ The IAF has overcome this shortfall, possibly by adopting the following procedures / practices:

❖ Acquisition of multi-role and higher technology / generation aircrafts, which enhanced capabilities to do more with lesser numbers.

❖ Adopting a practice of 'Centralised control and planning, and de-centralised execution', wherein resources are allocated /re-allocated by Air Chief/Air HQs to various Air Commands when hostilities become imminent, all operations (missions) are planned at Air Commands, and Air Bases and Squadrons are only to execute the missions directed, and

❖ Asking the beneficiary {e.g., IA (Indian Army)} to only state the 'impact desired on the target', rather than asking for dedicated number of aircrafts / sorties.

➢ As such, the IAF possibly now is feeling concerned about theaterisation, where its scarce resources may need to get divided between various theatres, and IAF may lose its identity, control, and operational flexibility.

> **If we follow the US model in theaterisation, Service Chiefs will remain responsible to raise, train, and sustain, and Theatre Commanders directly report to / get orders from the defence minister.**

However, the IAF's apprehension / contention that it is not amenable to theaterisation, due to scarce resources which need to remain centrally controlled for optimum use, may not be totally technically correct. Presently too, the IAF's resources during peace time are divided and allocated to five operational Commands viz. Southern, South Western, Western, Central and Eastern. During operations, the Air Chief / Air HQs may change the allocations between commands as per requirements, and command HQs continue to retain freedom of planning, and getting the missions executed through the air bases and squadrons. As such, if the sanctity of Air Commands/Air Component Commanders is maintained in *t*heaterisation, there should be little change to the existing methodology, except that in place of Air Chief / Air HQs, the Chiefs of Staff Committee (CoSC) may be taking the decision of allocation / re-allocation of air resources, that too with the expertise of the Air Chief who is a member of the CoSC.

India's HDO and Theaterisation

The CDS heads the newly created Department of Military Affairs (DMA) as a Secretary, is Permanent Chairman of CoSC and is the Principal Advisor to the Government / RM on military matters. The CDS has not been given operational control, which is being retained by the respective Service Chiefs.

If we follow the US model in theaterisation, Service Chiefs will remain responsible to raise, train, and sustain, and Theatre Commanders directly report to / get orders from the defence minister. In the political domain, civilian supremacy over the armed forces is considered a desirable arrangement. However, the linkages in the HDO need to be carefully crafted to retain efficiency, responsibility and accountability, if the concept of theaterisation ought to deliver full benefits in the Indian context.

The US adopted the theaterisation concept to deal with global security issues. Control of huge global forces, with varying political mandates, by a single Head of Armed Forces was not considered desirable, and accordingly the Goldwater Nichols Act of 1986[8], made the Joint Chiefs of Staff a Principal Advisor to the President and the Secretary of Defence, and Theatre Commanders were to receive orders directly from the President/Secretary of Defence. Later, even the Commander in Chief (C-in-C) title of Theatre Commanders has been changed to Component Commanders,

as only the President of the US can be the sole C-in-C of the US Armed Forces, and who actually controls things directly as the US has Presidential form of government. In effect, it is a single point control with full responsibility and accountability.

China, which has adopted the theaterisation model recently, too has placed all its armed forces under the central control of the President[9], as China too expects threats from different adversaries along its borders, and has now started preparations for expeditionary actions. The point to note again is the single point control by the President. However, in the Indian context, the following aspects, different from the above, are noteworthy:

➤ India expects security / armed threats along its continental and maritime borders from two well identified adversaries, and that too in collusion (at least in the foreseeable future). And, the threats are primarily related to territorial integrity, which would require a unified approach and strategy to address.

➤ India is desirous of adopting the theaterisation model to reduce the multiplicity of armed forces commands HQs, integrate the functioning of three Services, and thereby achieve unity of effort and conservation of resources.

➤ However, while the Indian territorial expanse may be divided into various theatres for ease of functioning, the threat from common adversaries and paucity of resources will possibly require some central control for exercising a unified strategy pan India and facilitate frequent switching of resources as per the threat.

> **China, which has adopted the theaterisation model recently, too has placed all its armed forces under the central control of the President, as China too expects threats from different adversaries along its borders.**

➤ Multi-domain warfare, supported by technology, has made a 'whole of nation approach' an imperative to address the national security challenges. As such, there exists a need to also have something like a National War Centre where all stakeholders (various ministries, central security establishments and CAPFs) need to sit together with the armed forces to plan and fight a unified battle, as applicable to each.

Under these circumstances, where the President (the nominal Commander in Chief) has only ceremonial status, the Cabinet Committee on Security (CCS) is the apex body on security, the responsibility of 'Defence of India' lies with the Defence Secretary, and accountability is thrust onto the armed forces, there would be a definite need to re-orient the HDO set up to become responsive to the needs of theaterisation.

IBG-isation and its Relation or Impact on Theaterisation. IBG stands for Integrated Battle Group. This concept is totally restricted to the IA, and can be better understood as follows:

➤ IA is formed of various Arms and Services for their specialised roles. Units (regiments/battalions) and sub-units (squadron/battery/company) of these are put together to form self-contained entities to fight a cohesive battle. Such all arms entities exist in the IA as Divisions and Independent Brigade Groups (in very limited numbers).

➤ At higher levels, these Divisions and Independent Brigades are coalesced to form Corps — Pivot Corps for defensive roles, and Strike Corps for offensive roles.

➤ Due to increasing terrain friction / restrictions along the border areas due to creation of obstacles, increase in built up areas and improving ISR, the reach and cohesive employment of such large formations has been severely restricted. Therefore, there is a need to have smaller self-contained all arms entities to achieve better results.

➤ It is this new requirement that gave rise to the concept of IBGs. An IBG is an all arms formation, loosely said — larger than a brigade, but smaller than a division, tailor made to a requirement (threat) and sector (as per terrain). Presently, the concept is possibly being executed in one Corps on the western front, and another Corps on the northern front.

The concept of IBG is internal to IA, basically re-shaping of certain formations to improve upon their combat efficiency and flexibility, and would not in any way impact the plan and process of theaterisation.

The latent Challenges of Theaterisation

The current debate and deliberations, rather sparring, on theaterisation, as viewed and heard in the open domain, seem to be largely concentrated on spans of control and distribution of existing resources between the Services, as also focussed on the number of C-in-C level positions the armed forces / each Service may retain / have. Unfortunately, in this din of turf battle on operational aspects, the age-old dictum ...The army marches on its stomach ... (implying the 'support structures') ... seems to have taken a back seat.

There is a talk that Theatre Commanders would primarily concentrate on operations, and may not be burdened with administrative responsibilities; the Raise, Train and Sustain functions would continue to remain with the respective Service Chiefs; and scarce force multipliers viz. Cyber, Space and Special Forces may necessarily remain under centralised control in the functional integration mode. As such, re-modelling of the controlling HQs (HQ IDS and Service HQs) and support structures, which would be expected to support the entire edifice, should also assume equal primacy and priority to enable a smooth transition to theaterisation. The evident latent challenges are:

> **There is a talk that Theatre Commanders would primarily concentrate on operations, and may not be burdened with administrative responsibilities; the Raise, Train and Sustain functions would continue to remain with the respective Service Chiefs.**

➤ Structure and responsibilities to be adopted by HQ IDS to support the re-modelled CoSC and theaterisation.

➤ Shape and responsibilities of the three Service HQs.

➤ Training, logistics and administrative grid that would support all the Services and theatres and amalgamation of training, logistics and administrative (supply, maintenance and repair chains) organisations.

➤ Administrative control system over the Non-Field Force (NFF) and static establishments of the three Services.

The latest Challenge — Is the CDS required at all?

The appointment of the CDS was created after many deliberations to bring in the required integration and synergy amongst the three Services. While delay in announcement of the second CDS post the unfortunate and sudden demise of General Bipin Rawat on 08 Dec 2021 was understandable but as at the time of writing this article continuing to keep the post vacant beyond 30 Apr 2022, when the senior most officer of the armed forces retired, possibly indicates to a re-think at the govt levels.

In this context, it needs to be mentioned that the post of CDS was initially announced with no prior indication and preparations, and the mandate given was also very heavy and intricate; the timelines indicated for results were also too tight to the point of appearing unrealistic. When other countries having a CDS took decades to refine the concept, the first CDS in India couldn't have done wonders in two-three years, and that too in an environment which was already beset with numerous challenges in its HDO and silo-based working of the three Services.

The prime challenge that India faces today is the threat to its territorial integrity. China and Pakistan are well identified adversaries and their collusivity against India is a near certainty because of their common interests. Therefore, the threat along any frontier — land or coastal or any theatre — would need an integrated plan, not only in allocation / distribution of resources, but also in execution of operations. As such, the proposed Theatre Commanders too would be fighting an integrated battle against common adversaries. Therefore, the post of CDS as Permanent Chairman of CoSC with full operational control over theatres, and full administrative control over the armed forces through the DMA, may be an imperative at this juncture to facilitate the process of integration and theaterisation. The disparate functioning of the three Service Chiefs in the CoSC may not suffice during any future conflict. The direct government control over Theatre Commanders may only be needed much later when/if India emerges as a powerful military nation, with requirement to undertake expeditionary operations, wherein the Theatres Commanders could be assigned separate tasks. Moreover, the Indian Armed Forces have always adhered to the constitutional dictate of accepting political supremacy. Therefore, the government too needs to enable the CDS and the armed forces to evolve as per emerging threats and needs of the nation, rather than continue to remain mired in bureaucratic procedures and control.

Way Forward

Theaterisation would be a major change for the Indian Armed Forces, which should definitely mitigate the current and imminent challenges faced by the nation, as also support India's medium and long term geo-political and geo-strategic aspirations. It should, therefore, be undertaken with due deliberation, fore-thought and caution, where each aspect is critically analysed to facilitate smooth transition. The military's equipment profile changes take a long time to execute, and then it requires an equally long time and effort to draft, train and synchronise the procedures and drills to perfection. Under these circumstances, where there are innumerable challenges as also some organisational reservations cum resistance, the following approach may succeed:

> **The direct government control over Theatre Commanders may only be needed much later when/ if India emerges as a powerful military nation, with requirement to undertake expeditionary operations, wherein the Theatres Commanders could be assigned separate tasks.**

- ➤ As step one, a detailed blue print (Vision Document) of Theaterisation, which gives out the final desired architecture of the Indian Armed Forces, needs to be prepared (after fresh inclusive deliberations to arrive at the most suitable model), in sync with the NSS, so that all apprehensions are put to rest.

- ➤ Once approved, as step two, a top driven approach needs to be adopted, wherein the change gets implemented in phases within stipulated timelines.

- ➤ While 'Make haste Slowly'[10] ... may be the mantra, the following sequence / steps are suggested to carry forward the plan of theaterisation:

- ➤ The CCS / NSA to draft and issue the NSS (NSS), which may also consider and include the requirement of having something like a National War Centre to enable execution of a 'whole of nation approach' to face security challenges holistically. To avoid delay, at least the broad contours of the strategy need to be shared with the armed forces so that the architecture of theaterisation can be worked out concurrently as per the nation's overall requirement.

- ➤ The MoD to initiate concurrent action on HDO reforms, especially with respect to:

  - ❖ The Chain of Command from CCS to the Theatre Commanders.

❖ Responsibility of Defence of India, and accountability thereof.

❖ Inclusion of the CDS and other CoSC Members into the National decision-making apparatus.

➢ The CDS / CoSC to undertake following actions:

❖ Conduct joint reviews afresh of patterns of emerging threats to finalise the span of theatre Commands, and work out the requirement of various resources in sync with the desired results expected in each theatre as per the NSS / Operational Directive(s).

❖ Draft the overall architecture of theaterisation (taking all stakeholders onboard) to remove all apprehensions, and then pursue the implementation as per a phased plan.

❖ Allocate the resources on geographical or functional integration models as per the availability, and re-orient the same to mitigate the threats expected.

❖ Create structures to adopt new technologies and venture into new arenas of AI, Space, Cyber and IW to match / negate adversary's capabilities for own force preservation.

❖ Utilise this opportunity of theaterisation to synergise inventories of all Services as feasible, as also develop common communication systems and procedures.

> **Conduct joint reviews afresh of patterns of emerging threats to finalise the span of theatre Commands, and work out the requirement of various resources in sync with the desired results expected in each theatre.**

❖ Activate common training and logistic facilities to optimise use of resources, as also strengthen the integration process.

❖ Focus on civil-military fusion to integrate and optimise use of national resources.

❖ Support 'Atma Nirbharta' projects to ensure ready and continuous availability of enhanced defence needs.

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Military Dimensions of India's Space Programme

Group Captain Ajey Lele (Retd)[@]

Abstract

Against the background of India's strategic compulsions in the region, this article identifies the necessity for India to invest into space technologies for assisting its armed forces. India's defence space investments are debated at two levels: firstly, the military specific investments made in space domain to assist the armed forces and secondly, the aspects of space security at the backdrop of India conducting an anti-satellite test (ASAT, Mission Shakti) during 27 March 2019. It is argued that in near future, India would be required to establish a new military vertical called India Space Force (ISF) to oversee the challenges of possible weaponistion of space and increasing threat of space warfare.

Prelude

India has unique geography and climate. The country is a peninsula and part of the country experiences tropical climate, while the other part is an extra-tropical region. Monsoon (both Southwest and Northeast) is the major rain creating weather phenomenon for India. Tropical cyclones (Hurricanes) affect both, the western and eastern costs of the country. The Himalayan Mountain Range, with a heavy snow cover and having some of the tallest mountain peaks in the world, is situated at the northern border of the country. While the Northeast Region is surrounded by thick vegetation, the western part of the country has the Thar Desert (the Great Indian Desert). Resultantly, the Indian Armed Forces are required to operate in diverse and difficult weather and terrain conditions. Such a unique geography and challenging climatic conditions demands assistance from technologies to assist routine activities. Space technologies particularly are known to provide great assistance in this regard.

India started investing in the domain of space by undertaking sounding rocket launching experiments during 1960s. India's first satellite was launched with the help of the Soviets during 1975. Subsequently, India developed its own satellite launching systems and the country attained the status of space-faring nation during 1980. Today, Indian Space Research Organisation (ISRO) gets globally recognised as an important space agency. Broadly, India's satellite infrastructure is getting used for the purposes of education, management of natural resources, TV broadcasting, telemedicine, science, weather observations, and disaster management. India is also developing its space industry. Realising the assistance space technologies can provide for assisting the armed forces, India is making specific investments in the space domain to satisfy the needs of Indian Army, Air Force and Navy.

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Strategic Realities and Necessity for Space Technologies

The 1991 Gulf War demonstrated to the world how effectively space technologies could assist a state's military campaigns. Control of space communications was vital to the swift victory of the US and its allies during Operation Desert Storm[1] and also satellites assisted them majorly towards gathering intelligence, knowing about the weather conditions, and offering navigational services. Obviously, a state like India, which by that time has started expanding its space programme, is expected to have learned much from what was happening in the Iraq war during 1990s period. More importantly, since India has been embroiled in a challenging conflict situation for long, it has always been in the lookout for technologies, which would enhance its military capabilities.

India shares borders with various countries. The land borders are shared with China, Bhutan, Nepal, Afghanistan, Pakistan, Bangladesh, and Myanmar (Burma). While with Bangladesh and Pakistan, both land and maritime borders exist, with Sri Lanka, India shares only a maritime border. India has 15,106.7 km of land border and a coastline of 7,516.6 Km including island territories.[2]

Unfortunately, no clear demarcation of borders had happened during partition and India continues to have unresolved border issues with both, Pakistan and China. Also, India has open border with Nepal vide the Treaty of Peace and Friendship (1950). Every border puts forth different set of challenges for security forces. For management of these borders, specific central forces have been established like Border Security Force (BSF), Shastra Seema Bal (SSB), the Indo-Tibetan Border Police (ITBP), Assam Rifles, and the Indian Coast Guard (ICG). Owing to the challenging topography, terrain conditions, and inclement weather situation, only human monitoring of these borders is not adequate and space technology offers immense value for 24 by 7 monitoring of these borders.

> **There are various asymmetric threats like the possibility of the use of weapons of mass destruction, terrorism, epidemics, climate change related challenges, and cybercrimes, and information warfare.**

Post-independence, on four occasions India was involved in the direct military clash with Pakistan and China. Furthermore, an India-Pakistan conflict (less than a war situation), famously known as Kargil conflict, took place during 1999. With a realisation that India cannot be defeated in conventional wars, Pakistan is taking the help of terrorism as a tool to fight with India.[3] This has been on now for more than three decades, The China-Pakistan relationship is a very friendly association. Hence, Indian Armed Forces are required to remain prepared for fighting a two-front war. India-China border problem was dormant for many years, however, following a fatal standoff in the Himalayas, the situation along this border has become volatile. The problem in recent times has begun during the June 2020 clash in the Galwan Valley in Ladakh Region, which killed 20 Indian soldiers and 4 Chinese soldiers.[4] Since then, India and China have held multiple rounds of military and diplomatic talks to try and resolve the dispute, however, there is no solution in sight. More importantly, the security dynamics of the region have become more complex owing to the fact that, India-China-Pakistan are all nuclear weapon states and also have significant missile inventory. In addition, India and China have tested their anti-satellite kinetic technologies (ASAT).

Against this backdrop, India needs to simultaneously remain prepared for fighting conventional, nuclear, and asymmetric warfare. There are various asymmetric threats like the possibility of the use of weapons of mass destruction, terrorism, epidemics, climate change related challenges, and cybercrimes, and information warfare. India's defence establishment is expected to ensure sovereignty and territorial integrity of the country. Their peacetime roles include handling threats like natural disasters.

Broadly, it could be said that in the 21st century, India's defence establishment has modernised much. With the increased digitisation, the nature of battlefield has evolved significantly. The modern-day warfare is network centric, where information superiority is mandatory. For this purpose, the security establishment needs to depend on command, control, communication, computers, intelligence, surveillance, and reconnaissance (C4ISR) structures. There is a

significant amount of dependence on space technologies for operating modern military equipment. ISRO is providing some direct and indirect assistance to the security establishment in this regard.

Militaries use space technologies in the arena of remote sensing, communications, navigation, and meteorology, and for collection of intelligence from electronic signals, communications and open-source intelligence. The early 1990s period was significant in many ways. It was the period when the Cold War ended. India began its process of economic liberalisation around the same time. Subsequently, more money started becoming available for various science and technology programmes. ISRO tested success with their polar satellite launch vehicle (PSLV), which eventually ended up becoming their most reliable workhorse. The 1991 Gulf War showcased space technologies in military operations. Around the same time, India's Armed Forces started modernising and also ISRO started transforming. All these conditions could be said to have impacted India's military rationale and the seed for investing into space technologies for assisting defence forces could be said to have got sowed then.

Military Space

India has modern battle tanks, artillery guns, light, medium, and heavy machine guns, sniper rifles, missiles, multi barrel rocket launchers, and various other equipment on their inventory. The Indian Navy (IN) has surface ships, aircraft carriers, destroyers, frigates, and corvettes and a submarine fleet as main platforms for ensuring maritime security. The force structure of the Indian Air Force (IAF) is a mix of fighter and transport aircrafts and various categories of helicopters, UAVs, and missile systems. To maximise the performance of these assets, it is important that the mission planners and operators have advanced knowledge of the issues concerning the battlefield. During exercises and also period of operations there is a requirement of real-time inputs mainly in regards to weather, navigation, and required intelligence information.

> **Indian soldiers operate in diverse terrain and topographic conditions, from peninsular region to desert to snow-clad mountains. Owing to topographical challenges, soldiers on many occasions encounter breaks in communications. GSAT-6 is known to provide quality and secure communication. It also frees the soldier from carrying bulky communication equipment.**

ISRO has been launching communications satellites since 1982/83. Till date, ISRO has undertaken around 45 such missions with only a few failures. Around 15 of such satellites are still active[5] and defence agencies are directly or indirectly getting inputs from them. The first communication satellite exclusively for military use was launched only during September 2013: GSAT-7, a multi-band military communications satellite developed by ISRO for use by the Indian Navy. This satellite is known by the name Rukmini (also as INSAT- 4F). Rukmini can simultaneously network about 60-70 ships and 70-80 aircraft seamlessly. This satellite has nearly 2,000 nautical mile 'footprint' over the Indian Ocean Region. The Indian Navy has already approached ISRO for launching of the replacement satellite since the lifespan of this satellite is expected to finish in coming few years. This is required to be designed to be compatible with a variety of modern platforms including future submarines of the Indian Navy.

On 27 August 2015, a communications satellite called GSAT-6 was launched by ISRO which is known to cater for strategic requirements. This satellite has a very small antenna (which is unusual for this category of satellites) having a diameter of about six metres. This S-Band unfurl-able antenna gets utilised for five spot beams over the Indian mainland and very small handheld devices are used for data, video, or voice transfer. Indian soldiers operate in diverse terrain and topographic conditions, from peninsular region to desert to snow-clad mountains. Owing to topographical challenges, soldiers on many occasions encounter breaks in communications. GSAT-6 is known to provide quality and secure communication. It also frees the soldier from carrying bulky communication equipment.[6]

Another dedicated military communication satellite, GSAT-7A, was launched on 19 December 2018. This geostationary satellite has a lifespan of eight years and has been exclusively launched for the IAF. It is providing

services in Ku-band and offers a secure mode of communication which is possibly facilitating exclusive frequency flight communications for the IAF. The IAF's various bases are spread across India, including deserts, jungles, and mountains. The Ku-band links are known to offer uninterrupted connectivity that is less susceptible to disruptions caused by rain. This satellite is helping IAF to link its airbases, radar stations, Airborne Early Warning and Control System (AWACS) aircraft, and manage the activities of drones. It has been reported that this satellite is assisting Indian Army too in a limited fashion. ISRO is likely to launch few more military communications satellites in the near future, with the Indian Army expected to be the next beneficiary. In addition, for the paramilitary forces like BSF, CRPF and others, there is a proposal to launch a dedicated communications satellite.

During November 2021, it has been announced that the Ministry of Defence has approved a proposal to procure a GSAT-7C satellite and related equipment for the Indian Air Force (IAF). This decision was taken at a meeting of the Defence Acquisition Council (DAC) chaired by the Defence Minister. It is expected that this satellite would be designed, developed, and built indigenously.[7] This could be launched during 2023/24.

Remote sensing (earth observation) is an exclusive field where ISRO is known to have gained global standard expertise. At present, ISRO has more than ten operational remote sensing satellites and they provide data in a variety of spatial, spectral, and temporal resolutions. These satellites could be also viewed as dual-use satellites. They assist India significantly mainly for civilian purposes like in the management of land and water resources, drought/irrigation monitoring, urban planning, forest surveys, crop health monitoring, identifying mineral deposits, and coastal studies.

> **It needs to be emphasised that India's remote sensing satellite inventory is grossly insufficient for India's existing and futuristic needs. This is mainly because India has to guard very a large land border and coastline.**

Some of these satellites also have a specific defence utility. India's journey in developing satellites towards specific military (reconnaissance) utility could said to have begun during 2001, with the launch of Technology Experiment Satellite (TES) by the ISRO. Over the last decade, India has established one major constellation of satellites called Cartosat (cartographic satellites), which largely is known to have defence applications. The first satellite in this series was launched on 05 May 2005, called Cartosat-1 with a resolution of 2.5 meters. This was followed the launch of Cartosat-2 on 10 January 2007 with a resolution of less than one meter. Subsequently, till 2018, six satellites in the Cartosat-2 series were launched (Cartosat-2A to F). On 27 November 2019, Cartosat-3 has been launched and is known to have a resolution of around 30 cm. In near future, Cartosat 3A and Cartosat 3B are expected to be launched.

Apart from Cartosat, ISRO has another important group of satellites called radar satellites or RISAT. This is a series of radar imaging reconnaissance satellites built to provide all-weather, and day & night, surveillance using synthetic aperture radars (SAR). During November 2008 (26/11), India experienced one of the major terror attacks in its history. India's financial capital Mumbai witnessed 12 coordinated shooting and bombing attacks lasting for four days and killing more than 160 people. Because of security challenges, an immediate need for reconnaissance satellites was felt, and India imported the SAR sensor from Israel. With this, the first radar satellite was launched during 2009. Till date, four satellites have been launched in this series. It needs to be emphasised that India's remote sensing satellite inventory is grossly insufficient for India's existing and futuristic needs. This is mainly because India has to guard very a large land border and coastline. Efforts are on towards increasing the space-based assets for such a massive task.

ISRO has also launched a satellite called EMISAT on 01 April 2019. This is a reconnaissance satellite under Defence Research and Development Organisation (DRDO) project 'Kautilya'. This project is the first ELINT system payload for a satellite platform to intercept ground-based radars across the globe. The system provides high accuracy in direction finding and locations fixing of radar transmissions.[8]

For militaries, satellite-based navigation is the need of the hour. Globally available satellite systems have limitations in regard to military specific use. Hence, India has put in place an Indian Regional Navigation Satellite System (IRNSS) which is also called as NAVIC (NAVigation with Indian Constellation). This is a seven-satellite regional system, with all seven satellites currently in orbit. This system offers two levels of service, a "standard positioning service" for civilian use and a "restricted service" that is encrypted for military use.[9] For defence use, the restricted service provides a resolution which is less than 10 metre.

Counter-space Technologies

On 27 March 2019, India successfully conducted an ASAT (anti-satellite) test and has entered the uncharted territory of counterspace technologies. India has its own rationale for conduct of this test. At present, India has around 50 operational satellites. Since the inception of its space programme, India's focus has been to use space technologies for societal and commercial purposes and that agenda continues to remain at the forefront even today. Hence, it is unlikely that India would opt for the space weaponisation path. India's test is about messaging to adversaries and demonstration of technology and deterrence capabilities.

India conducted the ASAT at an altitude of 280 km (very low altitude) in order to ensure that no debris would remain in space. There are very few fragments of debris of this test still present in space. However, in general it was a debris-less ASAT test. For this reason, there was little criticism of the Indian test globally. India understands that mainly there is an 'optics' associated with the tests like kinetic kill ASAT. Hence, it is expected that India's future focus in the area of counter-space technologies could be on lasers and jamming technologies.

> **With an ASAT test under its belt, India has clearly identified space as a strategic domain in its overall security architecture. Obviously, using satellite technology for military purposes becomes only one of the aspects of its overall space security architecture.**

India has around 50 operational satellites. China had undertaken an ASAT test during 2007. It is well understood that China is essentially trying to compete with the US in the space domain. They have major concerns about the possible involvement of the US in the Taiwan theatre if something goes amiss over there. They feel that the US could get asymmetric advantage during the conflict situation (if any) owing to their expertise in the space domain. Since 2007 onwards, they are systematically developing their counterspace capabilities. Obviously, their investment would come handy against India too. Hence, it is important for India to evolve its strategic vision in space analytically and ASAT should be viewed as a step in that direction.

Assessment

Globally, space has emerged as an important domain in the military preparedness. Owing to India's security needs and compulsions, the state is investing in space technologies for satisfying military needs. Indian Armed Forces are having an increasing dependence on satellite systems. During 2019, Defence Space Agency (DSA) has been established to cater for the military requirements. However, there is a need to enhance the capabilities in space from military perspective owing to strategic compulsions.

With an ASAT test under its belt, India has clearly identified space as a strategic domain in its overall security architecture. Obviously, using satellite technology for military purposes becomes only one of the aspects of its overall space security architecture. At present, India needs to make a clear distinction between its military and civil space programmes. From a space security perspective, it is important for India to evolve a mechanism for the generation of space situational awareness (SSA). Also, for establishing a strategic space programme, India needs to develop various counter-space capabilities like electromagnetic pulse systems, lasers, jamming techniques, and cyber options. In addition, satellite-hardening technologies and space debris removal techniques are required to be mastered too. Spaceplanes, satellite swarms, and launch-on-demand services are required for network-centric warfare. India should also develop

the ability for the human spacecraft to move from one orbit to another. New quantum-based communications systems and cells for studying space weather forecasting are the requirements of the present and the future.[10] In future, India would also be required to undertake in-orbit servicing of its own satellites and get associated with the global structures addressing the issues related to space traffic management.

Presently, China is making a big push towards developing counter-space technologies. It has been reported that the US agencies are of the opinion that China is building space capabilities at 'twice the rate' of the US. On 15 November 2021, Russia has conducted a direct-ascent anti-satellite (DA-ASAT) test and has added much towards existing space debris. All this indicates that the world needs to remain prepared for space warfare. Hence, to cater for existing and futuristic space security challenges, India would be required to establish a fourth vertical for its defence establishment called the India Space Force (ISP).

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Defence Finance Management in Civid-impacted Indian Economy

Shri Amit Cowshish@

Abstract

The world economy has been severely impacted by the Covid-19 pandemic which originated in early 2020. India has managed the financial distress reasonably well and there are strong indications of rapid economic recovery. The pandemic has had no abnormal impact on the defence budget so far and such prospects seem unlikely in the coming years. However, considering the challenges before the economy, the gap between the Services' requirement and budgetary allocation may persist. This calls for better financial management centred around systematisation of defence planning, outcome-oriented expenditure management, and reformation of policies and procedures, for optimum utilisation of scarce resources.

Introduction

On 30 January 2020, the World Health Organisation declared the outbreak of 2019-nCov, or Covid-19, as a Public Health Emergency of International Concern.[1] Eleven days later, its Director-General announced that the outbreak could be characterised as a 'pandemic', prophetically adding that this crisis will touch every sector.[2] On 14 March, India followed suit by characterising it as a disaster and 'freeing up resources and funds to battle the spread of the infection that (had) sparked the shutdown of travel, schools and offices across the country'.[3] As the pandemic spread like wildfire taking its toll on human life, government had to lockdown the country twice, because of which there was a large-scale migration of the workforce from urban centres to the hinterland, businesses suffered heavy losses or closed, and industrial production was badly disrupted. In short, the Indian economy, much like other economies across the world, took a big hit.

The Impact

The world has not been the same since the fateful outbreak of Covid-19 pandemic two years ago, as the national economies are struggling — some more intensely than others — to return to the path of economic growth and prosperity. Amid this unprecedented human crisis came another big blow for India. On the night of 15-16 June 2020, there was a clash between the Indian Army (IA) and the Chinese Peoples' Liberation Army (PLA) in the Galwan Valley in eastern Ladakh in which several soldiers tragically lost their lives. More than two years later, the face-off continues despite 15 rounds of talks between the two militaries and a whirlwind tour of New Delhi by Chinese Foreign Minister Wang Yi on 24-25 March 2022. The stalemate has necessitated continued deployment of forces along the Line of Actual Control (LAC) and beefing up of security in other sectors, entailing unspecified expenditure. The ubiquitous impact of the pandemic, especially on the government's finances, unanticipated surge in expenditure for providing food and health

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care to more than half a billion people, and an unexpected surge in the requirement of additional funds to manage the potentially volatile situation in eastern Ladakh, has heightened the apprehension of the armed forces and the strategic community. They fear that it is going to get more difficult, than has been the case so far, for the government to allocate adequate funds for the armed forces to discharge the responsibility cast upon them.

In the circumstances, it will be worthwhile to analyse the impact of the pandemic-affected economy on the priorities of the government, particularly on the allocation of defence budget. It will also be appropriate to consider whether the emerging financial situation calls for a different approach to financial management in defence.

The Impact So Far. Management of defence outlays has always been a challenge because of the low rate of year-on-year (YoY) growth in defence budget and the falling share of defence budget in the total Central Government Expenditure (CGE) which, according to many analysts, has impacted modernisation and operational readiness of the armed forces. It is often argued that the annual allocation for defence should be pegged at 3 per cent of the Gross Domestic Product (GDP) and that outlays below this threshold were grossly inadequate.

For the Ministry of Defence (MoD), however, these parameters are irrelevant for assessing adequacy of funds. Apropos, the parliamentary Standing Committee on Defence (SCoD) recommendation that there was a need to fix a minimum percentage of the GDP for defence, MoD told the committee in 2005 that 'instead of fixing defence expenditure as percentage of GDP, it (was) more important to ensure that the requirements of the Defence Services are met and allocations made accordingly'.[4] Judged by MoD's own yardstick, defence outlay has invariably fallen short of the requirement projected by the services.

> **Viewed in this perspective, slowing down of the economy has not had any major impact on the allocation of budget for defence in that there has been no unusual increase in the gap between projection and allocation of funds, which is the yardstick MoD applies to assess the adequacy of the defence budget.**

The gap between projection and allocation of funds increased from Rs 23,014.43 crore in FY11 to Rs 88,119.88 crore in FY20 before the pandemic broke out in the last quarter of that financial year. This gap further widened to Rs 1,03,535.74 crore in FY21 and Rs 1,25,480.43 crore in FY22, but this cannot be directly or entirely attributed to the economic impact of the pandemic as the gap had been widening anyway even before the pandemic broke out in early 2020. It is also worth noting that the gap has in fact come down to Rs 1,01,678.19 crore in the FY23.[5] Viewed in this perspective, slowing down of the economy has not had any major impact on the allocation of budget for defence in that there has been no unusual increase in the gap between projection and allocation of funds, which is the yardstick MoD applies to assess the adequacy of the defence budget. This inference is also supported by the post 2020 annual growth in budgetary allocations which have been in sync with the earlier trend.

Post 2020 Annual Growth in Sync with the earlier Trend

The YoY growth in the total outlay of the services (capital and revenue) has been erratic. Before the pandemic broke out, the annual growth ranged from (-) 6.24 per cent in FY17 to a whopping 16.55 per cent in FY18 (ostensibly due to implementation of the Seventh Central Pay Commission's recommendations concerning salaries and allowances). In FY21, which bore the brunt of the first wave of the pandemic, the YoY was 5.82 per cent which is low, but not unprecedented. In the FY03 and FY04, for example, the YoY was 2.87 per cent and (-)2.61 per cent respectively. In comparison, the YoY in FY22 and FY23 has been a reasonably healthy 7.44 per cent and 11.02 per cent respectively.[6] It also bears recalling that the FY21 budget was presented on February 1, 2020, less than a week before the first case of a Covid-19 infection was reported in the state of Kerala on 27 January.[7] There was no mention of Covid-19, much less its impact on the economy, in Finance Minister Nirmala Sitharaman's budget speech. Therefore, the drop in the YoY growth in FY21 cannot be attributed to the economic impact of the pandemic. It is also significant that later that year, an additional sum of Rs 20,776 was allocated by the Ministry of Finance at the Revised Estimate (RE) stage for the

armed forces' capital expenditure while the pandemic was at its peak, undoubtedly necessitated by the developments in eastern Ladakh. At any rate, the fact that the annual growth was 7.44 per cent in the FY22 and 11.02 per cent in the FY23 — highest during the period analysed above — further indicates that there has been no unusual impact of economic vicissitudes on the defence outlays.

What to Expect in the Future?

It is risky to make predictions as unforeseen developments — best exemplified by the calamitous outbreak of the Covid-19 pandemic in early 2020 — can upset all calculations, but there are reassuring signs that the Indian economy is on the way to a healthy recovery. According to the Ministry of Finance's Economic Survey of 2021-22, "Advance estimates suggest that the Indian economy is expected to witness real GDP expansion of 9.2 per cent in 2021-22 after contracting in 2020-21. This implies that (the) overall economic activity has recovered past the pre-pandemic levels".[8]

This optimism is also shared by international economic organisations like the International Monetary Fund (IMF). According to its World Economic Outlook growth projections released on 25 January 2022, 'India's real GDP is projected to grow at 9 per cent both in 2021-22 and 2022-23 and at 7.1 per cent in 2023-24' making India 'the fastest-growing major economy in all these three years'.[9] The World Bank's projections are slightly lower than IMF's, as it predicts India's GDP growth to be 8.3 per cent in the FY22 and 8.7 per cent in FY23[10], but all these predications unmistakably point to a robust economic resurgence which is reflected in Home Minister Amit Shah's statement that the 'Indian economy (is the) fastest in world to come out of Covid pandemic impact'.[11]

> **The growth projections, backed by a very healthy Goods and Services Tax (GST) revenue collection which hit an all-time high of Rs 1.42 lakh crore in March 2022[1], inspire confidence that future trend of the defence budget is unlikely to be impacted in any unusual way because of the economic impact of the Covid-19 pandemic.**

The growth projections, backed by a very healthy Goods and Services Tax (GST) revenue collection which hit an all-time high of Rs 1.42 lakh crore in March 2022[12], inspire confidence that future trend of the defence budget is unlikely to be impacted in any unusual way because of the economic impact of the Covid-19 pandemic. However, this assessment needs to be qualified: the anticipated economic recovery may not necessarily translate into substantial increase in defence outlays in future and break the continuous run of the annual allocations falling short of the requirement projected by the armed forces because of the multifarious economic imperatives.[13]

Increased Demands on the Government's Revenues

The demand on the government revenues has multiplied in the past two years, during which, among other things, it had to 'put in place economic safety nets comprised of world's largest free food program, direct cash transfers and relief measures for small businesses'.[14] These steps entailed massive expenditure. For example, under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), a sum of Rs 1,11,171 crore was released in the FY21 and Rs 68,233 crore in the FY22, till 25 November 2021. Under Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), Rs 1.8 lakh crore had been transferred to more than 10 crore farmer families as on 1.1.2022.[15]

Under Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) alone, in which 5 kg of food grains (wheat, rice, coarse grain) is provided to each beneficiary each month free of cost, the government has spent Rs 2.68 lakh crore since April 2020 when the scheme was launched during the first wave of Covid-19, and another Rs 80,000 crore will be spent till September 2022, taking the total expenditure to Rs 3.40 lakh crore.[16] There is a strong possibility of these, and several other schemes that entail cash expenditure, continuing into indeterminate future.

The inescapability of funding the schemes for supporting the vulnerable sections and providing more funds for improving health services and infrastructure development[17] — just to mention a few priority sectors — is likely to

keep the government revenues under pressure. This, in turn, can inhibit the government's ability to enhance defence budget in any substantial manner. However, it would be wrong to view the priority government accords to allocation of funds for the aforesaid objectives as an indication of deprioritisation of defence needs. The government must cater for the needs of all sectors through equitable distribution of whatever revenue it is able to generate through taxation, borrowings, and other measures like disinvestment, each of which has certain limitations.

Implications for Financial Management

The foregoing analysis indicates that the economic impact of the Covid-19 pandemic has not created an unusual impact on the armed forces' budget outlays which calls for a radically different approach to financial management. However, a distinction must be made between the need for a *radically different approach to financial management,* and the *imperative of improving the existing system of financial management*, which has not received as much attention in the past as it should have, even though efficient management is the key to optimal utilisation of scarce resources. There are several aspects of financial management that require a close look[18], but in a broad sense, three aspects stand out.

➢ First, despite years of experimentation, the system of defence planning continues to be flawed. The capability development plans of the armed forces are considered as the 'defence plans' for all practical purposes. These plans are incomprehensive as the Coast Guard, Border Roads, Defence Research and Development Organisation, and other MoD agencies, all of which must function in cohesion with the armed forces, are left out of these plans. Thus, there is no convergence of objectives, optimisation of resources, and coordinated execution of the plan. There is also no overarching bespoke organisation to prepare such a comprehensive plan. This is a serious drawback as planning is a complex 24x7 job which cannot be left to be performed by randomly selected Service personnel. Most importantly, even the disjointed defence plans are financially unviable right from the time these are made.[19] Just

> **The capability development plans of the armed forces are considered as the 'defence plans' for all practical purposes. These plans are incomprehensive as the Coast Guard, Border Roads, Defence Research and Development Organisation, and other MoD agencies, all of which must function in cohesion with the armed forces, are left out of these plans.**

to illustrate, in July 2017, the Services presented a five-year plan at the Unified Commanders' Conference that envisaged an outlay of Rs 26.84 lakh crore.[20] It would have required doubling of the defence outlay — a virtual impossibility — to execute this plan. There is a need to fix the problem besetting defence planning.

➢ Second, the present approach to financial management is focussed on assessing the efficacy of budget outlays through the prism of allocation and utilisation of funds under various budget heads. The limitation of this approach is best illustrated by the way the capital acquisition budget is managed. The focus is invariably on securing more funds and ensuring that the allocated budget is fully utilised, rather than on assessing the outcome of the expenditure incurred on acquisitions in terms of the capabilities acquired. This is not an efficient way of ensuring optimum utilisation of scarce resources for capability building. What is needed is an outcome-oriented approach to budget management[21], which is occasionally talked about but never considered important enough to be adopted as a tool for effective financial management.

➢ Third, efficacy of financial management is seriously hampered by not only the absence of financially viable plans and outcome-oriented budget management, but also complex rules and procedures that the Services often find exasperating[22] as much as tardy decision-making, and a system of 'integrated financial advice' which is generally viewed by the Services as an unnecessary imposition. Very little has been done to address this problem beyond periodic review of the capital acquisition procedure; it has been amended seven or eight times since the first Defence Acquisition Procedure was promulgated in 2002. Meanwhile, the Defence Procurement Manual,

which governs the revenue procurements, remains unchanged since 2009. Financial rules and procedures, other than those related to acquisitions, also need a closer look as some of them are outdated, unnecessary or cumbersome.

Conclusion

Since early 2020, rapid spread of the Covid-19 pandemic has disrupted the world economy, necessitating diversion of financial resources, especially in countries like India, to mitigate human suffering. India has done reasonably well in combating the crisis and resetting the economy on the path of rapid recovery and growth. The defence budget has not been affected in any unusual manner during this crisis and the economic indicators seem to augur well for the Indian economy's future.

However, the government revenues are likely to remain under pressure because of the imperatives of continuing with the schemes aimed at helping the vulnerable sections of the society, as well as investing in health care and infrastructure development, among many other sectors in need of financial support. It virtually rules out substantial enhancement of defence budget in near future. The Services will have to make do with allocations that fall short of the requirement projected by them, as has been the case in the past. While the situation does not call for a radically different approach to financial management, which can wait, it is imperative that the MoD pays due attention to improving the existing system of managing the scarce resources. This is a multi-dimensional problem, but three dimensions stand out: the need for improving the system of defence planning, introducing outcome-oriented management of the major segments of defence budget like the expenditure on modernisation, and setting right the complex web of financial rules and procedures which militate against optimum utilisation of funds.

> **India has done reasonably well in combating the crisis and resetting the economy on the path of rapid recovery and growth. The defence budget has not been affected in any unusual manner during this crisis and the economic indicators seem to augur well for the Indian economy's future.**

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Building Standoff Capability for Future Wars: An Overview

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Abstract

As today's wars get increasingly complex with an ever-widening scope for conflict between protagonists of all hues, employment of standoff weapons has seen a significant increase. In contrast to the traditional concept of what such weapons constitute, today's standoff weaponry comprises systems that range from the kinetic to the non-kinetic, from contact to non-contact, with enhanced lethality and versatility. While looking at some important developments worldwide, this article focusses on issues that India should consider for building up a suitable capability in this sphere, as dictated by its security challenges.

Introduction

The eight deadliest wars of the 21st century listed out in the online Encyclopaedia Britannica[1] range from one conventional war fought by a single state against a coalition (Iraq), to civil wars, insurgency, and finally onto the hybrid, of which the Russia-Ukraine conflict of 2014 is a prime example. The Nagorno-Karabakh conflict of 2020, the latest war between sovereign states containing important lessons for the future do not find mention here, possibly because of fewer civilian and military casualties. These conflicts while containing some or all elements of Fourth Generation Warfare (4GW), reflect another trend — the exponential growth in usage of standoff weapon systems from around the last decade of the 20th century. While the observation that "a ground force reaching the fence of the enemy's headquarters will unseat it and paralyse it in a far more dramatic fashion than a guided missile hitting the headquarters' armoured outer defences"[2] remains undisputed, the advent of improved technologies and reluctance to incur physical casualties in the information age, has encouraged greater and more innovative employment of standoff weapon systems — more so with standoff capability not restricted to 'kinetic non-contact systems' like rockets and missiles alone, but encompassing newer warfighting domains such as cyber, space and electronic warfare, all integrated with Artificial Intelligence (AI). It is imperative, therefore, for this aspect to be factored into capability building, along with traditional warfighting instruments for creation of modern force structures with allied employment strategies.

Standoff Weapons and their Evolution

Historically, kinetic standoff weapons have been employed for causing physical casualties, destruction or incapacitating of infrastructure, and finally for mass destruction. WW2 provides many examples — the RAF 'Dam Busters' raid to destroy two dams in Germany's industrial heartland in 1943, and the firebombing of Dresden on 13 February 1945 where 4000 bombs were dropped killing 25000 people. In the East, Tokyo was firebombed on 10 March 1945, where 'as many as 100,000 Japanese killed and another million injured, most of them civilians, when more than 300 American B-29 bombers dropped 1,500 tons of firebombs on the Japanese capital that night'[3]. As per Britannica, 'these low altitude incendiary bombing tactics were part of the ongoing effort to force a surrender before the Allied invasion of Japan'.[4]

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Modern standoff weapon systems, additionally, assist in fulfilling political aims (which do not necessarily involve conquest or defeat of another) through deterrence, dissuasion, or pressurising the adversary at minimum cost. These are instruments for strategic signalling, and a display of national resolve, for a larger audience. Newer technologies give rise to newer weapon systems, including the non-contact kind that facilitate deniability. Overall, they provide flexibility for employment at tactical, operational, and strategic levels through multiple choices. Unlike earlier practices, today's universally accepted concept of employment of kinetic standoff systems mandate precision engagement with reduced collateral damage — a sine qua non. Enhanced transparency and 24/7 ISR mandate innovative measures for force protection and survivability, as also need for simplified and flexible logistics with an ability for launch across multiple domains — land, sea, air, and space. The focus thus shifts inevitably towards rocket and missile systems.

Over time, there has been steady improvement in capability of kinetic standoff platforms. Joint Standoff Weapons, whose development in the USA commenced in the 90s, have come of age. Air launched, network enabled, precision strike systems for use on 4th and 5th generation aircraft for the US Navy are under manufacture.[5] More significant is the development of hypersonic missiles by China, Russia, USA, and now North Korea, which, flying at five times the speed of sound, make detection by radar and interception by Air Defence systems difficult as they glide towards their targets. Such systems rely extensively on dual use technology, enabling countries like China, which carried out a test of a hypersonic glide vehicle in July 2021 (described by Gen Mark Milley, Chairman of the US Joint Chiefs of Staff as 'close to a Sputnik moment')[6], to claim that this was a test to 'verify spacecraft reusability technology'[7].

Navies similarly have seen major developments in Unmanned Underwater Vehicles (UUVs). The US is developing the Orca UUV for mine countermeasures, anti-submarine and anti-surface warfare, electronic warfare, and strike missions.[8] Russia plans to induct the Poseidon, a nuclear armed submarine drone by 2027[9], while Chinese Sea Glider underwater drones have been deployed in the Indian Ocean to gather oceanographic data for submarine operations[10]. Side by side,

> **Modern standoff weapon systems, additionally, assist in fulfilling political aims (which do not necessarily involve conquest or defeat of another) through deterrence, dissuasion, or pressurising the adversary at minimum cost.**

conventional rockets and guns have seen improvements with products like the Russian Uragan 1M rocket, and the soon to be introduced 2S35 Koalitsiya SP gun system. However, it is in lasers that improvements are truly noteworthy. In December 2020, the US Navy tested a 'laser weapon systems demonstrators' to successfully engage a floating target from the USS Portland in the Gulf of Aden.[11] The Turkish military is reportedly a step further, having provided a laser weapon mounted on an armoured chassis to fighters in Libya who successfully downed a Chinese Wing Loong II UAV.[12]

Developments in the Non-Kinetic Non-Contact Arena

However, it is in the merger of kinetic standoff systems with other developments in the non-kinetic non-contact arena, such as cyber and Electronic Warfare (EW) integrated through Artificial Intelligence, that offers revolutionary possibilities. In a seminal piece, Amir Husain, founder and CEO of AI company SparkCognition states, "the combination of AI elements…. with existing technologies and platforms, can rapidly yield entirely new and unforeseen capabilities… the complex interactions of such platforms with others like them can create exponential, insurmountable surprise […]. Its applications will lead not merely to incremental enhancements in weapon systems capability but require a fundamental recalculation of what constitutes deterrence and military strength".[13]

In the same article, Husain provides numerous examples about developments in this field such as the Russian deployment of 80 drones simultaneously in Syria for ISR coverage to be able to see "everywhere all at once" and their testing of a Mi-28N attack helicopter with a new drone launcher that can be used to deploy ISR systems and intelligent loitering munitions. He analyses the Nagorno Karabakh conflict of 2020 where mass deployment of Turkish TB2 drones in combination with loitering munitions destroyed S-300 missile sites, armour, and infantry, and the successful

conversion of Soviet-era biplanes into drones by using them first to identify SAM sites and then destroy them via kamikaze attacks. Given that AI has the capability to provide simultaneous inputs in real time from a variety of sensors, thereby shortening (in effect flattening?) the OODA loop, he postulates that AI in modern systems will automate planning, fuse and interpret signals more efficiently, and enable next generation cyber and information warfare capabilities.

Nagorno Karabakh provided evidence yet again of the efficacy of EW systems when used in conjunction with other weapon systems. After earlier battle testing in Syria and Libya, the Turkish KORAL Land Based Transportable Electronic Warfare System once again proved invaluable, providing electronic support operations for conducting ISR, and attack operations to degrade, neutralise or destroy enemy combat capabilities. KORAL was employed in an 'unconventional drone doctrine…that requires a high level of cooperation, coordination and integration between the deployed EWS (KORAL in this case), the UAVs (Aerospace Anka-S and Bayraktar TB2) and the smart micro-munitions (MAM-L and MAM-C)…'.[14] Other countries too have developed unconventional doctrines; Russia's 'Radio Electronic Fire Strike Concept' which employs 'cross domain firepower assets in conjunction with electronic reconnaissance and attack to engage key nodes within an enemy's operational system' is another example[15].

The Road Ahead for India

India's capability requirements are predicated on its national security strategy. The No War No Peace / Ceasefire Violation scenario across the Line of Control (LoC), coupled with the self-imposed embargo on use of airpower (till Balakot), has its own set of dynamics which the armed forces are well equipped to handle. It is the fluid situation on the northern borders where asymmetry in capability shows up.

> **Given that AI has the capability to provide simultaneous inputs in real time from a variety of sensors, thereby shortening (in effect flattening?) the OODA loop, AI in modern systems will automate planning, fuse and interpret signals more efficiently, and enable next generation cyber and information warfare capabilities.**

Current Indian efforts towards indigenous production and R&D have made some headway — BRAHMOS naval and air versions have been successfully tested, DRDOs Supersonic Missile Assisted Torpedo System has also been recently tested, and numbers of PINAKA MBRLs with extended ranges and precision ammunition are growing. We have taken the first step in acquisition of kamikaze drone technology in the private sector as witnessed during Army Day 2021. In Nov 2021, the army initiated a proposal for manufacturing armed drone swarms for high altitude and plains as well as drone detection and interdiction systems.[16] However, for the short term, core, hi-tech weapon systems continue to be imported, at great cost — as the recent agreement for procurement of 30 multi-mission armed MQ 9 drones, at a cost of $3 billion[17] indicates.

The roadmap for capability building to overcome such asymmetries emerges by concurrent examination of some key issues. The requirement for updating the Joint Warfighting Doctrine issued by HQ IDS in 2017 (prior to institution of the Chief of Defence Staff, after which much work has been put in this domain) is one such. This is predicated on a realistic assessment of India's security environment for the medium to long terms. It would require elaboration for dealing with actions / reactions at the tactical, operational, and military-strategic levels — based on the end state which the military envisages for itself in absence of a national security strategy. This would indicate capabilities to be built up for dealing with both threats and opportunities in multiple domains.

Concurrently, continuous appreciation of the pattern of military operations of India's likely adversaries remains the prime factor in deciding capability requirements. On the northern borders, India is well poised to tackle any tactical misadventure, with building up of redundancies, enhanced capacity, and induction of force multipliers. To deal with any escalation however, certain key aspects need to be shored up as an analysis of the Peoples Liberation Army's (PLAs) overall warfighting capability reveals. Its Strategic Support Force boasts of an information support role to

collect technical intelligence, provide intelligence, and enable joint ops amongst others, while its information operations role involves the coordinated employment of space, cyber, and electronic warfare to 'paralyse the enemy's operational system-of-systems' and 'sabotage the enemy's war command system-of-systems' in the initial stages of conflict. The second instrument is the PLA Rocket Force whose missions include 'conducting nuclear counterattacks and precision strikes with conventional missiles'. This force plans to be employed either in independent conventional missile strike mode or as a key part of joint campaigns involving the other services — joint blockade, amphibious landing, and anti-air raid campaigns.

Without venturing into specifics, just the missions outlined above provide indicators as to how such forces would impact our warfighting ability, thereby enabling us to decide priorities for capability building. The broad answer lies in discerning what lies where through use of multiple means, and striking what is important, again through multiple means. To do so would mandate some essential capability for us to access on priority, either through acquisition or development. Even so, such an endeavour would take time, from the medium to the long term.

Another important issue pertains to policy. Do we require to develop the same level of capability that an adversary possesses or are there other options? For capability development, cost is a major factor. Apparently, Bayraktar TB2s are being mass produced at the rate of at least one per week at a cost that is a fraction of US MALE (Medium Altitude Long Endurance) drones.[18] Again, comparing the price and other operating parameters of an Apache helicopter gunship with a TB2 which boasts of a 24 hour loiter time, flight altitude of over 5000 m, with no on board pilots, points us in another direction — the option of harnessing mass-produced disruptive technology to manufacture alternate platforms, with innovative employment through integrated doctrine as an alternative to investing in improved but costly legacy platforms. Such options must be war gamed in real-time simulation to determine costs versus effectiveness. Also, since such technology is going to be mostly dual use, getting industry on board at the outset for co-development is mandatory. A small step in this direction has been taken at Pune, with opening of the Southern Command Technology Node in November 2021, wherein nodal officers in command HQ will interact with start-ups and others to look at common areas of interest for development.

> Comparing the price and other operating parameters of an Apache helicopter gunship with a TB2 which boasts of a 24 hour loiter time, flight altitude of over 5000 m, with no on board pilots, points us in another direction — the option of harnessing mass-produced disruptive technology to manufacture alternate platforms.

The final aspect pertains to integrated employment of this acquired capability, based on an integrated doctrine, so that all force multipliers — EW, PGMs, rockets, airpower, space power — operate seamlessly under one operational head, cutting across Service and specialist boundaries to deliver optimum effect on the battlefield. This might involve setting up of new organisations with tailormade structures. Such decisions would lie in the domain of the CDS, as would be the decisions on priorities for development or acquisition. One remains sanguine that such concerns are being addressed, proof of which would lie in the Integrated Capability Development Plan, soon to see the light of day.

Conclusion

Standoff weapons today are versatile systems fulfilling multiple roles, in addition to the traditional one of physical destruction of the enemy. As technology progresses, such roles will increase. Their ability to provide real time situational awareness through fusing of sensors using AI and assisting in agile decision making will further automate the battlespace and enhance lethality. From the Indian military's current inventory, certain legacy platforms will doubtless continue to be retained in improved form to make them bigger, with greater ranges and lethality and the ability to perform multiple tasks. However, as always, a strategic and technology review on a regular basis together with clear eyed warfighting strategies and realistic appraisal of likely budgetary allocations will remain the best way for evolving a roadmap. Here, India's private sector will play an equally important part.

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Digitisation of Military Supply Chain and Logistics

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Abstract

Digitisation of Military Supply Chain and Logistics is essential in case we are to provide responsive and economical logistics support to the armed forces. The military requires to learn the latest technology, practises, and procedures followed by the industry with respect to its running of Industry 4.0 which refers to the 4th industrial revolution which is revolutionising how the industry manages and distributes its products. The war in Ukraine which apparently saw a breakdown of Russian logistics at the beginning of the war is a pointer to the imperative to digitise and transform the supply chain and logistics. This article is about this imperative and how to reach there.

Introduction

The concept of supply chain and logistics originated from the military when invading armies had to plan for their prolonged sustenance through self-containment. They carried their food and camp followers. Both were supplemented by exploitation of local resources of the captured areas. In those times, due to absence of a globalised economy, most trade amongst the traders and citizens was localised and in the form of barter system. Armies bartered in their own territory and invariable looted in the enemy's. Come the modern age, as the continents got connected both physically and digitally, the civil supply chains of the world got interconnected and became interdependent in terms of layout, transportation modes, and technological platforms. As a result, the supply chain in the commercial world transformed over the years to be in sync with the industry. From the period of Industry 1.0 in the steam engine era, to the current Industry 4.0, commercial and industrial sectors are in sync.

The Present Era

In the present era, the Digital Supply Chain is characterised by smart manufacturing, digital products services & business models, and lastly data analytics — as its core competencies. In the earlier times, 'transportation' was key feature of the supply chain, it is the 'technology' which is considered to be the game changing element of a modern supply chain in this era. Notwithstanding the progressive changes in the supply chain, the basic principles of administration such as foresight, planning, flexibility, economy, as taught to young corporate or military supply chain professionals, are relevant even today, both for commercial and military logistics. Digitisation is an essential tool to apply these basic tenets to perfection, thereby making supply chain as efficient and productive as possible. In fact, supply chain management has now become central to the entire business cycle from the earlier times of being a peripheral function.

Constraints of Military Supply Chains. Despite having a head start, supply chain and logistics of the military have lagged in automation and integration compared to industry, primarily for reasons of security, budgetary priorities, and strategic compulsions because logistic details could easily give away important information about the force composition,

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equipment, and deployment. Armed forces are also constrained because of their inability to utilise the electronic interconnectivity provided by open mediums like internet again for reasons of information security. This restricts the use of several applications and software which are available off the shelf in the market.

Armed forces continue to work in silos of manufacturing, procurement, warehousing, distribution, and backloading despite substantial effort by the forces in development of automated processes and systems. One of the biggest impediments is the absence of seamless connect between the military and industry counterparts who are essential elements of the military supply chain, as they are of the civil chain. Exchange of information, movement of goods and services is often through a fragmented supply chain with no intercommunication across the system resulting in systemic inefficiency. Though, even the industry in the Indian context needs to do a lot more to achieve total digitisation, the three Services have been even more conservative in adopting digitisation where the automation is primarily restricted to demand, miniscule warehousing, and where there is distribution without much integration. To achieve the goal of digitised supply chain, there is a need for integrated planning, execution systems, logistics visibility, autonomous logistics, smart procurement, and warehousing. Spare parts management requires to be supported by advanced analytics because agility in supply chain to support various operational contingencies and natural disruptions is a necessity. A state-of-the-art responsive supply chain will minimise the gap between demand and supply thereby ensuring higher assurance levels at all times at most economical cost to the state.

> **One of the biggest impediments is the absence of seamless connect between the military and industry counterparts who are essential elements of the military supply chain, as they are of the civil chain.**

Challenges in Digitisation of Military Supply Chain

Indian Armed Forces are currently operating on the logistics systems and procedures inherited from the British with some incremental changes incorporated over the years. At this stage, there is practically no standardisation or integration between the three Services. Limited automation has been achieved but to call the supply chain and logistics digitised would be far from reality. Indian Navy and the Air Force being comparatively smaller services have been able to achieve much higher degree of automation in logistics in the form of Integrated Logistics Management System (ILMS) by the Indian Navy and Integrated Material Management Online Systems (IMMOLS) by the IAF. Armed forces are resorting to e-procurement of most items which ensures transparency and speed to a great extent, but that accounts for miniscule functions when viewed from the perspective of overall digitisation of supply chain and logistics. Government e-Marketplace (GeM) portal is a success story which is being extensively used by all ministries of the government including the armed forces. GeM has speeded up procurement of items of routine nature up to certain value, thereby resulting in transparency and speed of logistics. Challenges which require our attention are in the succeeding paragraphs.

Transforming Logistics. Infusion of technology is often viewed as a challenge because one machine or computer would substitute many human beings which obviously results in job losses in the industry. However, in the case of armed forces where there is always a crying need for more boots on the ground, the saved human resource can be gainfully redeployed in operational roles, thereby rightsizing the 'tooth to tail' ratio. Unfortunately, it has been often seen that despite automation, there is no reduction in the human resource deployed for that job or in that department nor does it result in reduction of paper work which most offices in the government including the military are obsessed with. This attitude needs to change.

Long lead-time and big budget cost to implement the process of digitisation of the entire supply chain restricts the armed forces from making transformational changes in one go. There are always budgetary constraints which force the decision makers to adopt a staggered, incremental approach to automation due to which there is an accompanying time cost. As a result, by the time a new software is implemented in the entire army or the armed forces deployed pan India,

the technology becomes obsolete. On the positive side, a study in the industry reveals that digitisation of supply chain can give 13 to 18 percent Return of Investment (ROI) with an average payback period of about ten to twelve months which can be a big saving to the industry or the armed forces. The Indian Army is deployed in extremely inhospitable terrain, often in small numbers, in very remote areas of a vast country like India. This makes it extremely tedious, time consuming and expensive to develop and maintain elaborate high-capacity infrastructure for electronic connectivity that can support digitisation in these remote areas. This shortcoming acts as a big impediment in automation and integration of the entire supply chain, especially the forward troops where it is required the most.

Large Inventory. Massive inventory of each Service, more so the combined tri-Service inventory, poses a big challenge of management. There are surpluses awaiting disposal at one place and shortages of the same item next door in the absence of real time asset visibility. There is no standardised codification of the vast inventory of the three Services unlike a multi-national force like NATO who have overcome this problem through standard codification. They can locate and track even a small spare part. Time taken between demand and delivery is often long due to a time-consuming procurement cycle which increases cost and locks up inventory. Some incremental changes have been introduced in this direction, but fall short of expectations.

Standardisation. The three Services use different forms and procedures to procure and supply the same item. Financial powers of various inter service functionaries need standardisation. The process of automation within the army has had many impediments. Different logistics services of the army who form main part of the supply chain have undertaken separate automation projects and most of them have not yet fructified for a variety of reasons. Technology adopted becomes outdated by the time the software is developed. Integrating these projects, which have been developed by different vendors using different technologies, even within the army is a big challenge.

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Security Clearance. Another issue which acts as a major roadblock in automating logistics and supply chain is the security clearance. Restriction to operate the supply chain software exclusively on military communication network keeps suppliers, who are key stakeholders, 'out of the system'. While security cannot be compromised, an innovative method to integrate internet communication by which more stakeholders are taken on board would act as a big logistics force multiplier.

Pitfalls

The current system of logistics has been working effectively for centuries, including during several conflicts in which Indian Armed Forces were involved. This time-tested reliability of the system may be the raison d'etre for 'resistance to change'. Moreover, it is easier to introduce a fresh system than to modify or modernise a legacy system which the users are accustomed to and are comfortable with for decades. It is also difficult to change the mindset of policy makers, especially the senior officers who are alien to technology. Training human resources, who are used to operating on vintage equipment and software, to handle latest technologies is a big challenge. Better trained human resource can get much more output from a digital system compared to an untrained resource. Like it is said, 'man/women behind the machine' is the key to performance of the equipment or the system.

Digitisation implies total networking of all resources and functions with very high dependence on electronic networks. This makes digital networks ideal targets for 'cyber attacks' by the adversary. In the combat zone, logistics failure or underperformance is not an option because lives of soldiers, sailors, and air warriors are involved. The challenge of cyber security is an important aspect which must be addressed by incorporating suitable counter measures

in the supply chain architecture. An alternative to digitised supply chain, especially in the forward areas, will provide redundancy and reliability to the entire supply chain and logistics support.

Benefits

Digitisation of supply chain and logistics in the armed forces has the potential to become a gamechanger, giving multiple benefits to the military in terms of economy and efficiency, enhancing defence preparedness. Some benefits that will accrue are:

- ➢ Digitisation will shorten the production, movement, warehousing, and distribution cycle.

- ➢ It will ensure improved asset management through availability of real time data and use of robotics and Enterprise Sensor Integration (ESI).

- ➢ Digitisation will ensure prevention of defects, predictive maintenance, and autonomous correction resulting in better equipment availability state.

- ➢ Mass customisation of products using techniques such as 3D printing will result in availability of high technology critical spares in the forward areas where the equipment is deployed.

- ➢ More efficient maintenance of assets and equipment.

- ➢ Automation and digitisation will lead to resource efficiency resulting in economy.

- ➢ Reduced overheads and cost savings.

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Way Forward

Use Technological Advancements in Industry. The Indian Armed Forces must learn from major improvements that are visualised in the industry. By 2025, India is expected to have 100 percent mobile connectivity from the present 73 percent; internet penetration, which is currently only 11 percent, will grow substantially. Cost of RFID is likely to fall by 90 percent and cost of data storage is likely to come down by 75 percent. Information explosion is expected to continue, big data and analytics will play key role in supply chain and logistics. It would be in the interest of the armed forces to take advantage of technological advancements in the Industry 4.0 by embedding suitable measures to ensure security, yet not losing the advantage of latest technologies. Security is very important and must be ensured but it should not become an impediment to digitisation.

Digitise Supply Chains. The objective of digitising military supply chain should be to achieve economy and improve response by reducing lead and down time. It must lead to real time asset visibility across the entire network. To achieve digitisation, integration of all logistics functions within each Service and across three Services is a necessity. This aspect needs to be addressed in a time bound manner. There is an immediate need to operate in a paperless office environment. Accountability of various functionaries must be ensured through the digital platforms instead of duplicating it with paper work. Backing up digital transactions with paperwork for financial documentation is currently a norm. If banking system with high value transaction can operate paperless, there is no reason why the military supply chain cannot be paperless. There is an urgent need to change the mindset lest we get left behind.

Create Integrated Modern Systems. There are endless technologies in the supply chain domain based on which a suitable integrated system must be created which should dissolve the intra and inter Services silos. Latest technologies such as Cloud to house the data, big data to arrive at the trends, Internet of Things (IOT) for smart warehouse

management and 3D printing for manufacturing critical spare parts in forward areas are some of the many technologies which must be explored by the armed forces.

Transparent and Real Time Systems. Keeping security in mind, defence related industry must have a transparent system operating on real time basis. Demand and supply signals should be visible across the network to help various echelons to adopt a true 'Push Model' where forward troops do not look over their shoulders for replenishment. This network must be rugged, resilient, and responsive. A truly digitised supply chain would be a network of sensors and social technologies, overseen via control hubs, managed by data analytics engines. A transformed supply chain and logistics model must meet conflicting requirements of the armed forces by striking a balance between 'lean' versus 'assured availability', 'redundant' versus 'affordable (L1)' and 'standardisation versus differentiation' to meet varied user requirements.

Ruggedised Handheld Devices. Unlike the industry where there is high degree of predictability and the supply chain operations can be carried out by their management from static, elaborately equipped air-conditioned modern urban locations, the military needs hand held rugged devices instead of desktop computers. Such tablets are now available and can be used for several functions including warehouse management using barcode and RFID scanners. There would be no need to rush to the desktop computers to perform routine logistics functions. For transport management, these tablets can also be used for route optimisation, consignment tracking, and fleet optimisation. AI algorithms can prioritise transportation and distribution. Though available off the shelf, the same must be developed indigenously, if possible, with a provision to neutralise the data in the event of tablet being misplaced or falling in an adversary's hand. This will enhance efficiency and ensure quicker response from the logistics functionaries, especially during mobile or special operations. AI, big data, and deep learning can minimise manual input from less reliable automated system to more accurate autonomous systems, thus, ensuring accuracy and precision in goods and services provided to the soldiers.

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Modern Enterprise Sensor Integration (ESI). ESI enabled automatic tracking system can track over 2,00,000 assets or 30,000 parts which can enhance total asset visibility resulting in reduced costs. Digital technology must utilise cloud platform, smart sensors, and tracking solutions which are interconnected to address increasing supply chain complexity and the needs of field formations. Needless to state that a pre-requisite to employing such technologies is codification and standardisation of the entire inventory used by the three Services.

Robotics. Use of robotics and unmanned systems for warehouse management can help save substantial human resource cost which can be redeployed for more productive operational purposes. Use of technologies like robotics, AI, and 3D printing can enhance speed of logistics support. Production of key spare parts through 3D printing for UAVs in the forward areas, which are remote and not well connected with the industrial base, can act as major force multiplier during active operations.

Internet of things (IOT). IOT is found to be extremely beneficial in operation of the Smart Warehouse concept. IOT acts as a cyber physical system with ability to sense and react. Proliferation of IOT assisted warehousing management is now facilitated by easy availability of broadband data connectivity. Access to real time data also helps traceability and provides continuous feedback to the warehouse. Augmented reality provides essential information regarding various processes and help warehouse staff learn quickly.

Conclusion

The aim of this article is not to dictate or validate or advocate the technologies which are suited to meet requirements of the armed forces. That job is too technical, and therefore, best left to the experts in the technical field. It is aimed to start a discussion amongst the commanders and supply chain experts about the need to transform the armed forces supply chain to make it lean, mean, efficient, economical, reliable, and effective using latest technologies. In the case of Indian Armed Forces, the technologies selected must be thoroughly thought through and be tailormade to meet Indian Armed Forces operational needs, unlike the western militaries who invariably operate in out of area contingencies. Time period in which such technologies are introduced pan India needs to be clearly specified and a provision must exist, where the vendor provides the latest / updated version available in the market at that time so that the organisation is not burdened with an outdated technology. A long-term strategic partnership with the academia and industry may help resolve this dichotomy to find a viable solution. Digitisation of military supply chain is overdue and must be undertaken on highest priority.

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