SCHOLAR WARRIOR

CENTRE FOR LAND WARFARE STUDIES

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New Delhi

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Mailing address
Editor, SCHOLAR WARRIOR
Centre for Land Warfare Studies
RPSO Complex, Parade Road
New Delhi 110010, India.
Tele: +91-11-25691308, Fax: +91-11-25692347
Email: landwarfare@gmail.com
Website: http://www.claws.in
Army No. 33098

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Commentary

Book Reviews

From the Desk of the Editor

It gives me great pleasure to bring to you the Autumn 2019 issue of *Scholar Warrior*. The 1965 Indo-Pak War had taken place 54 years ago in this month of September. The epic battles of Dograi, Asal Uttar, Chawinda; and the legendary valour of Lieutenant Colonel AB Tarapore, Company Quartermaster Havildar (CQMH) Abdul Hamid and countless unsung heroes led to the decimation of the Pakistan Army, with locations like Patton Nagar an apt reminder of the Indian soldiers' prowess and bravery.

In this issue, the Strategic Issues Section focusses on wide ranging issues, from water as a weapon shaping geo-politics in the coming years, the space leap by India, and the proposed changes in our border management structures. The first article explores the fixation of Pakistan with India and its far-reaching impact on relations between the two nations. The next article examines the anti-satellite demonstration by India and the future. The third article discusses the nuances of redefining our force structures for a synergised border guarding mechanism.

The China Section analyses the concept of Chinese intelligence operations, an indepth analysis of the People's Liberation Army's (PLA's) Western Theatre Command and the resolution mechanism for the Indo-China border disputes. The Pakistan Section deals with the likely impact and mechanism for stopping the flow of excess water into Pakistan as per the Indus Water Treaty (IWT) provisions, the structure and profile of the Pakistan Army and whether Balochistan can become a major trouble spot due to the growing unrest in the province. The Regional Neighbourhood Section analyses the recent Sri Lankan bomb blasts and the spreading radicalisation. The Military Technology Section has articles on the capabilities of the Chinese military Yaogan satellite series and new trends in Unmanned Aerial Vehicles (UAVs). The Military History Section provides an analysis of earlier battles to learn valuable lessons for the future. The focus in this issue is on the 1965 War

and we cover the exploits of the Meghdoot Force, the beginnings of the Special Forces in India and the valiant action of Major Asa Ram Tyagi, MVC (Posthumous), one of the heroes of the Battle of Dograi.

We are looking forward to a greater contribution from our readers for our next issue which will focus on the 1971 Indo-Pak War. I would urge infantry battalion commanders to forward details of smaller battles, along with maps/ sketches to form part of our Military History Section. Articles on exceptional acts of bravery will be a welcome addition for the Motivation Section.

HAPPY READING

Colonel **Ashwani Gupta**
Editor

Centre for Land Warfare Studies (CLAWS)

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The vision of the CLAWS is to develop a 'strategic culture' to bring about synergy in decision making both at national and operational levels. Since its inception, CLAWS has established itself as one of the leading 'think tanks' in the country. To achieve its vision, CLAWS conducts seminars (at Delhi and with commands), round table discussions and meetings with academia and intellectuals of strategic community both from India and abroad. CLAWS also comes out with a number of publications pertaining to national and regional security and various issues of land warfare.

Members are invited to all CLAWS seminars/round table discussions (details regarding impending events are communicated to all members through e–mail. Information also available on our website, http://claws.in). For the benefit of members, who cannot attend various events, reports are forwarded through e-mail. Members are sent copies of the bi-annual CLAWS Journal & Scholar Warrior, occasional (Manekshaw) Papers and given membership of the CLAWS Library. From January 1, 2020, certain occasional papers would be made available to the members digitally only.

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SCHOLAR WARRIOR

SECTION I

NATIONAL SECURITY AND STRATEGY

CENTRE FOR LAND WARFARE STUDIES

Pakistan: Adversarial Relations Cemented in Perpetuity or on the Threshold of Rapprochement

RAKESH SHARMA

Prelude

Pakistani Prime Minister Imran Khan had tweeted congratulations to Prime Minister Narendra Modi on his electoral victory in the 2019 Lok Sabha elections, stating, *"I congratulate Prime Minister Modi on the electoral victory of BJP and allies. Look forward to working with him for peace, progress, and prosperity in South Asia"*. Responding to it, Prime Minister Modi said that he had *"always given primacy to peace and development in our region"*.

Pakistan, on July 14, 2019, assured India "full cooperation" for the Kartarpur Corridor in a second round of talks on the project. Pakistan has agreed to let 5,000 pilgrims visit the Kartarpur Sahib Gurdwara every day for all seven days a week. Pakistan also assured that no anti-India activity would be allowed using the corridor.[1] A new Track-II dialogue has been organised by the Regional Peace Institute (RPI), Pakistan, in July 2019, while the original one, the Neemrana Dialogue, which is over twenty years old, was revived in May 2018. On India-Pakistan relations, it was stated that signs are looking good and that Pakistan is least interested in triumphalism. This is because of three most recent trends. One, the guns have fallen silent on the border and incidents of infiltration have declined sharply. Two, Pakistan bowed to make concessions on the Kartarpur Sahib pilgrimage. And three, Pakistan has unceremoniously reopened its air space, bringing much relief to Indian travellers.[2]

The Pakistan national polity has however remained and will continue to be hostage to the khakhis! The Pakistan Army exhibits pathological persistent anti-Indianism and the obsession with the Indian Army is its *raison d' etre*. Evidence of this abounds, historically, from the support to the tribals in 1947-48 in their multi-prong incursions, to the wars of 1965, 1971, 1998 and the on-going proxy war in Jammu and Kashmir (J&K). At every zero-hour of any Indo-Pak political process initiation, the Pakistan Army conjures up hostility and military/terrorist action, whips up the anti-Indian fervour nationally.

This attitude derives from the vulnerability of Pakistan to evolve a clear identity for itself—based on religion, territorial affinity, cultural moorings or common heritage. More importantly, the "Milbus"[3] or the military capital that is used for the personal benefit of the military fraternity, especially the officer cadre, needs to be ensured in perpetuity.

Pakistan and India have had a chequered history of back-channel efforts to build confidence, largely, and rightly, outside the media glare. The central theme of this paper is to examine the historical attempts to create Confidence-Building Measures (CBMs), and the basis of the anti-Indianism in Pakistan, and study the grounds of expectancy that is often created, riding on the peace constituency and peaceniks' projections.

India-Pakistan: Confidence-Building Measures

Globally, CBMs are extensively established models in the contemporary politics that include expansive measures spanning military (conventional and nuclear), political and economic fields. It is presumed that CBMs can somehow reduce tension and avert the danger of war. They have frequently been pursued in South Asia under external prodding or pressure and at the expense of problem solving.[4]

Since Independence, India had signed a number of pacts with Pakistan, the significant ones being:

- Liaquat-Nehru Pact, 1950.
- Indus Water Treaty, 1960.
- Tashkent Declaration, 1965.
- Shimla Agreement, 1972. Hotline between the Director Generals of Military Operations was also established.
- Agreement on No Attack on Nuclear Installations, 1988.
- Foreign Secretaries Agreement on 'Composite Dialogue', 1997, on 8 issues, including Kashmir.
- Lahore Declaration, 1999.

- Agreement on India-Pakistan Border Issues, March 2004.
- Agreement to Reopen Rail Link, December 1-2, 2004.
- Advance Notification before Ballistic Missile Testing, October 3, 2005.

In the last twenty years, among other initiatives, the Lahore Declaration, and later the Agra Summit was considered a landmark after two years of stalemate and Operation Parakaram, and had brought in hopes of resolution of intransigent issues. Consequently, the Composite Dialogue had been a sustainable peace initiative that commenced in 2004, until called off after the terrorist attacks in Mumbai in 2008. It included strategic CBMs (maritime, Siachen and nuclear), trade issues, visa policies, tourism, visits to religious shrines, bus services, interaction between diplomats, etc. In May 2014, PM Narendra Modi invited his Pakistani counterpart Nawaz Sharif to his oath-swearing ceremony at New Delhi. PM Narendra Modi also made a surprise stopover in Pakistan to attend the marriage of the grand-daughter of PM Nawaz Sharif.

In spite of the concerted efforts to amicably settle the issues with Pakistan, India had faced terrorist attacks at regular intervals, sponsored by the Pakistan deep state. Major terrorist attacks have taken place in India: in the Parliament in 2000, the Mumbai bus bombings in 2003, Delhi in 2005, Varanasi, Mumbai train bombings and Malegaon in 2006, Samjhauta Express and Hyderabad in 2007, Jaipur, Ahmedabad and Delhi in 2008, Dinanagar in 2015, Pathankot, Pampore, Uri and Nagrota in 2015, Sunjawan in 2018 and Pulwama in 2019. Hence, regular meetings and sessions under the Composite Dialogue and on the sidelines of various summits, to build trust, have not changed the intrinsic attitude and animosity of Pakistan.

In matters of people-to-people contacts, there are substantial Pakistani nationals who have overstayed in India, beyond their visa limitations. Nearly 28 percent of the Pakistani nationals who were issued Indian visas under various categories between January 1, 2014, and December 31, 2015, had overstayed. As many as 36,310 Pakistanis whose visas had expired, were still in the country, as stated on the floor of the Rajya Sabha.[5] Despite the rules under the Foreigners Act, 1946, it is difficult to locate the overstayers. A news item in the *Indian Express* (May 26, 2017) mentioned a Pakistani national arrested in Jhajjar, Haryana, with a false identity, and even PAN and AADHAR cards!

While drugs coming from Pakistan are often reported, there have been seizures in cement bags in rail cargo, in a recent case as large a consignment as 105 kg. On June 26, 2019, at the Wagah-Attari border, a very large haul of 532 kg of heroin valued at Rs 2,700 crore was caught! *This could be used as a resource to fund the Pakistan*

Army's corporate ventures, profits from which could well be ploughable to inimical activities, to weaken India's national security!

Pakistan's leaders have played upon religious sentiments as an instrument of strengthening identity.

The 'Idea' of Pakistan: Nationalism and National Identity

The citizenry identifies with the nation as a political entity, with a national identity, based upon shared history, culture, language and/or religious bonds. In this context, having a national identity does create in a state, a kind of one-ness, of strength and harmony. Seven decades after Partition, Pakistanis still struggle with the elemental question: who are we? Arabs or South Asians? Muslims first or Pakistanis first? Is there such a thing as Pakistani culture? Can Hindus, Christians, Parsis, Ahmadis, and other non-Muslims be equal to Pakistanis? Or is Pakistan only for Muslims?[6] The common perception rests with the monolithisation of Pakistan, based on Islam as a factor.[7] "The Pakistani national identity, so carefully constructed over the years by the state, has largely failed to find any large scale acceptance to bridge our regional differences and shape us into one nation. It is hardly news to anybody that the people of Balochistan and interior Sindh feel alienated from the idea we call Pakistan. What is that idea of Pakistan?"[8] The lack of nationhood can be traced to the genesis of Pakistan and the single factor that drove it—religious identity.

Since its inception, Pakistan's leaders have played upon religious sentiments as an instrument of strengthening identity. In a 1960 article in *Foreign Affairs*, Ayub Khan wrote "*…till the advent of Pakistan, none of us was, in fact, a Pakistani, for the simple reason that there was no territorial entity bearing the name*".[9] It was rightly felt even in 1960, that *"…it is doubtful that either Islam or threat of an external enemy can generate sufficient cohesion for a national orientation and the government after all is the most comprehensive organisational structure on a country-wide scale*."[10] Indeed, post break-up of East Pakistan, this debate of identity was even more profound. "*…what are the links that bind us? What is our national identity and the peculiar oneness that makes us a nation apart from others?…If we let go the ideology of Islam, we cannot hold together as a nation by any other means…If the Arabs, the Turks, the Iranians, God forbid, give up Islam, the Arabs yet remain Arabs, the Turks remain Turks, the Iranians remain Iranians, but what do we remain if we give up Islam?"*[11] The islamisation of Zia-era is to have a telling effect in the 21st century, and in the interim, accentuated sectarian differences plunging the society in violent turmoil. Religion is a powerful motivating force in the Pakistan Army.[12]

The fear of dilution of its Muslim identity became the new nation-state's identity, reinforced over time through the educational system and constant propaganda.[13] Islamist groups have been sponsored and supported by the state machinery at different times to influence domestic politics and support the military's political domination. Though much has been written of the 'idea of Pakistan' since the time it was first conceived, it is in a flux, essentially in the manifestations of its identity—the debate of what it means to be a Pakistani, the special difficulty of reconciling this identity with Islam, and regional and internal challenges. Islam is not only the basis of the country's identity and the source of much of Pakistani culture—for Pakistani soldiers it is also a defining aspect of the profession of arms.[14] Pakistan's state institutions, especially its national security institutions such as the military and intelligence services, have played a leading role in building the Pakistani national identity on the basis of religion.

Pakistan Army: The End All in Pakistan

The study of the Pakistan Army, in its current manifestation, and its perceived future role, its India-centric nature and the impact on Pakistani nationhood, has to be contextualised. The Pakistan military, more even than most militaries, sees itself as a breed apart, and devotes great effort to inculcating in new recruits the feeling that they belong to a military family different from, and vastly superior to, Pakistani civilian society.[15] Whatever the feelings of the population later, military coups in Pakistan, when they happened, were popular with most Pakistanis, including the Pakistani media, and were subsequently legitimised by the judiciary.[16] The military's discipline, efficiency and solidarity have repeatedly enabled it to take over the state, or dominate it from behind the scenes.

Pakistan military's success as an institution and power over the state comes from its immunity to kinship interests and the corruption they bring with them.[17] The Wikipedia estimates the shareholding of the Fauji Foundation to a market value of US$ 661 million, representing 3.3 percent of total market capitalisation at the Karachi Stock Exchange. While its 13 hospitals, 69 medical centres, and mobile dispensaries, 93 schools, 2 colleges, and 77 technical and vocational centres are admirable, its spending is tax-exempt and gets unfair commercial advantages by subsidies. Many of Pakistan's own intellectuals accuse the Army of being more interested in making money than in defending the state. They describe the military as parasitical, insisting it grabs the best land—both agricultural and commercial—monopolises large areas of the country's economy and seizes the most lucrative state contracts. They argue that the ills that beset

Pakistan are the result of a corrupt and predatory Army.[18] Pakistan's Army presents itself as a reluctant coup-maker, and its ability to execute a military takeover is often attributed to having contingency plans. Closer scrutiny reveals a pattern of careful planning, including disorder on the streets orchestrated with the help of the reliable street power of Islamist political power.[19]

Indeed, to protect its corporate nature and affairs, the Pakistan Army will retain the preeminent position by all means, including the hate-India, the Indian threat and the Kashmir issue.

Obsession with India

The Pakistan Army suffers from obsession with India in general, and Kashmir in particular. To underline its Indo-centricity, it is necessary to quote General Ashfaq Kayani's statement in the *Dawn* post the Abottabad raid, *"The Pakistani Army will remain 'India-centric' until the Kashmir issue and water disputes are resolved".* Kashmir as an obsession is widely shared in Punjab, and to a lesser extent in the Northwest Frontier Province (NWFP) and Federally Administered Tribal Areas (FATA), far less in Karachi, Sindh and Balochistan. Indeed, it is a Pakistani nationalist issue. Zulfikar Ali Bhutto once said, "*Kashmir must be liberated if Pakistan is to have its full meaning.*" Speaking of an average Pakistani officer, General Naqvi said, "*He has no doubt in his mind that the adversary is India, and the whole raison d' etre of the Army is to defend against India. His image of Indians is of anti-Pakistan, anti-Muslim, treacherous people."*[20] The 1971 War scarred the Pakistani officer cadre for decades.[21]

Pakistan sees the violence in Karachi, and the problems in Balochistan and in FATA as India's retaliation for its troubles in Kashmir. President Musharraf also made it plain that he did not trust or like India, and thought India wanted to "destablise Pakistan" and "to isolate Kashmir and crush whatever is happening with all their force". Asked if India wanted "… a stable modernizing Pakistan as its neighbour", he replied, "Not at all. They want a subservient Pakistan which remains subservient to them."[22]

Contemporary Pakistan and Complexity in Forecasting

Pakistan's educational system underwent significant changes during the Zia years, with an Islamist ideological agenda. The text books were replete with historic errors and had prescribed myths. These inculcated hatred for Hindus, gloried wars and distorted pre-1947 history of the area constituting Pakistan. This tendentious teaching of history continues. This is apparent by the study of anti-Indianism that

Islamist terrorist groups have been supported to influence domestic policies and military's political domination.

is taught as part of history in Pakistan Schools at primary and secondary levels.

There are many contrarian strands in the Pakistan geo-politics currently that suggest the likelihood of continuity, and also a strong possibility of attitudinal change in the future. The following significant issues merit attention:

- The dominance of the military in Pakistan's internal affairs is a direct outcome of the circumstances over the last 70 years. The current government in Pakistan is stated to be with the backing of, and beholden to, the Pakistan Army. The military has not allowed politics to take its course, and will not do so. The military will also not be able to break away from the strong grip of radical Islamist groups. It can safely be opined that the Pakistan Army will continue to set the ideological and national security agenda.
- The intra-provincial differences: between the Balochs and Pashtuns in Balochistan, Punjabis and Seraikis in Punjab, Pashtuns and Hindko speaking in Khyber Pakhtunkhwa (KPK) and Sindhis and Mohajirs in Karachi will continue to fester. These ethnic groups do not have sufficient adherence to the idea of Pakistan, and all tend to be suspicious of Punjab and Punjabis!
- There are identity or nationalism issues, jettisoning which may well fracture the nation. These identity-based disputes could well lead to a crisis, at a moment's notice.
- The anti-Hindu, anti-India, and Kashmir core-issue formulations have been institutionalised in Pakistan. Competition with India on these constructs has been most debilitating for the nation, but also acts as the requisite binding factor and as the foundation for nationalism.
- The economic state of Pakistan is in the doldrums and the nation is at a veritable begging bowl stage, even to service its debts. The China–Pakistan Economic Corridor (CPEC) is also bound to take its toll for the nation, fiscally, and push it further towards debt. The Bretton Woods institutions will seek structural adjustment that will dictate important policy changes. The economic state demands, and may force, gross change in the policies. The last has the possibility of internal repercussions and even strife.
- The security situation in Pakistan is dire, with a major effect of playing with terrorism internally within the nation. The pressure brought in by the Financial Action Task Force (FATF) and the US is colossal, which may have forced the arrest of Hafiz Saeed, head of the Jamaat-ul-Dawa in July 2019. Whether

Pakistan will take significant steps to arrest the radicalisation and jettison the overt and covert support to terrorism and terrorists, is a moot question.

- Pakistan also faces grave international political pressures. The US is keen to withdraw from Afghanistan. To say that the falsehoods and propaganda brought out by the Pakistan government will be accepted by its populace *ad-infinitum* is to deny its sensibilities.

Conclusion

It is the argument of the liberalists' in India that economic interdependence and increased people-to-people contacts would: the best CBMs in bringing about a rapprochement. There is also a strong constituency that desires talks and back channels at multiple levels—official, Track-I and II, prophesying that these would become a forward movement. An audit of the CBMs between India and Pakistan is imperative. The 2003 ceasefire has stood, but not the test of time. Despite calls for the contrary, the Indus Water Treaty has been retained. There are positives in the annual exchange of lists detailing the locations of all nuclear-related facilities since 1988. The hotlines have worked. However, the covert and overt support to proxy war in J&K has continued unabated. That brings to fore the obvious conclusion that the anti-India stance and the Kashmir issue will remain centric issues for the Pakistan Army to retain its primacy and relevance and be the singular custodian of Pakistan's national security.

Confidence-building measures do have great intentions, of which, economic interdependence and people-to-people contacts are of importance. But, as time has shown, no confidence has been built up over the years: and the relations have turned worse due to Pakistan's intransigence. To continue allowing the advantage to Pakistan, while adversely affecting own National Interests is no wisdom. Such confidence-building measures need to be re-audited, and, if need be, reconsidered. Back channels, or Track-I or II talks, to resolve issues and establish a rapport that can be the foundational stone for resolving intractable problems between India and Pakistan must be strengthened. But the back channels must not be adversarial to India's own national sentiments.

In sum, with India aspiring to join the $5 trillion Gross Domestic Product (GDP) club, it must retain and constantly hone its hard power in parallel to challenge Pakistan's intransigence, while scrutinising the trends and drivers of winds of change in Pakistan.

Lieutenant General (Dr.) **Rakesh Sharma**, PVSM, UYSM, AVSM, VSM (Retd) is currently Distinguished Fellow, CLAWS.

Notes

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Mission Shakti:
Controlling Space Assets

AKHELESH BHARGAVA

> *Today is 27th March. A while ago, India achieved a historic feat. India today registered itself as a space power. Till now, three countries of the world, America, Russia and China, had this achievement. India is the 4th country to have achieved this feat.*
>
> — Prime Minister Narendra Modi

Way back in the year 2010, the Space Security Coordination Group (SSCG) was set up under the then National Security Adviser (NSA), Shivshankar Menon. Just three years earlier, in January 2007, China had test-fired an Anti-Satellite (ASAT) missile. The missile test had suddenly changed the vulnerability of the multi-billion dollar Indian space programme. The US had stated then that there was a need to review the 'Space Treaty', implying putting restrictions on other nations planning to carry out such tests or in other words, preventing escalation of 'militarisation of space'. The SSCG also included representatives of the Defence Research and Development Organisation (DRDO), Indian Air Force (IAF) and National Technical Research Organisation (NTRO). Besides laying down the government's space policy, this body was also to coordinate the response to an international code of conduct in space.

Building Blocks for ASAT: By 2012, the Agni V missile had been test-fired and had attained an altitude of 600 km. The Air Defence-2 missile too had been successfully test-fired by 2014. This led the then scientific adviser to the

Defence Minister and DRDO chief Vijay Saraswat to state, "India has developed all the building blocks for the ASAT". However, for some reason, the decision to test the ASAT did not fructify. Perhaps, the fine-tuning and electronic simulation test were to be carried out first. In the meantime, and luckily for India, no new treaty was put in place that would have placed an embargo on testing an ASAT.

ASAT Test: On March 27, 2019, India conducted Mission Shakti, an ASAT test. In doing so, India entered the exclusive group of space-faring nations consisting of the USA, Russia and China that are capable of knocking off satellites in space. The test has preempted a possible new treaty that would have foreclosed India's option for testing ASAT missiles.

The Importance of Low Earth Orbit (LEO): The LEO is an orbit between an altitude of 160 km (corresponding to 88 minutes orbital period) and 2,000 km (corresponding to 127 minutes orbital period) above the earth's surface. The geosynchronous orbits, either circular in shape or elliptical (where the apogee and perigee height may vary), may be selected as per one's requirement. The following are important aspects of LEO:

- The orbital period of maximum 127 minutes implies that a satellite in LEO is capable of completing 11 or more circuits in a day. Two or more revisits over the same location can be planned.
- These satellites are mostly used for data communication such as e-mails, video, navigation data, remote sensing, electro-magnetic intelligence, etc.
- Unlike geostationary satellites, their position with respect to the earth is not fixed.
- A LEO requires the lowest amount of energy for satellite placement. It provides high bandwidth and low communication latency. Satellites and space stations in LEO are more accessible for crews and servicing, quicker response for correcting the path using thrust motors, etc.
- The relatively low altitude also implies a smaller swath (footprint), low up-link and down-link time, permits high resolution cameras usage, low dispersion when using Direct Energy Weapons (DEWs), etc. The high resolution cameras decide the degree of accuracy in terms of distance (metres, centimetres or millimetres).
- The satellites placed in these orbits may be used for espionage activity. Though as per international convention, every satellite's role has to be pre-defined, nations are not following it. Herein lies the caveat of identifying which of the satellites launched is meant for spying and is actually a 'military weapon'.

ASAT capability gives India an option to dictate or dissuade an adversary.

The Changing LEO Environment: The LEO environment is slowly becoming congested with a large number of satellites. Even smaller countries such as Sri Lanka and Nepal have recently emplaced their satellites. China's frequency of launching satellites has gone up considerably as it has embarked on an ambitious navigation-cum-communication project. Japan, Iran, Indonesia, South Korea and North Korea all have their own satellites. What the future is going to be cannot be predicted but it is anticipated that national interests are going to be affected as follows:

- The orbits of all these satellites are bound to overlap each other, especially in space over the Asian continent (in terms of latitude and longitude). China, Russia and India are at number two, three and four positions in terms of number of operational satellites.
- There is no system of frequency allocation amongst countries for the enormous numbers of up-link and down-link channels. Frequency usage is based on the 'first come' basis. With so many satellites, there is bound to be frequency congestion / interference as each nation would like to use the most efficient frequency band corresponding to a particular orbital altitude.
- The high resolution cameras mounted on navigation and intelligence (spy) satellites are expected to keep a 'prying eye' on military and politically sensitive installations. This, in turn, would cause friction amongst nations.
- In the times to come, there is going to be increasing 'space debris' floating in LEO. This debris may be due to both natural (meteorites and asteroids) or artificial (satellites' debris) causes. The debris due to satellites may be unintentional (disintegration/collision) or intentional (self-destruction in the path of another satellite). The latter, with the intention to cause damage to an adversary satellite on a given command and would be the one that may be used for military purposes.

India and International Conventions: Though India has been on board and agrees to almost all the treaties related to space, now it will be consulted in a more meaningful manner. A treaty like the Prevention of Arms Race in Outer Space (PAROS), is a Chinese agenda, to create a new hegemony, in the manner the Non-Proliferation Treaty (NPT) did. The testing of the Shakti will ensure that India's concerns are taken note of. Besides, India already implements a number of Transparency and Confidence Building Measures (TCBMs). Important among these are as follows:

- India abides by the principal international treaty on space, the 1967 Outer Space Treaty. Even post testing of the ASAT, Prime Minister Modi stated, "The missile is not directed against any nation and India remains against the use of arms in space".
- India supports the substantive consideration of the issue of PAROS in the Conference on Disarmament, where it has been on the agenda since 1982.
- India adheres to the 'space use rule', by registering space objects with the United Nations (UN) register and pre-launch notifications, as these are measures in harmony with the UN Space Mitigation Guidelines.
- India actively participates in Inter Agency Space Debris Coordination (IADC) activities with regard to space debris management.
- India duly undertakes Space Object Proximity Awareness (SOPA) and Collision Avoidance Analysis (COLA).
- India hosts numerous international cooperation activities, including hosting the UN affiliated Centre for Space and Science Technology Education in Asia and Pacific.
- India has been participating in all sessions of the UN Committee on the Peaceful Uses of Outer Space.
- India supported United Nation General Assembly (UNGA) Resolution 69/32 on December 2, 2014, on 'No First Placement of Weapons in Outer Space'.

Need for Controlling Space Assets: Though India has been following all the international conventions and rule books, its adversary has not. China has embarked upon an ambitious project in the name of Beidou 3. It is my belief that the Beidou 3, in conjunction with 'Belt and Road Initiative (BRI)' and Huawei 5G network is much more than meets the eye for the entire world. The number of satellites that are part of Beidou 3 (including Beidou 2) is phenomenal, with a footprint reaching every corner of the globe. For physical security and redundancy, the system has a combination of satellites placed in the Geostationary Earth Orbit (GEO), Medium Earth Orbit (MEO) as well as in LEO. The accuracy intended to be achieved is sub-centimetre (may be a few millimetres) and aims to include facial recognition (presently theoretical). There will be occasions in the near future, when India's interests would be trespassed to an extent that it would demand retaliatory measures.

Military Use of Satellites in LEO: The most common use of military satellites is military communications, navigation, reconnaissance and surveillance, intelligence gathering and meteorology. The first military satellites were for

photographic reconnaissance missions. The satellites, especially the ones placed in LEO, have multi-purpose roles. Details about military satellites are as follows:

Communications: Satellites are used for communications in a big way, for the military and otherwise. Some enable communication between two locations, some act as relay stations. Television, video, internet, data and voice communication, all are possible across the world. The satellites use up-link and down-link frequencies to transmit and receive communcation.

- **Navigation:** The navigation (GPS, GLONASS, BEIDOU or NAVIC) receiver gets a signal from each system satellite. The satellites transmit the exact time the signals are sent. By subtracting the time the signal is transmitted from the time it is received, the system can tell how far it is from each satellite. The said receiver also knows the exact position of the satellites in the sky, at the moment they sent their signals. So given the travel time of the system signals from three satellites and their exact position in the sky, the said receiver can determine their position in three dimensions: east, north and altitude. The accuracy of the position determined is influenced by a number of factors, such as the positions of the satellites in the sky, atmospheric effects, satellite clock errors, ephemeris errors, etc.
- **Tracking:** Receivers can be placed in satellites. Networks, or groups of satellites are used to track defined targets. Each satellite in a network picks up electronic signals from a transmitter (such as a mobile handset or one attached to equipment). Together, the signals from all the satellites determine the precise location of the target by a process of triangulation. This may also include using Radio Frequency Identification (RFID) technology.
- **Meteorological:** Accurate meteorological (met) data is very important for planning military operations. The met data can be obtained by using a wide variety of cameras (multi-spectral or infra-red) from geostationary, geosynchronous and polar satellites which provide continuous cloud cover and other data. Presently, both civil and the military derive met data from the same set of satellites.
- **Electromagnetic (EM) Intelligence (Signal Intelligence/Radar Imaging):** These are placed in highly geosynchronous orbit as they appear to be stationary with respect to a point on earth. The radar imaging ones provide details of the electronic signature of the adversary's equipment. The signal intelligence satellites eavesdrop on communication from cellular phones, wireless sets, microwave transmissions and normal radios. They cover the

Security of space is required in physical, electronic and electro optical domains.

entire Electro-Magnetic (EM) spectrum. These are able to provide the exact location and frequency band being used and initiate necessary counter-measures such as jamming or deception where required.

- **Reconnaissance and Surveillance:** Satellites take photographs of the intended area (black and white or multi-spectral or infra-red) and relay them to ground-based receiving stations in near real time. A lot depends on the resolution power of the cameras and the height of the satellite in LEO for clarity and identification. The infrared cameras are able to detect heat signatures and are able to track a missile fired and its trajectory to the point of impact, and equipment under camouflage, including whether it is operational or silent, etc.

Mission 'Shakti' and Capability Development: It is quite obvious that India would like to maintain its national interest first and foremost. India initially started with satellites required for civilian use with limited military capability. However, in recent years, pure military satellites are being launched for purposes as enumerated above. The deployment of India's strategic assets and certain civil assets need to be provided utmost security. It is indeed difficult to ensure the same, with 'prying eyes' in the sky, unless a 'blackout' (shutting the cameras) treaty exists with countries which have satellites passing over these assets. By having the ASAT capability, India can dictate terms to an adversary state and dissuade it from carrying out unwanted spying or other activity. Obviously, the hard kill option would be the last, should a satellite be detected carrying out spying of the country's 'core national strategic assets', and all other means of coercive diplomacy fail. The following aspects need consideration:

- Identification of national strategic assets.
- Identification of satellites passing overhead and their owner countries.
- Signing pacts with such countries for shutting the cameras of satellites passing over strategic assets or developing assured camouflaging capability.
- Deployment of 24x7 monitoring stations located at a minimum of 4 to 6 locations, with redundancy. The long range tracking radar developed by DRDO can scan targets over 600 km away. The range of these phased array radars should be increased from 600 to 1,500 km. Though a satellite has a predictive path and an equivalent radar echoing area of one square metre, the radars should be further refined in technology.

- The missiles must have both electronic and radio-frequency guidance that can home in on satellites. The 'Kinetic Kill Vehicle (KKV)' has been developed as part of the ballistic missile system.
- Deployment of ASAT launch sites, located at a minimum of 4 to 6 sites, with multiple launch pads for redundancy that will ensure both dissuasive and deterrence.
- The missiles and radars to be placed under the Strategic Forces Command (SFC). Creating a separate trade under the Air Force/Army Air Defence for manning of these missiles and radars will be required. Alternatively, a fourth Service is to be created, with command and control under the SFC by combining all air defence assets (including manpower) of the three Services under one umbrella. It would also require an Integrated Air Command and Control System (IACCS) to be compatible with satellites to ensure the one nation one air and space picture.
- Since it would be a highly skilled 24x7 task, training of these personnel (human resource) to be planned and carried out in a detailed and deliberate manner. The Indian Space Research Organisation (ISRO) and DRDO laboratories, besides the three Services schools of instruction, should be incorporated for basic and advanced technical training of personnel.

Conclusion

Controlling space has become a necessity for India. Security of space is required in the physical, electronic, electro-optical and electro-magnetic domains. The ASAT missile test has boosted indigenous missile capabilities. The missiles have both electronic and radio-frequency guidance that can home in on any satellite. It has given India the capability to intercept, interdict, deny and destroy the enemy space-based systems. The training aspects should be planned and taken care of in a proactive manner to ensure optimal functioning of the systems.

Brigadier **Akhelesh Bhargava** (Retd) was commissioned in Army Air Defence in June 1983. He has avid interest in space technology, electronic warfare and matters related to air defence.

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Water As a Weapon: India's Assistance to Afghanistan's Hydel Power Development

MANJARI SINGH

The most pressing renewable resource on earth—water—has become a strategic component of peace, prosperity and public health. The scarcity of which would lead to future conflicts. As evident in the analysis of hydrological experts, "The battles of yesterday were fought over land. Those of today are over energy. But the battles of tomorrow will be over water. And nowhere else does that prospect look more real than in Asia".[1] Since 2001, India has been actively involved in the reconstruction of war-ravaged Afghanistan through several development projects.[2] Needless to mention, such Indian support plays a pivotal role in self-sustaining Afghanistan through overall socio-economic development which includes "infrastructural, institutional, as well as human resource capacity building".[3]

By signing the Strategic Partnership Agreement (SPA) of 2011, the two countries have further strengthened their engagements and India has re-enunciated its commitment to Afghanistan's redevelopment.[4] Most of these development projects are aimed at hydel power generation owing to Afghanistan's acute water shortage/crisis. India has invested in a couple of such projects (it was alleged by Pakistan that India has been assisting and investing in about 12 dams on the Kabul river alone in Afghanistan)[5]; the last in the series of infrastructure development, the Shahtoot dam's construction on the Kabul river commenced in September 2018.

Notwithstanding, the major scarcity concern and India's soft power diplomacy in addressing the water crisis situation in that country, these hydel projects serve another very important purpose, that being the alleged reduction of water flow to the lower riparian Pakistan. Whether it was a calculated step on the part of India-Afghanistan or just a coincidence, is yet to be confirmed. This paper does not delve into the reasons thereof, rather on the fact that New Delhi's water projects in Afghanistan have the potential to be used as a weapon against Pakistan.

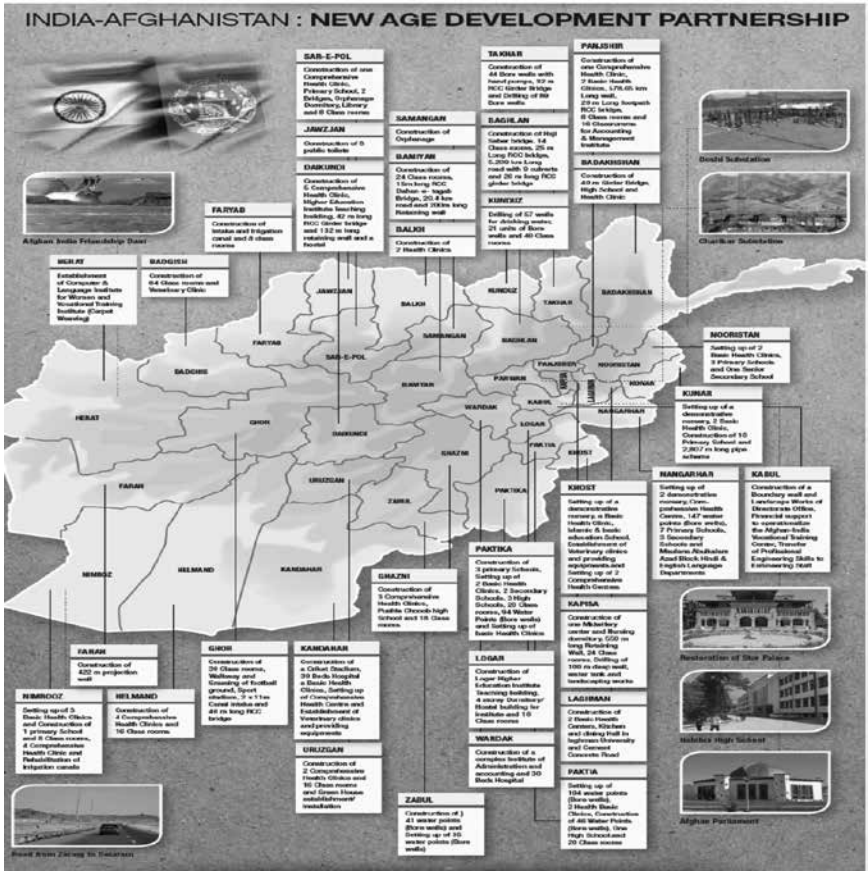
To ponder upon India's assistance to Afghanistan, it is important to delve into the cordial relations between the two countries. Hence, the bilaterals will give an idea about New Delhi's commitment towards the reconstruction of Kabul.

India-Afghanistan Bilateral Relations

India-Afghanistan share cordial relations based on historical and cultural ties. Not limited to governmental relations, the two countries have had cultural and historical exchanges and people-to-people contacts in the past.[6] Indian development assistance to Afghanistan has been pledged since 2001 when US$2 billion was allocated, and further, in September 2016, this amount was increased by another US$1 billion.[7] New Delhi's commitment to help in transforming and rebuilding the war-torn Islamic Republic found new impetus through the SPA signed in 2011. In 2017, the "New Development Partnership" between India and Afghanistan was unveiled, including "116 new 'High Impact Community Development Projects' and several large scale projects such as the Shahtoot dam and drinking water for Kabul city, and low-cost housing for the returning Afghan refugees".[8] Thus, New Delhi has invested in many development projects stretching "across all 34 provinces of Afghanistan",[9] as highlighted in **Fig 1**.

In January 2019, during the Second India-Central Asia Dialogue, the then Indian Minister of External Affairs Sushma Swaraj reiterated that the assistance of US$ 3 billion to Afghanistan was to be "focussed on reconstruction, infrastructure development, capacity building, human resource development and connectivity".[11] These projects are also a part of the soft power diplomacy envisaged by the Indian government. Ranging from construction of roads, the Parliament building, the palace, and schools, and establishment of health services and an air freight corridor, there are numerous of collaborations between the two countries. The most promising ones are in the form of

Fig 1: Indian Development Initiatives in 34 Provinces of Afghanistan



Source: Ministry of External Affairs, Government of India, 2019[10]

massive multi-purpose hydel power projects, owing to Afghanistan's rising water crisis situation.

It is noteworthy to mention that India has yet not shown interest in recruiting boots on the ground in Afghanistan, the conventional method of showing one's presence; perhaps because it has taken a cue from world powers such as Russia and the US, that have not gained anything substantial by doing so, and, the contrary, have been facing a lost cause! By using the unconventional domain of hydropower, the objective to contain Pakistan can be achieved, as the latter is also a water stressed country and, construction of dams in Afghanistan will only reduce the amount of water that Pakistan gets.

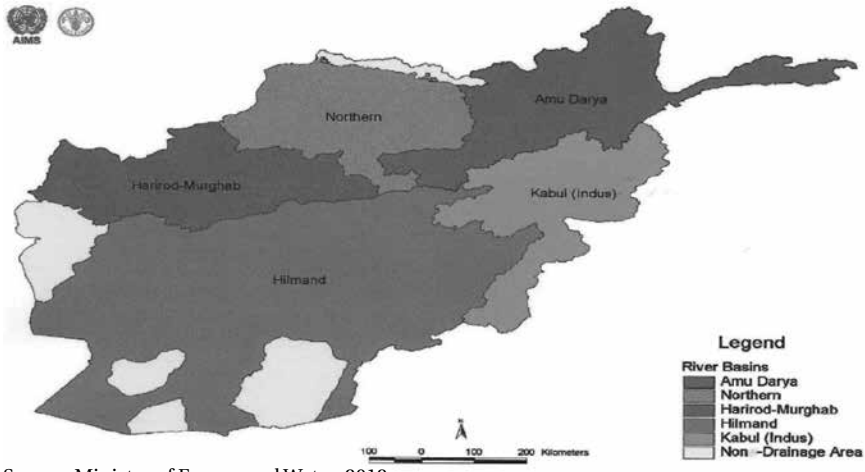
Afghanistan's Water Crisis and India's Assistance

India can contain Pakistan by using the unconventional domain of hydropower.

Of the 35 million Afghan population, about 1.5 million or over 4 percent of the total population comprises environmental refugees.[12] As confirmed by the United Nations, the situation is so dire that the number of people displaced because of water scarcity is higher than that displaced by war in Afghanistan.[13] However, in aggregate terms, the country has an ample amount of water owing to its five major river systems, namely, the Amu Darya, Northern, Kabul, Harirud-Murghab, and Helmand, running from north to south (as shown in Fig 2)—together they provide an estimated 75 billion cubic metres (BCM) of water which constitutes to 3,063.1 cubic metres per capita.[14] With these river systems, technically Afghanistan should not face water shortage but because of mismanagement and improper tapping of the resource, the country is highly water stressed.[15]

There are two components of water usage: accessibility and availability, and the two terms cannot be used interchangeably. While availability reflects the fact that a certain amount is available in a basin, the accessibility component is the

Fig. 2: Major River Systems in Afghanistan



Source: Ministry of Energy and Water, 2018.

one that determines the actual harnessing capability. In Afghanistan, barring the Northern river, wherein 100 percent water is being utilised, for the others, only 60 percent is being harnessed.[16]

Additionally, most of the regions in the country are experiencing about 60 per cent drop in rainfall which is required for agricultural production. Given that the mainstay of the population is agriculture based, coupled with the rapid population increase, the extreme drought conditions and uncertainties in climate change have exacerbated the need for water generation through new means. Under such circumstances, the Afghanistan government has been looking for assistance from international agencies and 'friendly' countries.[17]

Hence, it is no surprise that Indian assistance in this venture comes at a opportune moment for Afghanistan. After the completion and finalisation of the US$ 290 million Afghanistan-India Friendship dam project, earlier known as the Salma dam in Herat province, India has pledged to invest US$ 236 million in the Shahtoot dam. The proposed dam is to be constructed in the Chahar Asiab district of Kabul on a tributary of the Kabul river, and will hold 146 million cubic metres of potable water and would cater to a population of two million and irrigate 4,000 hectares of land. It will be completed in three years. However, it has stoked controversies in the lower riparian state, Pakistan. Islamabad's concerns are similar to the issue raised by Iran during the construction of the Afghanistan-India Friendship dam wherein Tehran also allegedly attempted to stop its construction and halt the progress.[18]

Thus, building the dam is politically complicated as the Afghanistan-Pakistan border region is demarcated by a "complex maze of transboundary rivers and there is no legal framework in place to avoid major conflicts between the nations".[19] Stretching it a little further, India's involvement in construction and assistance has further exacerbated the animosity in Pakistan.

Moreover, while the Indian Ministry of External Affairs is quite vocal[20] about the assistance on the construction of dams and other infrastructure in Kabul, Afghanistan's Ministry of Energy and Water's official website does not present any information on the same.[21] Wether this is a calculated, deliberate, political decision to not infuriate Pakistan/avoid a clash or because of the lack of dedicated research team is a big question that needs to be answered.

Pakistan Factor

As stated by the Minister of Energy and Water in Afghanistan, Eng Mohammad Gul Kholmi, "We are pursuing a regional binding policy, Afghanistan is becoming

an energy corridor between Middle Asia and South Asia"[22]. However, along with the above vision, other factors are believed to be constant such as cordial bilateral relations between the two countries, Afghanistan providing a route to the Russian, European and West Asian markets through Chabahar port and others, Afghanistan's water insecurity issues and India's humanitarian assistance in rebuilding the state. Notwithstanding these, the Pakistan factor in India's interest in the Afghan rivers cannot be ignored! In riverine terminology, Afghanistan acts as a confluence where India's soft power and hard power diplomacy meet wherein welfare and developmental concerns for Kabul and Islamabad's water containment are perfected at the same time, even though official statements regarding the latter are not confirmed by either India or Afghanistan.

India's assistance in dam construction has exacerbated animosity in Pakistan.

Similar to Afghanistan, Pakistan is also water stressed and primarily dependent on agriculture but the construction of dams in the former's case has enraged Pakistan and there has been a lot of hue and cry in the Pakistani media regarding the same; the Indian involvement in the assistance has further aggravated the situation.[23]

It is noteworthy that the 700-km-long Kabul river, originating from the Hindu Kush in central Afghanistan, flows eastward across the cities of Kabul, Surobhi and Jalalabad. East of Jalalabad, the river is joined by the Kunar river, its major tributary, which originates in Pakistan and is called the Chitral there. Thus, Afghanistan is an upper riparian state and Pakistan the lower riparian. In Pakistan, the Kabul river passes through the Khyber Pakhtunkhwa province, Peshawar and Nowshera and joins the Indus in northwest Islamabad.

Thus, the watershed area of the Kabul river includes nine Afghan provinces and two provinces in Pakistan. Affecting the lives of a population of 25 million in the basin area, the river plays a significant role in the livelihoods of the Afghans and Pakistanis residing there. Moreover, due to increasing cases of water thefts, the level of the ground water in the region is very low and is contaminated. Thus, it is in this context that the construction of the Shahtoot Dam is to be viewed. Even though, for Pakistan, the major river system is the Indus river that dominates its geography and economy, the Kabul river's significance cannot be undermined.[24]

Pakistan fears that due to the construction of a number of dams in Afghanistan (12 dams), with a carrying capacity of generating 1,177 Mega Watt (MW) of electricity and 4.7 Million Acre Field (MAF) of water, Afghanistan is deliberately denying Pakistan its share of water from the river.[25]

As reflected in the Pakistani media, if the Indian assistance to Afghanistan on hydel projects was not enough trouble for Pakistan, the latter also fears that in the event of a war between India and Pakistan, New Delhi will have the capability to choke the Pakistani economy by shutting off the waters from both the Indus and Kabul rivers if the dam is constructed![26]

The fear factor in Pakistan is aggravated by the fact that, generally, it is the "powerful" states or the "hydro- hegemons"[27] that divert or channel the riverine waters to their own lands, as is the case in Israel, Syria, etc.,[28] but in this case, Afghanistan is a comparatively "weaker" state, and is yet trying to divert the waters by constructing dams, being the upper riparian state. This will not go well with the comparatively "superior powers" like Pakistan and Iran which are the lower riparian states, and Indian presence is, thus, seen as empowering Afghanistan against them.

Conclusion

As far as India is concerned, there have been no official statements from the government agencies confirming the deliberate containment of Pakistan by the construction of dams in Afghanistan. However, it cannot be ignored that this also as a double-edged sword for India in terms of building its presence in Afghanistan through developmental projects, and, alongside developing fear in Pakistan regarding control of the dam and India's ability to choke off the supply of water to it. Thus, the renewable resource—water—has the potential of being used as an unconventional weapon by New Delhi against Islamabad.

Dr. **Manjari Singh** is Associate Fellow, CLAWS.

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Border Management and Internal Security:
Redefining Force Structures

ASHWANI GUPTA

The aftermath of the Kargil War led to the establishment of the Kargil Review Committee to examine the sequence of events and make recommendations for any future eventualities. The committee report was presented to the Parliament in February 2000 and, subsequently, four task forces were set up to review various aspects of national security system in India. The Task Force on Border Management (TFBM) headed by Dr Madhav Godbole advocated the principle of "One Border-One Force" for demarcation of areas of responsibility. As a first step, the department of border management was set up in the Ministry of Home Affairs (MHA) in 2004. The government's approach on border management hinges on four pillars: guarding the borders, regulation of the borders, development of border areas and constitution of bilateral institutions for resolving border disputes. India's 15,106.7 km land border presents a challenging task due to the the large varying terrain, from deserts, marshy lands, snow covered peaks to the thick jungles of northeast India. The difficult terrain, coupled with inclement weather and the porosity of borders, poses a unique challenge to the security forces. In addition, the free visa regime with Nepal, and cultural similarities along the Myanmar and Bangladesh borders add to the complexities. Lastly, owing to the peculiarities and challenges of border management, infrastructure and technology alone are not sufficient for effective border management.

India's internal security challenges have been intricately linked to the security of the borders due to the belligerent nature of some of India's neighbours. The

Infrastructure and technology alone are not sufficient for effective border management.

long standing border disputes with China and Pakistan, difficult terrain and weather make border guarding an arduous task. However, due to lack of understanding of military issues amongst the decision-makers, the borders are guarded by a number of military and paramilitary forces, each reporting to its own ministry and working with limited coordination.[1] A single point control of the borders is essential for effective management. With the evolving asymmetric threats facing our country, there is a necessity to further streamline the force structures and mechanisms.

Present Border Management Mechanism

The border guarding forces are under the executive control of the Ministry of Home Affairs (MHA). Shared with seven countries, India has the longest border with Bangladesh (4,096.70 km) guarded by the Border Security Force (BSF).[2] The 3,233 km long India-Pakistan border has deployment of Army units at the Line of Control (LoC) and the balance stretch is under the control of the BSF. The 3,488-km-long Indo-China border is guarded by the Indo-Tibetan Border Police (ITBP). The Sashastra Seema Bal (SSB) is responsible for guarding the Indo-Bhutan (699 km) and Indo-Nepal (1,751 km) borders. The 1,643 km the Indo-Myanmar border is the responsibility of Assam Rifles.[3] In addition, the Indian Army has its troops deployed on border guarding duties along the Line of Actual Control (LAC), LoC and Actual Ground Position Line (AGPL) in Jammu and Kashmir (J&K) as well as troops along the LAC and Myanmar border in the eastern sector.[4] The boundary has varied guarding mechanisms like a fence along the Pakistan and Myanmar borders, company operating bases, border outposts and floodlighting of selected stretches. Manned around the clock by means of regular patrolling and fixed pickets, the border guarding agencies prevent infiltration, smuggling and incursions by terrorists and opposing security forces.

Security Matrix and Employment of Security Forces

The major border security challenges of India are related to cross-border terrorism, infiltration and exfiltration of armed militants and insurgents with camps in neighbouring countries, narcotics and arms smuggling, illegal migration from Bangladesh and Myanmar, and Left Wing Extremism (LWE). The security element at the national level comprises Army units and Central Armed Police Forces (CAPFs). Four wars since independence and insurgency in the northeast and J&K led to the Army units and CAPFs units performing multifarious tasks and, at times, being deployed in the same areas with similar tasks.

- **Army's Role and Deployment:** The Indian Army's primary role is to ensure the national security and safeguard sovereignty, territorial integrity and unity of India from external aggression and threats. With China and Pakistan as hostile neighbours, the Army is continuously deployed on two borders besides its active operations against insurgency in J&K and the northeast. The Army had its first deployment to tackle insurgency with the Naga insurgency in the 1960s. During that period, it was the only organisation capable and equipped for tackling insurgency. As insurgency proliferated in the northeast, the deployment also increased and has continued till today. Similar is the deployment in J&K for guarding an active LoC, deployment on an anti-infiltration grid to check infiltration from Pakistan, and Rashtriya Rifles (RR) battalions comprising Army soldiers for combating insurgency in J&K. Also, though the responsibility of border guarding in peace-time is that of the BSF and ITBP along the Pakistan and China borders, Army formations and units are deployed at the International Boundary (IB), with the CAPF headquarters and units located in the hinterland. It is more pronounced along the China border. Besides these deployments, Army units are routinely employed in aid to civil authorities for disaster management, flood relief and riot control.
- **CAPFs and Internal Security:** The deployment patterns of the CAPFs have varied according to the changing external and internal threats. Besides guarding the borders, the last three decades have seen their increasing deployment due to the rising insurgency in J&K and LWE areas. Large numbers of Central Reserve Police Force (CRPF) as well as BSF units and personnel have been deployed to combat insurgency in J&K and LWE areas. This led to a rapid increase in the strength of these two CAPFs and today, though the CRPF is the designated agency for counter-insurgency operations, the Army and BSF units supplement the effort. CRPF units, alongwith the BSF, have a sizeable presence in the red corridor and have been partially successful in degrading the Naxal threat.
- **Border Guarding Forces in other Duties:** The concept of one border-one force led to a realignment of the deployment at the borders but the border guarding forces have multiple other duties which tends to remove the focus from the main task of border management. For instance, the ITBP provides security cover at Rashtrapati Bhavan, the Vice President's House, Rumtek Monastery and Tihar jail, to name a few.[5] In addition, it is also providing security cover to the Indian Embassy in Afghanistan. Similarly, BSF units have been deployed to tackle insurgency in J&K, the northeast and in LWE affected areas. The ITBP and BSF units are also involved in VIP duties. Being under the MHA,

these CAPFs are often entrusted with duties other than the primary ones under the caveat of "any other duty assigned by government of India". The Central Industrial Security Force (CISF) was raised for providing security to Public Sector Undertakings (PSUs) and government installations and would be an apt organisation to be tasked for installations' security rather than battalions of the ITBP or any other border guarding force. Similarly, units of almost all CAPFs are involved in VIP security. As the Special Protection Group (SPG) is a trained organisation for VIP security, its entities would be suited for personal security duties. The Task Force on Border Management (TFBM) had advocated clear defined roles and had recommended assigning the CRPF and CISF for VIP duties.[6]

External Aggression and Role of CAPFs

The CAPF units have a mandated war-time role to assist the Indian Army by occupying the less threatened areas, guarding vital areas and installations and also blunting the enemy's attack where required. The major presence is of the BSF in manning the borders for security and other related tasks. The major aspects of the war-time role[7] of the BSF as given in its website are:

- Holding ground in less threatened sectors as long as the main attack does not develop in a particular sector and it is felt that the local situation is within the capability of the BSF to deal with. The BSF units can continue to be deployed in a particular sector even in a war situation to release the Army for offensive tasks.
- Protection of vital installations, particularly airfields, against enemy commandos/paratroopers or raids. The role can be entrusted to the BSF units which are placed under the Army's operational control.
- Limited aggressive action against paramilitary or irregular forces of the enemy within the overall plan of the armed forces.
- Providing extension to the flanks of the main defence line by the holding of strong points in conjunction with other units.
- Performing special tasks connected with intelligence, including raids. These are tasks which might be entrusted to BSF units by the Army in a war situation according to local necessity.
- Anti-infiltration duties in a specified area.

The CRPF website lists a war-time role of "fighting external aggression."[8] The ITBP would have a role akin to that of the BSF along the China border though its official web page does not specify a defined role. The SSB would be more in border guarding duties to check smuggling and infiltration as India has cordial relations with Nepal and Bhutan.

Synergy for Asymmetric Security Conditions

Redefined border management structure is required to avoid duplication of resources and have better coordination.

India faces defined external threats from China and Pakistan and a complex web of internal security issues. The controlling ministries are the Ministry of Defence (MoD) and MHA, but with limited coordination between them. With the advent of a digitised world, shrinking budgets for security and, most significantly, to avoid duplication of resources and have better coordination, a redefined structure is essential for synergised action during operations. The security forces have created their own centres of excellence for training and these generally operate in a stand-alone mode by in-house utilisation. For an overwhelming response during external aggression or internal security situations, there is a necessity to achieve coordination amongst different security forces by joint peace-time training, using each other's facilities and adopting a common training doctrine. This synergy can be best achieved if the security forces are regrouped and operate under one ministry. Commonality of weaponry and joint training will provide the impetus for integrated headquarters at a later stage. At the present stage, the staffing patterns can remain the same and the only change desired is in the ministerial level support due to the threat perception.

The regrouping has to be based on the threat perception and assessed employment of the security forces. As the MHA is the nodal ministry for internal security, all elements of the security forces dealing with internal security must be under the executive control of the MHA. India has three distinct internal security geographical areas, in the J&K, northeast and LWE affected states. Assam Rifles has been the mainstay in the northeast for combating insurgency and the CRPF is actively deployed in the Naxal affected areas and J&K. Thus, the CRPF and Assam Rifles which are already under the MHA, must continue to function as per present guidelines. The Army component of the Rashtriya Rifles (RR) units and headquarters which are actively employed in combating insurgency in J&K must come under the MHA for a single ministerial control for internal security.

The security of India's borders and combating external aggression is the responsibility of the Indian Army and the border guarding forces are incorporated in all war plans. The three elements of the BSF, ITBP and SSB can optimally perform in close conjunction with the Army when there is structured interaction in terms of joint training, participation in exercises and sharing each other's training facilities by conducting joint courses. This synergy will be more

comprehensive if the three elements of the BSF, ITBP and SSB are placed under the executive control of the MoD.

Conclusion

The external and internal threats matrix has to be viewed holistically and the security forces have to be grouped as per the threat assessment and not as per force designations. In peace-time, border surveillance, reinforced with modern equipment and telecommunications will form an integrated part of border management. As Pakistan continues to be a constant irritant due to an active LoC and infiltration attempts, the five layer advanced security system[9] planned along the western borders will yield sufficient information about its security forces. Also, clear demarcation of duties and reallocation of responsibilities will lead to the availability of a larger number of BSF and ITBP units in border guarding roles and free Army units from border guarding tasks and, thus, Army units can be employed for their primary tasks. Lastly, sharing of information gathered as part of border surveillance, joint training, and synergy amongst the border guarding forces will pay rich dividends during war. Hence, realignment of the security forces under the controlling ministries is a necessity and must be implemented in a phased manner to create a vibrant security shield.

Colonel **Ashwani Gupta** is former Senior Fellow, CLAWS.

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SCHOLAR WARRIOR

SECTION II

CHINA MONITOR

CENTRE FOR LAND WARFARE STUDIES

PLA Concept of Intelligent Operations

DHRUV C KATOCH

The People's Liberation Army (PLA) of China first felt the need to modernise its forces after its experience in the Vietnam War of 1979, which exposed critical weaknesses in the command and control mechanisms and in the logistic support required in modern battlefield conditions.[1] The process of modernising the country began with Deng Xiaoping's 'Four Modernisations': agriculture, industry, science and technology and defence forces. While defence modernisation held the fourth place, it was by no means neglected. Between 1985-95, major changes were instituted in the doctrinal and organisational aspects, with stress being laid on indigenous production of weapons and equipment. But it was the Gulf War of 1990-91 which changed the Chinese perceptions of how modern wars are fought. The Gulf War was a practical demonstration of the Revolution in Military Affairs (RMA) brought about through the application of high technology. What the Chinese observed here was the devastating impact which information and communication technology had on the battlefield when integrated with precision long range weapon systems. The US forces had integrated satellite and aerial reconnaissance capability and a highly developed Command, Control, Communications and Intelligence (C3I) system to direct the battle, with highly accurate missile systems and modern mechanised forces, and air support to enable application of force with pin-point precision. This enabled them to win a decisive victory with minimum losses in just 42 days.[2]

The Chinese military accordingly concluded that modern wars would be fought with greater mobility, speed and offensive power, necessitating smaller

forces, with increased battlefield mobility and lethality and with modern C3I systems to achieve battlefield dominance. Another conclusion drawn was that high end military technology can achieve strategic intimidation to achieve strategic goals. In addition, many areas of high technology such as information, biological, microelectronic, laser and infrared technology have important military applications and that military technology is no longer a special field in itself. As technology advanced, the equipment manufactured earlier would reach obsolescence at a much faster rate; to achieve technological dominance, it would, thus, be necessary to be ahead of the technology curve. As such, even when new equipment is fielded, it would be necessary to have work ongoing in developing newer next generation systems to cater for faster obsolescence.[3]

The Gulf War changed the Chinese perception of how modern wars are fought.

The Chinese military, thus, enunciated its strategy called Active Defence, which was predicated on the need to fight under what the Chinese termed "Local Wars Under Modern, High-Tech Conditions", and which was later changed to fighting "Local Wars Under Informationalized Conditions".[4] Preparations for conflict were based on the following premises:

- Future wars will be shorter, perhaps lasting only one campaign.
- They will almost certainly not entail the occupation of China, although Chinese political, economic, and military centres are likely to be attacked.
- They will involve joint military operations across land, sea, air, cyber space and outer space, and the application of advanced technology, especially information technology.

In its modernisation programme, the PLA laid emphasis on fighting and winning short-duration, high-intensity wars along China's periphery. This included scenarios for Taiwan, building counters to third-party, including potential US intervention in cross-strait crises and conflicts along China's land borders. Emphasis was laid on space warfare, psychological warfare (called the Three Warfares to dictate the strategic terms of the conflict, by influencing domestic opinion, the opposition's will, and third-party support), computer network operations (to seize the initiative and achieve electromagnetic dominance early in a conflict, and as a force multiplier), missile warfare to include both long range and short range ballistic missiles and cruise missiles, air power and maritime dominance. The modernisation process also included reforming military institutions, promulgating new doctrines for modern warfare

and personnel development. China's modernisation drive was supported by huge financial outlays as a result of which it has today a very capable and effective military with an impressive high-tech arsenal. However, despite China's military capability, its lack of experience in modern combat was seen as a major liability and a potential disadvantage for the PLA. The PLA's ability to use modern weapons and equipment remains unproven without the test of combat and it is this lacuna which the PLA is now trying to overcome through "intelligentization".[5]

In his address to the 19th Party Conference, President Xi Jinping stated that China will "… strengthen the military for the new era and the military strategy for new conditions, build a powerful and modernized Army, Navy, Air Force, Rocket Force, and Strategic Support Force, develop strong and efficient joint operations, commanding institutions for theater commands, and create a modern combat system with distinctive Chinese characteristics". He also stated that China "… will adapt to the trend of a new global military revolution and to national security needs; we will upgrade our military capabilities, and see that, by the year 2020, mechanization is basically achieved, IT application has come a long way, and strategic capabilities have seen a big improvement. In step with our country's modernization process, we will modernize our military across the board in terms of theory, organizational structure, service personnel, and weaponry. We will make it our mission to see that by 2035, the modernization of our national defense and our forces is basically completed; and that by the mid-21st century our people's armed forces have been fully transformed into world-class forces".[6]

In translating the vision of President Xi Jinping in concrete terms, there is evidently a congruence of thought within the PLA of the importance of Artificial Intelligence (AI) in future military operations. This too was alluded to by Mr Xi Jinping, when, in the course of the same address, he stated, "… We will develop new combat forces and support forces, conduct military training under combat conditions, strengthen the application of military strength, speed up development of an intelligent military, and improve combat capabilities for joint operations based on the network information system and the ability to fight under multi-dimensional conditions. This will enable us to effectively shape our military posture, manage crises, and deter and win wars".[7]

The concept of an "intelligent military" and "intelligent operations" (*zhinenghua zuozhan*, 智能化作战) as enunciated by China is still in the evolutionary stage. An article in the official Xinhua state news service has defined intelligent operations thus: "Intelligent operations have AI at their core, and use cutting-edge technologies throughout operational command,

equipment, tactics, and other areas … they must be understood by the core concepts of 'system intelligence is central,' 'full use of AppCloud,' 'multi-domain integration,' 'brain-machine fusion,' 'intelligent autonomy,' and 'unmanned struggle for mastery'" in the battlefield environment.[8]

Intelligent operations imply integrating new technologies in combat operations.

What intelligent operations imply is integrating new technologies into combat operations. They also aim to address perceived weaknesses in the Chinese military which pertain to the lack of operational experience of its commanders, rigidity in command structures and ability to fight joint operations.

A tool for enhancing realism in training and to give a feel of actual combat is war-gaming and coopting new training techniques and operationalising new technologies, especially AI to its concepts, structures and training. Towards this end, the launch of the New Generation Artificial Intelligence Development Plan *(Xinyidai Rengong Zhineng Fazhan Guihua)*, is significant. This plan seeks to use AI to support the military decision-making process for purposes of simulation and in war-gaming.[9]

Towards this end, in April 2018, the Chinese Academy of Launch Vehicle Technology (CALT), convened a tournament called "Decisive Victory". Here, human players from the Chinese Academy of Sciences and Tsinghua University were pitted against an artificial intelligence commander, and reportedly it was the human players who were defeated six to two.[10] Increasingly, PLA commanders will be put through exercises wherein their opponent is a machine. They will be given the opportunity to war-game, using all the assets at their command, during which jointmanship too will be practised. AI technologies are increasingly being recognised by China as vital to the modernisation of the PLA to enable and enhance a range of future military capabilities. President Xi Jinping has clearly stated that he expects the Chinese military to be of world class by 2050, and AI will be exploited to enhance the complete range of Chinese military capability.

Towards this end, in July 2017, the State Council of China released the "New Generation Artificial Intelligence Development Plan," outlining a strategy to build a domestic AI industry, which would make China a leading AI power by 2030. The expectation is that by 2020, Chinese companies would be at the same level as those in leading countries like the United States, and by 2025, would be in a position to achieve a breakthrough in some select disciplines in AI. This plan also calls for China to "strengthen the use of new generation AI technologies as a strong support to command decision-making, military

deductions (war-gaming and operations research), and defense equipment, among other applications.[11]

The PLA's apparent progress in the use of AI in war-gaming provides an initial indicator of its attempts to explore new concepts of operations for the dynamics of "intelligent operations". It also seeks to enhance the acumen and preparedness of its officers and personnel for future warfare. Through integration of AI into war-gaming, we see the potential use of AI to train commanders in developing greater skills in developing strategic thinking and command decision-making, which, as brought out in the beginning of this article, remains a weakness for the PLA as its leadership has not been tested in combat.[12]

A lot of focus by China, with respect to AI is also on hardware. Here, we are talking about robots, drones, remotely piloted submarines et al., for military use. Development of improved weapon systems using AI, along with the use of big data for analytics, the Internet of Things (IOT) and cloud computing, when integrated together could be truly devastating. But this would still be merely an extension of technology, which a commander would be enabled by to achieve battlefield dominance. If such technologies could be integrated into planning for operations and into real time decision-making, it could be another step towards the next major revolution in military affairs—intelligent operations conducted in real time and leading eventually to what could be termed as "war at the speed of thought". We are looking at a potential next wave revolution in military affairs, which can break through, as stated by the PLA, traditional time and space limits of cognition, reconstruct the relationships between humans and weaponry and bring about entirely new models of command and control.[13] This is intended to be achieved through gaining complete supremacy over one's opponents in the cognitive sphere, through superior understanding and awareness of the battle space, and through intelligent unmanned systems to greatly reduce the "observation-judgement-decision-action cycle".[14]

There is, of course, the danger that reliance on AI may miss out on the complexities of real operations. The US and North Atlantic Treaty Organisation (NATO) forces achieved a quick victory in the Iraq War and later in Afghanistan, but found to their cost that sustaining operations over long periods of time was an entirely different matter. Intelligent operations, as envisaged by the PLA, are designed to impact and provide advantage in the cognitive domain, but there are still many imponderables. Will this be enough to eliminate what Clausewitz

termed the "fog of war"? Or will it lead to additional complexities, especially as technology can also be used to deceive and the Chinese will not be the only players in the game? How will nuclear issues be addressed? As of now, the threat of conflict degenerating and spiralling out of control to nuclear warfare, has actually contributed to strategic stability. The ability to know and understand the battle space in the cognitive domain, along with the means to disrupt enemy systems and integrating the same with long range precision weapon systems is certainly a force multiplier, but it will come with a fresh set of challenges, many of which perhaps have not yet been considered. Having said that, it is a truism that cognitive advantage is a battle winning factor and AI will be in the forefront to provide the means to achieve the same.

India too needs to move towards futuristic technologies to address the multiple challenges it faces on its land borders, in the Indian Ocean Region (IOR) and in internal conflicts. But it must always be remembered that such technologies would require to be used with due care and circumspection. Too often, it is not the external enemy but the internal political rival who can become the target and such technologies can lead to monopolising power by shaping opinions and eliminating threats to political power. For the PLA, intelligent operations are still perhaps a few decades away, but whether they can be a substitute or a panacea for the weakness which the PLA perceives it has, will only be determined over time.

Major General **Dhruv Kaotch**, SM, VSM (Retd) is Director, India Foundation, and former Director, CLAWS.

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Military Reforms:
China's Western Theatre Command and its Structures

VK AHLUWALIA

> *It is a Chinese Dream to achieve the great rejuvenation of the Chinese nation. The Chinese Dream is to make the country strong.... Without a strong military, a country can neither be safe nor strong.*
>
> — China's White Paper, 2015

Introduction

Since 2002, Chinese leaders, including President Xi Jinping, have considered the 21st century's initial two decades as a 'period of strategic opportunity'. It comes as no surprise when the Defence Intelligence Agency (DIA), of the United States of America (USA), posits in its 2019 report that the Chinese military has been modernising itself from a defensive, inflexible ground-based force charged with domestic and peripheral security responsibilities to a joint, highly agile, expeditionary, and power-projecting arm of the Chinese foreign policy that engages in military diplomacy and operations across the globe.[1]

After the 19th National Congress of the Communist Party of China (CPC) in October 2017, the Constitution was amended for Xi Jinping to become head of the Party, the military, and the state. It has also enabled him to continue in power for life, instead of the erstwhile policy of a maximum of two tenures. Having been fully empowered, Xi would also be able to carry out the ongoing transformation of the People's Liberation Army (PLA) in the coming years. He has also underscored

the equation and supremacy of the CPC over the PLA.[2] Given China's ambition of having strong armed forces with joint command and control structures, the aim of the paper is to briefly analyse the PLA's military reforms, with special focus on the Western Theatre Command (WTC), its structures and the likely implications for India.

Historical Perspective

During the conflict between China and Vietnam in 1979, glaring weaknesses came to light in the PLA's operational planning, tactics, weaponry, communications, command and control, close air support and logistics. Technological obsolescence was one of the core vulnerabilities of the PLA.[3] Following the Communist Revolution, the CPC came to power in 1949. The initial years of its rule were marked by the organising and strengthening of the Party, and its leadership. Simultaneously, China defined its territorial boundaries, and negotiated with the other stakeholders of the boundary disputes. While China has land borders with 14 countries, it has settled its land boundary disputes with most of them, except India and Bhutan. To note, China has succeeded in resolving its hardened boundary disputes with Soviet Russia and Vietnam; to which, an analysis suggests that in most cases, China has made concessions in resolving the land boundary disputes.However, it has remained firm in areas where its strategic interests are involved. While with regard to its maritime boundaries in the East China Sea and South China Sea, China has disputes with Japan, the Philippines, Brunei, Indonesia, Malaysia, and Vietnam, which remain unresolved till date.

Given this security matrix, China is known to carry out periodic Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of its PLA, as also compare it with other contemporary military forces, the world over. It is well known that the process of transformation of the PLA actually commenced with Deng Xiaoping's 'Four Modernisations' programme in 1979.

Information and Technology: Key Elements of Modern Warfare

In order to modernise the armed forces, China has carried out deliberate studies of the Falklands War (1982), the bombing in Libya (1986), the Gulf Wars (1991 and 2003) and the Kosovo conflict (1989-90). Some of the prominent lessons, learnt by China, of the Gulf Wars I and II, as well as the Kosovo conflict, were the important roles played by air power (surgical use of air power), mechanised forces, special forces, airborne forces, Precision-Guided

Munitions (PGMs), Intelligence, Surveillance, Reconnaissance (ISR), space-based technology and stealth technology.

Chinese military is modernising itself from defensive, inflexible ground force to agile, joint power projecting arm.

Most importantly, it also brought home lessons regarding the deadly effectiveness of network-centric platforms and forces; of which, one of the most important lessons was that 'information and technology' had become the key elements of modern warfare. These conflicts confirmed that there were major changes in the character of warfare, and that future conflicts would primarily be between 'operational systems' and not against attrition focussed Armies. As in the case of the Gulf Wars, the US-led coalition forces had a huge advantage over the Iraqi forces in terms of information, battlefield transparency, situational awareness and weapon systems. They were seized of the fact that the US enjoyed quantum advantage in science and technology, innovations, and technological advancements in defence industry.

Local Wars under Conditions of Informationisation

Since 1949, China has fought three border skirmishes with its neighbours, which were against India in 1962, the Soviet Union in 1969, and Vietnam in 1979. Owing to this, the war-fighting doctrine of the PLA has evolved progressively over the years, having moved from its erstwhile 'people's war' to 'people's war under modern conditions'; and then from 'limited war' to 'limited war under high technology conditions'. It further graduated to 'winning local wars under informatisation', which, in effect, meant extra focus on two facets: first, a war that could be against a single adversary across the entire spectrum—the land or sea frontiers, or a combination of both.

Threat Perception

China's 2015 Defence White Paper titled, "China's Military Strategy", states that a World War is unlikely in the immediate future, but China should be prepared for the possibility of local wars. In specific terms, the areas of concern to China are Taiwan; Uighurs and Tibetan separatism; and perceived challenges to China's control of disputed areas in the East and South China Seas. In addition, are concerns regarding territorial disputes along China's border with India, which periodically result in tense stand-offs like the one witnessed in 2017 in the disputed Doklam region.[4]

Taking a cue from the Gulf Wars, China realised that, in the future, it too may be involved in fighting short duration, high intensity, lethal and non-contact kind of regional conflicts, away from the Chinese mainland. Based on the envisaged threats and challenges to its national security, China's leaders took several measures to transform the PLA, primarily with a view to counter the US military power. Also, while formulating their doctrine and strategy, and building their capabilities, China's policy-makers were reminded of two significant incidents of the 1990s: first, the role and intervention of the US 7th Fleet aircraft carrier during the China-Taiwan Strait crisis in 1996-97; second, the extensive casualties and damage to the Chinese Embassy in Belgrade due to the strikes carried out by the North Atlantic Treaty Organisation (NATO) forces in 1999.

Given the emerging geo-strategic situation, particularly with reference to Taiwan, the East China Sea and South China Sea, China perceived that it is more likely to be engaged in "local war under high-technology conditions." With emphasis on digitised war-fighting systems, this was subsequently amended to "local wars under the conditions of informatization". This then would translate into "regional conflicts defined by real-time, data-networked command and control, and precision strike."[5] In the Indian context, it could well mean a confrontation across the entire spectrum of the Line of Actual Control (LAC) involving the western, central and eastern theatres, and in the Indian Ocean. Second, it refers to exploiting the latest technologies to innovate, develop and employ state-of-the-art weapon systems, with precision guided ammunition systems. With the growing interest to safeguard the maritime security concerns, which are away from the mainland, it is perhaps one of the main reasons for the PLA to accelerate its Navy's exponential growth.

China's Dream

Chinese President Xi Jinping has expounded that the "China Dream of national rejuvenation" aims to establish a powerful and prosperous China. Besides economic strength, it includes a "dream of strong armed forces", which is guided by three main goals: mechanisation of the PLA by 2020,[6] modernising the PLA by 2035, and making the PLA a 'world class military' by mid-century. In this quest, over the past decade (2009-18), China's military spending rose by 83 percent in real terms, which has been, by far, the largest growth in any big country.[7] To accelerate the PLA's modernisation and address capability shortfalls, Beijing has significantly increased the PLA's budget by an

average of 10 percent per year from 2000 to 2016.[8] However, between 2017 and 2018, there was a slight deceleration caused by the slower economic growth, but the defence budget still grew year-on-year by nearly 6 per cent.[9] To add further to its military modernisation, Xi Jinping has focussed on modernising the PLA as a force, equipped with new technology enabled weapon systems; thus, improving the military capabilities of the force. It has been emphasised that a new technology becomes effective only if it is absorbed seamlessly by the rank and file.

The Strategic Support Force (SSF) provides the PLA with cyber, aerospace, and electronic warfare capabilities. It is the core of China's information warfare force that provides information and intelligence support to the Theatre Comands (TCs) and higher command authorities of the PLA, and reports directly to the Central Military Commission (CMC). It makes the SSF a potent cyber force by combining cyber reconnaissance, cyber attack and cyber defence capabilities. It is part of the major reorganisation drives of the PLA's higher command structure.

Despite China's modernisation programme, the *Military Balance* points out that the PLA still suffers from noteworthy deficiencies, not the least in vital areas such as anti-submarine warfare; intelligence, surveillance and reconnaissance; air-to-air refuelling; and joint-Service operations. Even more significantly, it lacks recent direct experience of high-intensity operations.[10] On balance, although there are certain teething problems in the new concept, the PLA would finally become an effective combat force operating under an integrated joint command and control structure.

What is important is that against all odds, in order to achieve a great power status, China has remained focussed on improving its economy, and has embarked on a long-term programme of transformation of its military. Therefore, it is well on its way to build a robust, technology enabled force with reliable capabilities in the land, air, maritime, space, cyber and information domains.

Earlier Organisational Structure

Till early 2016, the Chinese mainland was divided into seven large Military Regions (MRs), known as *da junqu* in Mandarin, which means 'Military Area Commands' (MACs).[11] Each of the MRs comprised two or more provinces, autonomous regions, or centrally administered cities. In this regard, the MRs were named after the city

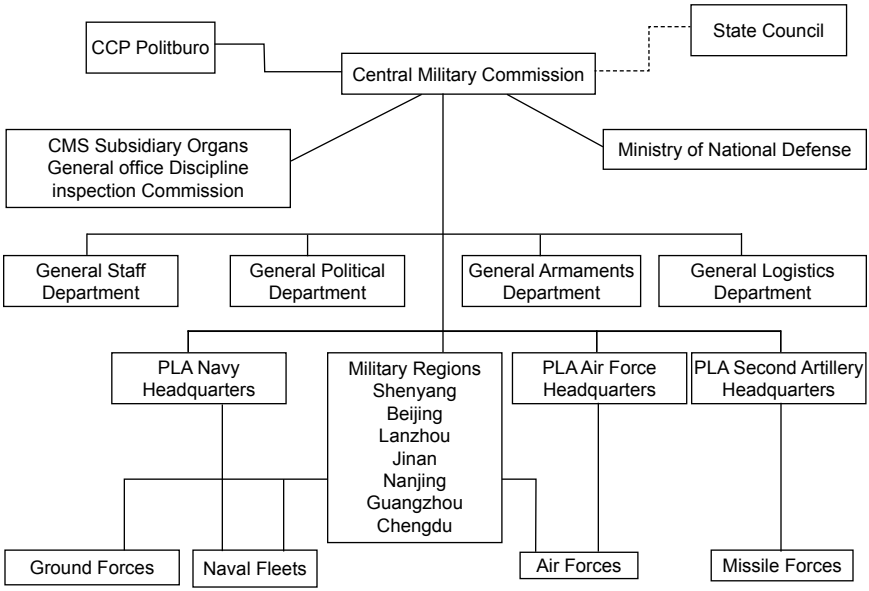
in which their headquarters were located. To note, the seven MRs were: Shenyang, Beijing, Lanzhou, Jinan, Nanjing, Guangzhou, and Chengdu.

In the organisational framework, each MR Commander (*sling yuan*) shared responsibility with a Political Commissar. The Commander was assisted by Deputy Commanders, including the regional Air Force Commander, and Naval Commander. Under this organisational structure, the seven MRs used to report to their respective Service Headquarters (HQ), with little or no coordination.

Since October 1949, the PLA had undergone a number of changes in its organisational structures, based on changes in the geo-political environment and the threats to its national security. Prior to the reforms, the PLA's organisations were broadly based on the model in vogue in the Soviet Union in the 1950s and 1960s. Over the years, the PLA made only incremental changes to the structures and their responsibilities. While the CMC exercised the highest command authority over all the organs of the PLA, the main components of its architecture were:

- All the three Services, the Army, Navy, and Air Force, and the Second Artillery Force (SAF). The Service Headquarters had operational authority over their own forces during peace-time, and the MRs were responsible for conducting joint operations during war-time. This was found to be impractical.[12]
- The SAF was an independent branch that was responsible for the overall planning, preparations, training and operational conduct of the conventional and nuclear missiles. It comprised ballistic, cruise and battlefield missiles. In other words, it held conventional and nuclear missiles in its arsenal.
- Seven geographical MRs: Shenyang, Beijing, Lanzhou, Jinan, Nanjing, Guangzhou, and Chengdu.
- There were four departments: General Staff Department (GSD), General Political Department (GPD), General Logistics Department (GLD), and General Armaments Department (GAD).
- There was no permanent joint Command and Control (C2) mechanism. A broad organisational structure of the PLA and the CMC is given at Fig 1.[13]

Fig 1



Creation of Theatre Commands (TCs)

Xi Jinping carried out transformation of China's armed forces, based on the changing geo-political situation, the nature of the envisaged threats, the changing nature of conflicts, the revolution in technologies, and the likely areas/ regions where the armed forces may be employed in the future. The transformation involved effecting changes in the cognitive domains, organisational structures, streamlining the command and control systems, bringing in jointness and integration among the three Services, and introduction and absorption of new technologies.

In February 2016, as part of his thought process to modernise China's military and to achieve great power status, Xi replaced the MRs with five Theatre Commands (TCs), each under a single Commander. The military reforms have mainly focussed on refining the PLA's higher command and control structure and producing a 'joint operational command system' with decision-making emanating from the CMC to the TCs, and down to the operational units.[14]In addition, the reforms include all four general departments (GSP, GPA, GAD and GLD) being converted into smaller elements of the CMC; the creation of a separate HQ for the PLA Ground Force (PLAGF); and the creation of a PLA Rocket Force (PLARF).

These five new TCs are: Eastern, Southern, Western, Northern and Central. These commands are headquartered in Nanjing, Guangzhou, Chengdu, Shenyang and Beijing respectively. The geographical locations of the TCs are such that they provide 'strategic direction,' and cater to the continental and maritime security concerns of China. The Eastern Theatre Command and the Southern Theatre Command cover the threats in the East China Sea and the South China Sea respectively, while the Central Theatre Command, based in the Beijing and Jinan MRs, with responsibility for the defence of the capital region, also serves as a strategic reserve to reinforce other theatres.[15] Thereby, each TC has focussed attention on a respective area of strategic concern to China, as can be assessed from Fig 2.

Fig 2: China's Theatre Commands

Source: *The Economist*, June 27, 2019.[16]

Western Theatre Command (WTC)

According to an article on "Military Reforms", the sprawling WTC would handle India.[17] But, in the same article, it is specifically suggested that the WTC would

focus on Central Asia, India and terrorism in Xinjiang.[18] In fact, the WTC is an amalgamation of the Chengdu Military Region and Lanzhou Military Region. Given the vast geographical expanse of the WTC, being the largest among the five TCs, it also touches the boundaries of western Mongolia. The WTC has varied terrain, including desert and high mountains, long borders, and challenging socio-ethnic conditions. As such, the WTC has both internal and external operational requirements. Besides disaster relief missions, it also supports the People's Armed Police Force (PAPF), newly governed now by the CMC of the CPC, to maintain internal security and stability in the restive Tibet and Xinjiang regions.

Restructuring of MRs into JTCs has enhanced capabilities and response mechanism of Chinese military.

The external responsibilities of the WTC can be categorically listed as:

- The primary strategic direction is India and the contested border regions.[19]
- Responding to possible unrest in Central Asia under the patronage of the Shanghai Cooperation Organisation (SCO).

The WTC's joint operations command centre is located in Chengdu, while the theatre Army HQ is in Lanzhou. As part of the reforms, the focus of the PLA Army (PLAA) has shifted to the restructured new combined arms brigades and their training. The new Strategic Logistics Support Force has subordinate Joint Logistics Support Centres in each theatre, with one in Xining for the WTC. It is not yet clear whether the PLA Rocket Force's (PLARF's) conventional missile launch brigades would remain directly under the CMC or as theatre assets. Special operations forces available to the WTC would represent highly qualified units to operate in the enemy rear area to disrupt operations and attack vulnerable lines of communications. The WTC contains the Combined Arms Tactical Training Bases (CATTBs) located at Xichang and Qingtongxia. These CATTBs are highly developed training facilities for both combined arms and joint training with the PLAAF.

With respect to the WTC, what needs significant attention is the Tibet Military Command (TMC)/Military District.[20] As noted, in May 2016, the TMC was elevated by one level compared to other provincial-level military districts and placed under the PLA Army (PLAA) in May 2016.[21] It was reported that the TMC will be responsible for operations against India, at least in the Arunachal Pradesh area, training forces for specialised high-altitude mountain warfare and long-range mobility for such a contingency.[22] Simultaneously, the distinction

between the areas of responsibility of the TMC and WTC's 77th Group Army seems to have become somewhat blurred, with the latter beginning to rebase part of its manoeuvre force within Tibet itself.[23] Post military reforms, the PLA organisational structure is given at Fig 3.

Fig 3: People Liberation Army's Organisational Structure

CENTRAL MILITARY COMMISSION

• **Chairman**	Xi Jinping			
• **Vice Chairman**	Gen Xu Qiliang	Gen Zhang Youxia		
• **Members**	Gen Wei Fenghe	Gen Li Zuocheng	Adm Miao Hua	Gen Zhang Shengmin

Department	Commissions	Offices
• Joint Staff Department • Political Work Department • Logistics Support Department • Equipment Development Department • Training and Administration Department • National Defense Mobilisation Department	• Discipline Inspection Commission • Politics & Law Commission • Science & Technology Commission	• Agency for Offices Administration • Audit Office • Office for International Military Cooperation • Reform & Organisation • Strategic Planning Office

THEATRE COMMANDS	SERVICES & SUPPORT FORCES	SCHOOLS	PARAMILITARY FORCES	
EASTERN THEATRE	PLA Army	Academy of Ministry Science	People's Armed Police	People's Armed Forces Maritime Militia
SOUTHERN THEATRE	PLA Army	National Defense University	China Coast Guard	These forces can fall under both Civilian & PLA Command
WESTERN THEATRE	PLA Air Force	National University of Defence Technology		
NORTHEN THEATRE	PLA Strategic Support Force			
CENTRAL THEATRE	PLA Joint Logistics Support Force		Ministry of National Defense & General officers are not depicted in this chart	

Source: China's Military Power, Modernising a Force To Fight and Win, Defence Intelligence Agency, p. 15.

Force Restructuring: Combat Ready

As part of the military reforms, the PLA has undergone a series of manpower reduction exercises, with a view to make the force leaner, sharper and more combat effective. During the 70th anniversary parade in 2015, President Xi had announced yet another reduction of 300,000 personnel to make it a combat ready force, two million strong.

In April 2017, the PLA announced further reduction of 5 of the PLAA's 18 Group Armies (corps-sized units), and the restructuring to a corps-brigade-battalion force structure. These new mobile, modular units were integrated into combined arms brigades.[24] Considering the operational role of the WTC and the

TMC, predominantly in the higher altitudes, light equipment profile in terms of armoured vehicles (105 mm calibre guns, Type 15 tanks) and vehicle mounted self-propelled howitzers (155 mm/52 calibre PLC-181) have been provided for military operations. The PLC-181, howitzer that can shoot laser-guided and satellite-guided projectiles up to 50 km, has taken part in training exercises in southwest Tibet at an altitude of 3,700 metres above sea level. Being light, these can manoeuvre in high altitude terrains with ease.[25]

Strategic Significance of WTC

China's transformation of its armed forces is significant as these developments hold security implications for the Asian region. The strategic significance of the WTC should also be seen considering the infrastructure development in the Tibetan Autonomous Region (TAR) and its linkages to China's Belt and Road Initiative (BRI). China continues to develop infrastructure at a fast pace in the TAR, closer to the LAC even when there is hardly any habitat for the population. China has constructed roads up to the LAC, along with additional air bases, landing airstrips and logistics sites to support military deployments and operations. What makes the WTC significant is the fact that with the ongoing military reforms, the PLA is in a better position to impose costs on India, during both war-time and peace-time. Although China seeks to achieve expertise on information warfare, its focus on rapid mechanisation (progress has been slower than desired[26]), infrastructure build-up and, most importantly, training of the PLA in high altitude warfare suggests that the Chinese psyche still holds land warfare as a vital option. This is mainly applicable against India, given that it is the only land border apart from Bhutan that remains unsettled.

The very objective of this centralised C2 structure operating from the WTC is to provide China with an advantage in terms of strategic deterrence and conventional force operational preparedness across the entire length of the LAC. It has been witnessed in terms of increasing military drills in the TAR—high altitude areas—to enhance the PLA's combat capability and information dominance. However, in terms of infrastructure, a linkage can also be drawn to that of the China-Pakistan Economic Corridor (CPEC) under China's BRI. In other words, China's military presence in the area bordering between India and Pakistan further widens the scope of China's engagement in India's backyard. However, in this case, collusion becomes the key concern for India to take a note of. The CPEC also illustrates increasing Chinese presence in India's periphery, wherein the military might of China is not just limited to the disputed LAC,

but could also be projected along a third territory, in this case Pakistan, to take care of its strategic assets. Besides, to draw a corollary, Doklam also acted as a third territory that brought India and China to a stalemate. Therefore, concerns remain that if tensions between India and Pakistan are constantly on the rise, China might get involved primarily to protect its security interests attached to the CPEC. In this regard, it appears that the scope of the WTC is not just limited to maintaining peace and stability with India, but rather extends to a greater territory that borders Pakistan.

Although this appears to be hypothetical; one cannot ignore the ramifications of a China-Pakistan "all-weather friendship" which can manifest itself in any form in the future. So, India must analyse the threats and challenges of the future, and step up its own preparedness to thwart any form of unwarranted contingency. In this regard, a closer watch over the activities of the WTC and the TMC would be the need of the hour. Here, special focus needs to be paid to the TMC that has direct relevance to India in particular, as well as Xinjiang Military Region, given its linkage with Pakistan; and, thus, bringing in the CPEC factor, which holds implications for India.

Speed and Synergy: The Battle Winning Factors

> *We need forces that are agile, mobile and driven by technology, not just human valour. We need capabilities to win swift wars, for we will not have the luxury of long drawn battles . . .*
>
> — Narendra Modi, Prime Minister of India,
> Combined Commanders' Conference on board the INS *Vikramaditya*,
> December 6, 2015.

It remains indisputable that future wars will be short, intense, lethal, involving a minimum of two or more domains of warfare in terms of land, air, maritime, space and information. Although most conflicts gain intensity based on an established escalatory ladder, there could be enough situations, particularly in sub-conventional operations or limited conflicts, wherein the nations may find themselves facing a full-blown conventional operation. A case in point is the horrendous attack by Pakistan's terrorist organisation Jaish-e-Mohammad (JeM) in Pulwama (Kashmir Valley) on February 14, 2019. Although the Indian Air Force targeted the terrorist camps in Balakot on February 26, it had the potential to escalate into a conventional conflict.

With the amalgamation of the Chengdu and Lanzhou MRs into one single joint Theatre Command under the WTC, China has ensured a single point of authority which controls all the land and air assets. Besides being fully aware of the operational and logistic capabilities of each combat element, unity of command also ensures better transparency and situational awareness about the operational and intelligence picture at different levels. In India, this aspect remains a major area of concern, and merits immediate attention. In the PLA, the Political Commissar is also co-located with each TC to support the operations. He assists in counselling, indoctrination, maintaining focus on operational preparedness, and maintaining the motivation and morale of the troops.

On the other hand, if we take a hypothetical case of a conflict between India and China in which all the three land sectors, namely western, central and eastern are operationally engaged, then India would certainly have a real problem of achieving seamless coordination among the number of Army and Air Force operational Commands, to respond with speed. While the Indian armed forces are organised into 18 Commands, which include operational, training, maintenance and tri-Services, the operations would involve a minimum of four Army Commands, four Air Force Commands, and the Strategic Force Command (SFC). They may also involve the two Naval Commands, including the Andaman and Nicobar Command (ANC). The problem is further compounded by the fact that neither are the areas of responsibilities co-linear nor are their HQ co-located. India will also have to examine the role of the cyber and space organisations, when the situation so demands. The operational Commands would invariably be referring to their respective Service HQ to contribute to the joint operations. Such conditions would certainly result in an avoidable delay; thus, losing out on operational effectiveness and advantage at different levels.

It has been acknowledged that enhanced joint planning, preparations, situational awareness and speedy decision-making would be the mainstay of successful operations in the age of information warfare. Have we taken actions to mitigate these weaknesses? In order to achieve advantage over the adversary and favourable results, speed and synergy would be the battle winning factor. Here, speed in terms of analysing the information overload and its management, speed in decision-making, speed in mobilisation of forces or countering the information-based narratives in a planned sequence or simultaneously disrupting and destroying the adversary's C4I2SR (Command, Control, Communications, Computers, Intelligence, Information, Surveillance, Reconnaissance) and net - centric systems; and synergy in joint application of forces and other elements

of national power. In essence, it means synergy in planning, preparations, application of hard, soft and demonstrated power. How would this be possible? In a country, with as vast a geographical spread as India, one of the options by which this can be achieved is 'unity of command' among the three Services, to begin with. Unity of command further leads us to unity of effort. However, this would be incomplete if civil-military relations do not measure up to the requirements of the envisaged conflict scenario. It is important, because all the elements of national power would also have a role to support the nation's resolve to achieve success.National security threats and challenges must be seen with a single thought: National Outlook for National Security, to bring in integration for jointness at all levels. National security should not be held hostage to the preservation of turfs or attempt to reach consensus. Matters like national security require tough calls to be made, and implementation ensured in a time-bound manner.

Conclusion

Transformation of the armed forces and other related defence forces is an ongoing process. China's military modernisation, transformation and increased expenditure on defence continues to be a cause of concern to the West and the regional countries. Restructuring of the CMC, and MRs into joint Theatre Commands has enhanced the capabilities and response mechanism of the Chinese military. In addition, considering the changing nature of threats and character of conflicts in the future, China has accelerated the pace of expansion of its Navy. The primary role and the strategic direction of the newly formed WTC, along with the TMC in its elevated status, is mainly oriented towards territorially disputed regions with India. In view of this, India should integrate its armed forces along with the other stakeholders, and improve its capability, both hard and soft power, along with the infrastructure, to deter the adversary from undertaking any misadventure.

Lieutenant General (Dr) **VK Ahluwalia**, PVSM, AVSM**, YSM, VSM (Retd) is former GOC-in-C Central Command and presently Director, CLAWS.

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India-China Border Dispute: Dilemma of the 'Resolution'

AMRITA JASH

Introduction

The 73-day stand-off at Doklam in 2017 brought the India and China relationship to its lowest since the 1962 War. India's strong opposition to counter China's actions relayed a strong and clear signal that it would not accept Chinese attempts to change the status quo by force along the disputed boundary. Furthermore, the misperception driven by the logic of "assuming the worst" has heightened the security dilemma between India and China. This suggests that a compromise along the border is no longer an easier pass between India and China.

Although India and China did succeed in avoiding any form of armed conflict since 1967, when the two Armies got engaged in a local battle in the Sikkim sector, a final settlement to the boundary dispute based on a 'win-win' formula has become a distant dream. In view of this, the question remains: how sustainable is the current existing peace?

To note, in resetting the relations on the right track in the event of Doklam, on April 28, 2018, Indian Prime Minister Narendra Modi and Chinese President Xi Jinping, held a first ever "informal summit" in Wuhan, wherein the two leaders affirmed the need to:

> ...to intensify [the] efforts to seek a fair, reasonable and mutually acceptable settlement. The two leaders underscored the importance of maintaining

> peace and tranquility in all areas of the India-China border region in the larger interest of the overall development of bilateral relations. To this end, they issued strategic guidance to their respective militaries to strengthen communication in order to build trust and mutual understanding and enhance predictability and effectiveness in the management of border affairs.[1]

The above statement highlights the consensus reached on both sides regarding the border:

- Fair, reasonable and mutually acceptable settlement
- Maintenance of peace and tranquillity
- Strengthening communication between the two militaries

These three agreed points have set the tone of the "Wuhan spirit" that calls for a strategic and long-term perspective in handling the boundary predicament in a peaceful manner. However, what is noteworthy is that the precedent to this constructive understanding can be traced in the agreements signed between India and China on the border issue, as noted in Table 1 below.

Table 1: List of Agreements Signed Between India and China on the Border Issue

Year	Agreement	Key Points of Consensus
September 7, 1993	Agreement on the Maintenance of Peace and Tranquillity along the Line of Actual Control in the India-China Border Areas	Respect, and abide by, the Line of Actual Control (LAC). Continue implementing confidence-building measures in the military field along the LAC. Maintain peace and tranquillity in areas along the LAC in the India-China border areas. Neither side shall use its military capability against the other side and their respective military strengths shall not be used to attack the other side. Neither side shall use or threaten to use force against the other by any means or seek unilateral military superiority.
November 29, 1996	Agreement Between the Government of the Republic of India and the Government of the People's Republic of China on Confidence-Building Measures in the Military Field Along the Line of Actual Control in the India-China Border Areas	
April 11, 2005	Agreement between the Government of the Republic of India and the Government of the People's Republic of China on the Political Parameters and Guiding Principles for the Settlement of the India-China Boundary Question	
January 17, 2012	India-China Agreement on the Establishment of a Working Mechanism for Consultation and Coordination on India-China Border Affairs	
October 23, 2013	Agreement between the Government of the Republic of India and the Government of the People's Republic of China on Border Defence Cooperation	

Source: Prepared by the author with reference to government documents.

India China border though peaceful has a risk of escalation due to localized actions.

Of which, the 2005 accord between India and China is the most significant, given that it laid down the parameters to the settlement. The key guidelines to the settlement process, as the agreement notes, are:[2]

- Both sides will make meaningful and mutually acceptable adjustments to their respective positions on the boundary question, so as to arrive at a package settlement to the boundary question.
- The boundary settlement must be final, covering all sectors of the India-China boundary.
- Both sides will give due consideration to each other's strategic and reasonable interests, and the principle of mutual and equal security.

What is important to note is that the abovementioned 'consensus' reflects a 'win-win' scenario, which has inherently become a cause of concern, thus, making the settlement a dilemma for the two countries. Furthermore, the Doklam stand-off has evidently resurfaced the dilemma. In this perspective, the two pertinent queries that need deliberation are: how effective are these agreements in resolving the boundary dispute? Is there a consensus at all between India and China on the settlement of the boundary dispute?

What makes these queries significant is that although India and China maintain a peaceful border, it can be argued that this peace is only temporary, with the uncertainty of an unwarranted risk of escalation in the future attached. This suggests that the various agreements, as mentioned above, have significantly failed to reach a consensus on the resolution of the boundary question; rather, on the contrary, they have transformed the issue into a long-term boundary predicament between India and China. More specifically, failure to reach a resolution has made the border issue, as John Garver argues, a "protracted contest" between India and China.

In the event of the Doklam stand-off, though peace has been achieved, the impasse changed the status-quo between India and China that had existed since 1962. That is, the uncertainty of unwarranted risks of escalation looms large in the discourse. This makes it imperative for India and China to adopt constructive mechanisms to deter such fallouts in the future.

Correct Handling and Settlement of the Boundary: A Predicament Between India and China

It remains indisputable that for India and China, the biggest quandary is the resolution of the boundary issue. The lack of consensus over the 3,488-km-long LAC that separates the jurisdiction of their respective Armies has increasingly narrowed the room for any form of compromise, thus, making the resolution process not only difficult but also dangerous. To which, the Doklam stand-off, further underlines that concessions and negotiations are not an option on either side, making the 'way forward' the biggest predicament that invariably plagues India-China relations.

What contributes to this predicament? Here, the core factor is the perception gap driven from the de-facto border, that is, the LAC, that has led to strategic distrust over the intentions of the other. This can be explained by a five-fold perspective:

- First, the national interest, wherein each party's action is driven by its own national interest. In this case, it is territorial sovereignty that looms high on the agenda for both India and China.
- Second, the identity factor shaped by the nationalist sentiments. That is, the vestiges of the past have resulted in the 'victim-victor' narrative of the 1962 War, which contributes to the misinterpretation of each other's intentions, thus, making it difficult to reach a reconciliation. Furthermore, the identity factor is also attached to the idea of 'loss of face', wherein any form of compromise will result in reputation cost for the leadership.
- Third, the great power ambitions further weigh down the peace process. That is, both India and China, being strong and active regional and global powers, with aspirations to shape the 'Asian Century', makes it difficult for either to adopt and accept a compromise.
- Fourth, the protracted nature of the dispute has resulted in strong pessimism on either side towards its resolution, thus, creating an impediment in a pragmatic resolution.
- Fifth, the domestic audience cost which weighs high on the political calculus for the leadership. Any form of soft posture towards the other will become an impediment to the political legitimacy of the leadership on either side. This further constrains the room for compromise between India and China.

Policy of 'Give & Take' or 'Abandon what you can't have' may be a step in resolving border dispute with China.

Given these overlapping factors between India and China, the 'way forward' in the correct handling and settlement of the boundary has thereby, reached a deadlock. This very stalemate has become a characteristic feature of current India-China relations.

What Calls for the Uncertainty over a Contingency?

The Doklam stand-off brought to the surface the fragility of the unresolved border. What makes the settlement of the boundary an imperative concern can be understood in a three-fold perspective: first, the 21 rounds of talks have failed to reach a constructive resolution. More importantly, unlike 2005, when the two countries signed the *Political Parameters and Guiding Principles for the Settlement of the India-China Boundary Question*, the border talks between India and China have become merely customary, without any remarkable progress.

Second, the Doklam stand-off only added to the increasing episodes of friction over the years, as noted in the areas Daulat Beg Oldi, Trig Heights, Pangong Tso Lake, Chumar, Demchok, Samar-lungpa in the western sector and, in Arunachal Pradesh at Asaphila, Migyitun, Samdurongchu, Changtze and Fish Tails. What is noteworthy is that in 2012, the Working Mechanism for Consultation and Coordination (WMCC) on India-China Border Affairs was established as an institutional mechanism for the maintenance of peace and tranquillity in the border areas. More specifically, to deal with tensions over the recurring border incursions as well as for communication and cooperation, including between border security personnel. "Maintaining peace and tranquillity at the border" has become a rhetorical statement, and has been constantly tested, given the episodes of incursions—signifying the failure of the WMCC. Furthermore, these incidental fallouts constantly test the status-quo. This then exemplifies the pattern of growing military instability along the India-China border.

Third, and most important, the increasing phenomenon of the 'upped ante', given the elevated military build-up by the two countries along the border. This has heightened the security dilemma as well as increased the stakes on either side. In view of this, China's newly established Theatre Command (TC) system has further added to India's security dilemma: the Western Theatre Command (WTC) whose jurisdiction includes Sichuan, Tibet, Gansu, Ningxia, Qinghai, Xinjiang and Chongqing, is mainly responsible for maintaining security along China's border with India besides maintaining domestic stability in Tibet and

Xinjiang. In view of this, the WTC becomes important given that it is responsible for mountain warfare in the border area with India.[3] More importantly, the Tibet Military Command (TMC), which is part of the WTC and looks after security along China's border with India, holds special relevance for India. The People's Lliberation Army's (PLA's) increasing military preparedness in terms of new military equipment deployment such as the Type 15 lightweight tank, the PLC-181 vehicle mounted howitzer, stepped up infrastructure in terms of roads, railways, and air bases in Tibet, and increased military drills in Tibet, signify its combat readiness for undertaking integrated joint operations in the future.[4]

These factors have made the undemarcated border a potent point of friction between India and China. Furthermore, the changed status-quo at the border as a result of the Doklam catalyst has raised the risk of escalation of an unwarranted confrontation between the two countries.

India-China Border Talks: A Measure for Conflict Management Rather than Resolution

Despite a tense border, India and China have managed to hold regular border related negotiations. This makes the negotiations the longest such continuous process between any two nations in the post-World War II period.

In this mutual effort to maintain peace and tranquillity as well as to achieve a peaceful resolution of the boundary issue in the foreseeable future, the most important step forward has been the policy of negotiations that has been adopted in the framework of "Border Talks." This border negotiation process between the Special Representatives of India and China has bestowed a new dimension to India-China relations. Adding to the confidence-building measures, such a platform provides an accommodative space-based on a win-win situation rather than taking unilateral measures.

In assessing the implications of the border talks, it can be said that though the border talks since 2003 have not led to any remarkable outcomes, they have nevertheless succeeded in making some progress in the boundary settlement process albeit at a very slow pace. Both India and China have crossed the first stage where they have reached an agreement to settle the boundary question.[5] The second stage, which has been on building the "framework for resolution of the boundary question," is still in the evolutionary phase.[6] Once the framework is adopted, only then will the two sides be able to proceed to the third stage of the talks that entails "demarcation on maps of any framework agreement and a delineation on the ground".[7]

Although no significant progress has been made in reaching a constructive resolution, the characteristic feature of this problem-solving mechanism is its steady progress without being obstructed by any political dissonance. As justified by the 21st round of border talks held in the aftermath of the Doklam stand-off. This further clarifies the significance of the 'talks' as a dialogue mechanism between the two disputed parties. The agreement to set up a hotline between the respective military headquarters of India and China further exemplifies the conviction to make significant changes at the structural level, expanding the scope of the dialogue mechanism for maintaining peace and stability.

Resolution Mechanism: A Dilemma that Calls for Pragmatism over Impulse

The border issue being a legacy of history, significantly hinders the process of a a peaceful resolution. To which, a short or medium term fix will not be pragmatic, thus, the only solution remains a long-term approach. However, in this regard, India and China have lost decades to find an amicable long-term solution.

On the resolution of the border issue, there can be two dominant perspectives. First, adopting a policy of 'give and take', wherein Aksai Chin and Tawang should be given to China and India can take Arunachal Pradesh. Second, adopting the wisdom to 'abandon what you cannot have'. That is, China accepts that it cannot have Arunachal Pradesh, likewise, India gives up its claims on Aksai Chin. However, both these perspectives are problematic given that neither party can compromise on the claimed territory. Thus, resolution has become a bigger dilemma than the border itself.

Although no firm resolution has yet been reached, what remains indisputable is that the episodes of frictions have failed to stall the negotiation process, as justified by the 21 rounds of border talks and, more significantly, by the informal summit in the aftermath of the Doklam stand-off. This can be attributed to the mutual understanding that no progress can be made unless there is mutual assurance on both sides to ensure peace and stability along the border.

However, the roadmap to break the settlement stalemate lies in demarcating the grey lines. But the way to do so increases the anxiety on both sides, as any form of reluctance will come at a cost—either political or military. In this process, a conflict at the India-China border will continue to the managed rather than resolved. However, what can be done is to attempt to bridge the perception gap through constructive measures. In doing so, the dialogue mechanism should not

be limited to the diplomatic and political circles but encouraged at the military level as well, in order to dispel any form of misperception. What makes this imperative is the fact that the vulnerability caused due to the security dilemma is most visible at this level which has increasingly resulted in upping the ante for operational readiness.

Dr. **Amrita Jash** is Associate Fellow, CLAWS.

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SCHOLAR WARRIOR

SECTION III

PRISM ON PAKISTAN

CENTRE FOR LAND WARFARE STUDIES

Impact on Pakistan of India's New Stated Approach to Implementation of Indus Water Treaty

AK CHATURVEDI

Introduction

In 1849, the East India Company, after the defeat of the Sikh Empire in 1846, annexed Punjab. The new rulers decided to engineer a large network of canals, mostly in uninhibited areas of the waste land. The districts which were identified were Multan, Montgomery (currently known as Sahiwal), Lahore, Lyallpur (currently known as Faisalabad), Jhang, Gujranwala, Sheikhupura, Sargodha, Shahpur and Sialkot and Gujrat.[1] At the time of Independence, Pakistan claimed the entire network as a legacy right which was contested by India based on its needs. The issue remained unresolved and, finally, in 1960, with the signing of the Indus Water Treaty-1960 (IWT-1960), the issue appeared to have been settled. The treaty undoubtedly had its infirmities,[2] however, it has continued.

Current State of Water Utilisation of the Rivers of the Indus River System

Presently two Million Acre Feet (MAF) of water from the Ravi have reportedly been flowing unutilised to Pakistan below the Madhopur Head Works.[3] From the western rivers, but for a small part of water which India is entitled to impound

(a maximum of 3.6 MAF), water is flowing into Pakistan. Of the 1.34 MAF permitted for irrigation from the western rivers, India continues to use only 0.792 MAF.[4] In terms of rivers, on the Chenab, India has so far constructed three run of the river projects with a total pondage of 0.24 MAF as against the authorised 1.2 MAF. On the Indus, the pondage is 0.035 MAF against an authorisation of 0.15 MAF. Similarly, in the case of the Jhelum, 13 projects have been completed and the pondage achieved is less than what is specified.[5]

Indian Response Post Uri Incident

It is to the credit of India that the IWT has survived despite many provocations. However, the attack by Pakistan sponsored terrorists of the Jaish-e-Mohammad (JeM) on the Uri administrative base of the Brigade Headquarters on September 18, 2016, was 'last straw on the camel's back'. The attack brought an end to the special efforts made by India at the political level.[6] India responded on September 26, by going for a surgical strike and stated that the river waters of the Indus River System (IRS) would be utilised to the extent of the IWT-1960 provisions, and the talks under the aegis of the Permanent Indus Commission would be suspended till the terrorist activities came to an end.[7] India's policy on further talks with Pakistan was made amply clear when the Prime Minister of India Shri Narendra Modi, while chairing a review meeting on the IWT-1960, said that "blood and water could not flow together".[8] The Government of India set up a task force with the mandate to take all important strategic and policy decisions. In its first meeting itself, it was decided that India would harness the maximum waters of the Pakistan assigned western rivers (Indus, Chenab and Jhelum), as entitled to under the provisions of the IWT.[9]

On February 21, 2019, Indian Minister of Water Resources, River Development and Ganga Rejuvenation, Shri Nitin Gadkari, tweeted that the government had decided to stop the waters from the eastern rivers (Beas, Sutlej and Ravi) from flowing into Pakistan.[10]

Eastern Rivers

India has fast tracked three major projects on the eastern rivers which will help India to fully stop the 2 MAF flowing into Pakistan. The details are[11] as follows:

- **Shahpurkandi Project***:* It will generate 206 MW of power. The work on the project has commenced. It is likely to take three years to be completed.[12]
- **Ujh Multipurpose Project***:* It will create a storage of about 781 million cubic metres. This project has been designated as a national project and will

IWT has survived despite provocations due to Indian Restraint.

largely be funded by the central government. The implementation of the project will take six years.[13]

- **Second Ravi-Beas Link*:*** This will come up below Ujh. The project entails construction of a barrage across the river Ravi, below Thein dam, for diverting water through a tunnel link to the Beas basin. It will divert a surplus of 0.58 MAF from the Ujh dam to the Beas basin. It has been designated as a national project.[14]

It needs to be appreciated that these projects will be completed, at the most optimistic estimate, in 2024 or after that, and full stoppage will be possible only then.

Western Rivers

To achieve full pondage of 3.6 MAF, India is planning to construct seven Hydro Energy Projects (HEPs) on the Chenab river in a time-bound manner for a total capacity of 5,388 MW. These include the 1,000 MW Pakaldul HEP, 624 MW Kiru HEP, 540 MW Kawar HEP, 1,856 MW Sawalakote HEP, 390 MW Kirthai-I HEP, 930 MW Kirthai-II HEP and 48 MW Lower Kalnai HEP. Out of these, three projects, the Pakaldul, Kiru and Kwar HEPs are in an advanced stage of tendering while the final clearance of the Central Electricity Authority (CEA) is awaited for the Sawlakote HEP. The Detailed Project Report (DPR) for the Kirthai-I project is under appraisal at the CEA while the Kirthsai-II has been appraised by the CEA and a consultant has been engaged for the preparation of the bid document. Execution of the Lower Kalnai project is in progress. The 800 MW Burser HEP has been handed over to the National Hydroelectric Power Corporation (NHPC) for development. In addition, some more projects are being planned under the arrangements of the State of Jammu and Kashmir (J&K). The projects planned are the 330 MW Wudwan-Bursar, 235 MW Barinium HEP, 230 MW Shous and 370 MW Shamnot project. As far as, the 850 MW Rattle HEP is concerned, despite Pakistan's objections, the construction is in progress by the J&K State Power Development Corporation (JKSPDC).[15] On, the Indus river, India has identified nine hydel projects. Of these, Pakistan has voiced objections on the 44 MW Chutak, 45 MW Nimoo Bazgo and 130 MW Dumkhar plants. India is allowed 0.15 MAF of power storage capacity on the Indus river as per the IWT.

Even by Pakistan's calculation, the total storage capacity which is being created is only 0.035 MAF. On the river Jhelum, India is going ahead with the

Tulbul project and also planning five more projects at Gandharbal, Lower Jhelum, Mohra, Upper Sindh and Uri respectively. The cumulative storage on these projects is not available but the lowest monthly flow in the Jhelum is one billion cubic metres (BCM) or 0.8 MAF, which is higher than that of the Chenab river.[16] Therefore, according to calculations, the current cumulative impact of pondage by India on the three western rivers of the Indus river system is not in violation of the IWT nor is it detrimental to the flow of water into Pakistan, even during the months when surface water flow is at the lowest. In fact, even when all the planned HEPs get completed, some water authorised to India will continue to flow into Pakistan. This fact has been corroborated by Pakistan's Water Commissioner Jenab Jamaat Ali Shah, who, in a candid interview in April 2008, stated, "In compliance with the Indus Water Treaty, India has so far not constructed any storage dam on the Indus, the Chenab and the Jhelum rivers. The hydroelectric projects India is developing are all the run-of-the-river waters of these rivers, projects which India is permitted to pursue according to the treaty."[17]

A Reality Check of the Proposed Policy Initiatives

There is a need to examine whether the policy enunciated by Shri Nitin Gadkari is practical and, if so, in what timeframe? Or, is it mere rhetoric? The following aspects merit consideration:

- **Topography of the Area through which Western Rivers Flow:** While the Chenab and Indus have a high gradient and pass through narrow gorges which limit their storage potential, the Jhelum passes through a valley where the high population density inhibits any kind of impounding.[18]
- **Eastern Rivers:** Immediate stoppage is not possible, and the minimum time, even if all the three projects which are under construction are telescoped, that it will take is a minimum of six years (when the Ujh multi-purpose project is likely to be completed)—may be more (as the Ravi-Beas Link will definitely take much longer than six years).
- **Western Rivers:** It is estimated that stoppage of the western rivers will result in the Kashmir Valley getting inundated up to a depth of 7 metres in the first year itself. Alternatively, 30 reservoirs of the size of the Tehri dam will have to be constructed.[19] The third option would be to divert these rivers from Pakistan. All three options are impractical because of the long-time frame they will take; the adverse environmental impact that they will have; the cost of the avoidable construction and subsequent maintenance,

Reduced availability of water will impact mainstay of Pakistan's economy-agriculture.

and also the cost of rehabilitation that it will entail (the entire Valley population will have to move out); and, finally, the image of India will get tainted in the comity of nations for violating the UN Convention on International Channels-1997.

- It also needs to be noted that during September 2016, the UN member states had committed to ensuring access to safe drinking water and sanitation in Goal 6 of the 2030 Agenda for Sustainable Development (SDG 6).[20] Any stoppage of water, therefore, will be violative of the UN supported SDG 6 and will come under adverse criticism by the international community.
- Keeping in view the fact that even if the decision is taken to stop the water totally or even what is provided under the provisions of the IWT for both the eastern and western rivers, Pakistan will not be affected in the foreseeable future.

Impact of Water Scarcity in Pakistan on its Economy

The impact of the decisions will be more psychological than actual. It will be only after a decade or so, when the current ongoing projects—all or some of them—will reach fruition, that the water supply to Pakistan will reduce from the current level and make things further difficult for Pakistan. Pakistan needs to realise that India, at best, would impound only 3.6 MAF out of the total estimated water flow of 140 MAF.[21] Pakistan's water woes are more of its own making, on account of not doing enough, rather than based on any Indian act. Therefore, blaming India for the current state of water problems is unfair to say the least. This is quite clear from the fact that in 2011 itself, the demand-supply gap of water in Pakistan was 11-12 MAF which is likely to further grow to 31 MAF by 2025.[22] This yawning gap is due to a host of reasons like the rise in population [with 2.0 percent growth, it has risen from 33.7 million (of the erstwhile West Pakistan) as per the census of 1951 to 204 million, by a UN estimate], overall reduction in water availability on account of climate change (faster melting of glaciers, non-accumulation of enough ice during the winter season and floods during the monsoon, coupled with storage capacity to store only 8 percent of the rain water), and water exploitation to the extent of 8 MAF of the Kabul river by Afghanistan for its own usage downstream of Attock.[23]

Centrality of Agriculture in Pakistan's Economy: Reduced availability of water is going to impact agriculture which is the mainstay of Pakistan's economy (agriculture contributes 21 percent to the Gross Domestic Product (GDP[24])

and agriculture depends almost 94 percent on hydro resources but *prima facie* Pakistan is not doing enough to optimise the usage of the water it is getting under the provisions of the IWT, from resources in the Makran and Karan basins and the ground water. The relevant issues are as follows:

- **Faulty Crop Pattern:** The main crops of Pakistan are rice, wheat, sugarcane and cotton. They contribute only 5 percent to the GDP but consume 80 percent of the water.[25] To produce one kilogram of cotton, almost 13,000 litres of water is required and cotton is the raw product for textiles which is one of the main export items of Pakistan. Pakistan needs to upgrade water usage technologies.
- **Less Expenditure on Water Resources:** Pakistan spends only 0.5 percent of its GDP on the water sector,[26] while expenditure on water management and sanitation costs about 4 percent to the GDP.[27]
- **Water Storage:** Pakistan has a water storage capacity of only 150 cubic metres per capita as against the world average of 963.[28] Even in terms of, days, it has a total capacity of just 30 days requirement.[29] To make matters worse, the holding capacity of the three major reservoirs, namely, Tarbela, Mangla and Chasma, has cumulatively got reduced by 6.6 MAF in the last 36 years. The reduced storage capacity affects capacity for irrigation and power generation.[30] Due to this lack of storage capacity, almost 38 MAF of water goes waste into the sea every year.[31] One of the major reasons for Pakistan's inability to augment the capacity, is its inter-state problems and the overall poor state of the economy. It is interesting to note that maximum power generation in Pakistan is based on hydro power (28-32 percent) the potential is of almost 40,000 MW but the current capacity is only 6,493 MW. Although two projects, Neelam Jhelum (969 MW) and Diamer Bhasha (4,500 MW) are under construction, it is a case of too little too late. The reasons remains the same: lack of easy funding; lack of adequate storage, and corruption in the Water and Power Development Authority (WAPDA).
- **Conveyance Losses:** Out of 180 billion cubic metres (BCM) which Pakistan gets every year, though almost 75 percent is diverted to the canal head and only 30 percent of it reaches the crops due to seepage and evaporation.[32]
- **Contamination of Ground Water due to Creeping Salinity:** Pakistan has as many as 0.9 million tubewells to extract ground water to compensate for the shortage of surface water. Today, almost 36 percent of the ground water is saline which is having its impact on productivity. It is likely to render

9.5 million hectares of land, out of a total cropped area of 23.51million hectares, uncultivable by 2020.[33]

- **Water Governance:** In Pakistan, provincial governments have been responsible for water and sanitation since 2001. The World Bank has recommended that there is a need to improve the formal monitoring and evaluation, capacity building, installing water meters, proper waste and waste water management and regulations, including building treatment plants, and raising awareness of water conservation. To reduce the number of dysfunctional water schemes, the World Bank has worked with the government to allow it to access funding for repairs before the system becomes dysfunctional (World Bank, 2016).[34] The functioning of WAPDA, which was found to be secondmost corrupt organisation by Transparency International in 2003-04, needs to be improved. Another area of concern is corporate farming for which almost a million acres of highly fertile area has been loaned to the Arab countries which reduces the cultivable area, affecting food security of Pakistan.[35]
- **Inter-State Issues:** In Pakistan, the centrality of resource allocation has always been to Punjab which causes resentment among the other states. To start with, Pakistan Occupied Kashmir (PoK) is not part of the water accord of 1991, as such, the India's River System Authority (IRSA) refuses to give a share of the Indus river system to PoK. A case in point is that while power from the Neelam Jhelum project will go to Punjab, Muzzafarabad is likely to go dry. Similarly, raising of the Mangla dam has resulted in almost 3.5 lakh people getting internally displaced. The proposed Kalabag dam is likely to reduce supply to Sindh and submerge a large portion of Khyber Pakhtunkhwa and it is not seeing the light of the day. The Thal canal, to augment supply to some of the districts of southern Punjab, has further reduced the supply to Sindh which has further caused resentment in Sindh. This reduced supply in Sindh has affected the water going down the Kotri Stream from 117 MAF to a low of 10 MAF and as a consequence, the deltaic area has reduced, resulting in the area with the mangrove forest getting reduced from 2,600 sq km to 260 sq km and ingress of salt water to almost 100 km inland.[36] Thus, the productivity of the Sukkur bowl, the main the rice bowl of Pakistan, is likely to go down.

Conclusion

India's response to Pakistan's active participation in, and abetment to, cross-border terrorism to keep fomenting trouble in Kashmir has to be firm, quick and

targeted where it hurts most. The cost of causing such trouble needs to be raised in such a way that Pakistan is forced to review its strategy to support militancy in J&K. It is, indeed, true that the IWT needs review and renegotiation due to the changed ground situation. In the interim, all out efforts should continue to complete all the planned projects on both eastern and western rivers, with a view to ensure that the water which is authorised to India as per the provisions of the IWT is fully exploited.

Major General **AK Chaturvedi**, AVSM, VSM (Retd) has written extensively on water issues.

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Evolution of Pakistan Army's Character and Ethos

KJ SINGH

There are armies that guard their nation's borders, there are those concerned with protecting their own position in society and there are those that defend a cause or an idea. The Pakistan Army does all three.

— Stephen Cohen, renowned strategic expert

Introduction

The India and Pakistan Armies were carved out of the British Indian Army consequent to partition and were like identical twins for the first few years, but both have charted different trajectories in the 72 years since independence. In the case of Pakistan, a major slant came in 1956, with the Americans deputing the Military Assistance Advisory Group to shape Pakistan's integration into the Central Treaty Organisation (CENTO) and Southeast Asia Treaty Organisation (SEATO). The collapse of the Soviet regime in Afghanistan in the 1990s gave Pakistan an opportunity to emerge as America's proxy. The evolution of both Armies has also been shaped by two contrasting systems of governance: in Pakistan, specially, military rule has given the Army a pivotal and all pervasive role. This apart, theological drivers have also conditioned the ideological dimension. General Zia-ul-Haq has the dubious distinction of giving the Pakistan Army fundamentalist overtones, with the open espousing of the 'Quranic concept of warfare'. The Pakistan Army, unlike most other Armies, has added defence of

ideological frontiers, besides geographic borders, in its revised mandate. This slant was further cemented with Pakistan running the *fassadi* (mistakenly also referred to as *jihadi*) assembly line at the Western powers' and America's behest, for employment in Afghanistan.

Moving from the colonial British legacy to the American slant, lurching onwards to the sinister *fassadi* makeover and now the collusive Chinese embrace are, indeed, major milestones in the evolution of the Pakistan Army. Generals in khaki have shown amazing politico-diplomatic dexterity in balancing the Americans with the Chinese and Russians, to a limited extent, and Sunni Saudis with Shia Iranians to leverage their geo-strategic relevance due to the location at the confluence of cultures. It is, indeed, ironical that despite the crushing defeat of 1971, leading to the loss of the larger wing of East Pakistan, the reverse in 1947, and the stalemate in 1965, major setbacks in Siachin and Kargil, the Army continues to enjoy the patronage of the populace, sustained on the narrative of vilification and marginalisation of other legitimate instruments of the state, that are painted as corrupt and lackadaisical.

Scope

Despite a shared heritage, currently, the two Armies of India and Pakistan, while retaining some commonalities, are poles apart, meriting a comparative analysis. The thrust of this article is to flag the macro trends in the evolution of the current character and ethos of the Pakistan Army. The scope of the analysis has been confined to the Army, with only an outline discussion on connected issues relating to the Army. The Pakistan Army has an overriding and dominant role, which was officially promulgated in March 1956, with Pakistan jettisoning the traditional order of Navy-Army-Air Force to Army-Navy-Air Force.

Politicisation of Pakistan Army

Pakistan veered toward the concept of 'guided democracy', leading to military rule, just a decade after independence, in October 1958, with Ayub Khan seizing power and promoting himself to Field Marshal's rank. An interesting factoid is that Ayub was not even in the panel of three seniormost officers to be considered for appointment as the first chief and, after his appointment, engineered multiple extensions and two promotions. This trend has continued through Zia, Mushraff, Raheel and Bajwa, wherein the appointing authority disregarded seniority to pick suitable and apparently pliable nominees. But, invariably, each of these incumbents, outgrew their stature to assert their independence and even upstage those appointing them. The unluckiest was the former Prime Minister

Zulfikar Bhutto, who was hanged by his protege, General Zia. Close on his heels is Nawaz Sharif, who was upstaged by all four Chiefs appointed by him. Ayub's rule for more than decade was followed by Yahya Khan, till the defeat in 1971. The initial spell of military rule stretched to 13 years. After a break of seven years of civilian rule, there was another spell of military rule and a dubious Islamic decade under General Zia-ul-Haq from September 1978 to August 1988. The third spell of military rule lasted seven years under General Pervez Musharraf from Jun 2001 to August 2008. In effect, Pakistan has been ruled by Army Generals either openly (through martial rule) or by proxy by having pliant puppet regimes. This is in sharp contrast to India, where the mere whiff of an unusual move of troops towards Delhi spooks the entire ruling elite on Raisina Hill, as it happened in 2014. Another interesting indication is that soon after independence, the Governor General's residence in Delhi was taken over and converted into the Prime Minister's residence and is now a museum. In contrast, all four *fauji* Presidents in Islamabad retained the Chief of Army Staff's appointment and continued to run the country from Army House in Rawalpindi.

In essence, the Army enjoys an overriding say in defence (including the budget), sensitive issues of foreign policy like Kashmir, Afghanistan and nuclear weapons (including their development and employment). In addition, intelligence organisations like the Inter-Services Intelligence (ISI) and Inter-Services Public Relations (ISPR), continue to operate under the Army, with no civilian oversight. The Army retains firm control on traditional homeland security subjects like internal security frontier areas and border management. The current Minister for Internal Security, Brigadier Ijaz Shah (Retd) like many of his predecessors, has an Army and ISI background. The list of subjects and concerns is only indicative as subjects can be added or deleted at the whims and fancies of the Pindi Generals. The sheer range and scope of interference has resulted in independent analysts pointing out, "While nations have Armies, the Pakistan Army has the nation at its disposal." The installation of Imran Khan in what is dubbed as 'managed elections', and Army and ISI Chiefs accompanying Imran during his recent US visit are clear indicators of the control exercised by Army.

Anti-India Bias

The Pakistan Army, in pursuance of the two-nation theory, chose to make the anti-India bias its *raison d'être*. This has manifested in multiple attempts to destabilise, and even mount aggression on, India. Immediately after partition, Kashmir was taken up as an unfinished agenda, leading to raids in October 1947 by

Pakistan Army has suffered from Parity Syndrome wherein it seeks to match Indian Army.

plundering tribal *lashkars* (militias) notably Mehsuds and Kabayalis, aided by the Pakistan Army's Chitral Scouts and regulars. This war lasted for 15 months till the one-sided ceasefire, applied by India, despite its ascendency at that juncture. Hein G Kiessling has pointed out in his book *Faith, Unity, Discipline: The ISI of Pakistan* that Pakistan started aiding and training Naga rebels in the 1950s. After the 1962 War, Pakistan forged links with China despite being in American formal alliances like CENTO and SEATO, primarily in pursuit of its quest to marginalise India. Sensing this opportunity, Pakistan again launched an attack in the Rann in April 1965, followed by full scale operations in September 1965. It is also interesting that India mounted the Siachen operations in April 1984 to stymie Pakistan plans to occupy the glacier. Pakistan aided Khalistani extremism in the 1980s and later the ongoing proxy war in Jammu and Kashmir (J&K). The failed Kargil operation was another manifestation of this deviant tendency. An interesting explanation has been provided by Khalid Ahmed, a leading Pakistani columnist, "Pakistani nationalism comprises 95 percent India hatred. They call it Islam because that is how we learn to differentiate between ourselves and India." This bias has fuelled tendencies like the parity syndrome despite the very basis of the two-nation theory becoming shaky with the liberation of Bangladesh.

Parity Syndrome

The Pakistan Army has always suffered from the parity syndrome, wherein it seeks to match its Indian counterpart. This has been sustained on false narratives, unfortunately dressed up with religious metaphors, alluding that a single Pakistani soldier (*momin*) can defeat five Indians (*kafirs*) merely due to religious beliefs. It will be pertinent to quote, ZA Bhutto, "If India builds the bomb, we will eat grass and for thousand years, even go hungry, but we will get one of our own." Despite clear reverses, Pakistan has continued to prosecute ambitious policies of 'bleeding by a thousand cuts' and proxy war forays, first in the northeast, then in Punjab, and currently in J&K. This is combined with a tendency of provocation and nuanced irrationality, which will be discussed later. It will be relevant to recount the seminal wisdom of C Christine Fair, in her landmark book, *Fighting To The End—The Pakistan Army's Way Of War,*

> Pakistan has to recognise that it simply cannot match India through whatever stratagem it chooses—it is bound to fail. The sensible thing, then, is for Pakistan

to reach the best possible accommodation with India now, while it still can, and shift gears toward a grand strategy cantered on economic integration in South Asia—one that would help Pakistan climb out of its morass and allow the army to maintain some modicum of privileges, at least for a while. The alternative is to preside over an increasingly hollow state.

Theological Template

The Pakistan Army, like the rest of the nation, jettisoned the secular ethos of the British Army and the vision of Jinnah to embark on the Quranic concept of war, as outlined by Brigadier SK Malik. This trend was fuelled by Zia, who made it a compulsory text in military courses. The book legitimises instruments of terror and gives a mischievous twist to the concepts of *jihad, fedayeen* and *ghazi*. Zia also discarded the original secular motto, *"ittehad, yaqeen aur tanzeem"* implying "unity, faith and discipline". The new motto was *"imaan, taqwa, jihad fi sabilillah"* meaning "faith, piety, holy war in the path of Allah" This has resulted in Pakistan describing its quest for a nuclear device as one for an Islamic bomb. It is ironic that in case Iran makes a separate 'Shia bomb', Pakistan's lofty idea may get stymied into just a 'Sunni bomb'. Pakistan has also given provocative names of invaders to its task forces and missiles, like Ghauri, Ghazni, Babur, etc. It is most ironical that due to this dangerous dalliance with terrorists, the Pakistan Army espousing *jihad* in its very motto, named its anti-terror operation *'Raad-ul-Fasaad'* terming *jihadis* as *fasaadis*. It will be once again appropriate to quote C Christine Fair, "Pakistan's military journals frequently take as their subjects famous Quranic battles, such as the Battle of Badr. Ironically, the varied Quranic battles are discussed in more analytical detail in Pakistan's journals than are Pakistan's own wars with India." This dangerous trend has proliferated in the Air Force, as seen in the assassination attempt on Musharraf and even in the Navy, as evidenced during the raid on the PNS *Mehran* in 2011.

Notwithstanding its struggling economy, Pakistan has taken over the mantle of protecting the larger Islamic brotherhood (*ummah*), which led to the development of the so-called Islamic bomb. Former Army Chief General Raheel Sharif commands the Islamic Military Alliance, also referred to as 'Sunni Force'. Pakistan Army troops and pilots operate, as also run, training teams and maintenance facilities in many Sunni countries like Saudi Arabia, Jordan and other Gulf countries like the UAE, Qatar and Bahrain. It will be pertinent to recount that a Pakistan pilot flying a Syrian Air Force plane was shot down during the Yom Kippur War in 1973. However, none of these countries has allowed its

Pakistan has tried to offset its asymmetry by threatening transition from hybrid war to nuclear domain.

equipment like aircraft (even when flown by Pakistani pilots) to be used in wars against India. Pakistan has made a substantial contribution to various United Nations peace-keeping missions and has an earned enviable reputation.

Deceit and Denial

The Pakistan Army has utilised theological narratives to incorporate infiltration as an instrument in its operations. Infiltration task forces were utilised in both the 1947 and 1965 operations and named after Muslim raiders. Pakistan banked on these tribal militias, aided by the Chitral Scouts and regulars but kept denying their presence till caught by the UN mandated Dixon Commission. The 1965 operations were timed with the missing *moi-e-muqqadas* (holy hair of the Prophet) controversy, which was probably engineered to foment trouble. In addition, despite the aggression by Pakistan and the stalemate weighted in India's favour, Pakistan continued to celebrate the 1965 operations as a victory and ironically called it *Yom-e-Difa* (celebration of defence). The genocide and plunder in erstwhile East Pakistan was denied by the Generals despite evidence presented by international observers and media. Pakistan used the Northern Light Infantry (NLI) troops in the Kargil operations, building the deniability clause, and even refused to accept the dead bodies of its soldiers.

Cultivated Nuanced Irrationality

Pakistan has tried to offset its asymmetry by cultivating a nuanced irrationality wherein it threatens to transition from hybrid war to the tactical nuclear domain with a declaratory policy, as described by C Christine Fair, "Pakistan's nuclear weapons are India-specific." The nuclear threat is accentuated by vague red lines and tactical delivery means. However, the Balakot strike and the American warning during the Kargil crisis seem to have resulted in the carving out of some discreet space below the nuclear threshold.

Quest for Strategic Depth

Pakistan's policy on its western borders is conditioned by a lack of strategic depth and realisation of the informality of the 2,600-km Afghan border termed as the Durand Line. While Pakistan considers it a settled border, the Afghans demand a greater Pashtunistan. This border is neither demarcated nor properly fenced. In effect, the Pashtun population, steeped in the frontier culture, spills

over onto both sides. Pakistan is now embarking on a project to fence selected stretches and demarcate crossing points after clashes with Afghan forces and reports of rampant narco-arms trafficking. Similarly, the Iranian border, between Balochistan and Sistan, spanning 959 km, has only a tattered fence, which is being replaced by a concrete wall fortified with steel by Iran, due to its concern about Sunni insurgency in Sistan province. The fear of being swamped by India has spurred the Pakistani quest for strategic depth and nurturing of the Taliban. Noted author Ahmed Rashid describes the Pakistani policy in Afghanistan as "Islamabad views its Afghan policy through the prism of denying India any advantage in Kabul." C Christine Fair has debunked the popular fallacy that Pakistan is caught up in the Afghan conflict due to its role in aiding the Western powers in the fight against their Soviets. She has reiterated that Bhutto set up the Afghan cell in the ISI much before this operation.

Tentacles of MILBUS

The Pakistani armed forces have created a labyrinthine foundation comprising the Fauji Army Welfare Trust, the Shaheen for the Air Force and the Baharia for the Navy to extend their tentacles into the Military-Business (MILBUS). This apart, they have a controlling stake in major public sector corporations like the National Logistics Cell (NLC), Frontier Works Organisation (FWO) and Special Communications Organisation (SCO). Also, a critical utility provider, the Water and Power Development Authority (WAPDA) has been placed under the armed forces. This logistics framework has dual use capability and is leveraged by the Army and the other two Services. Ayesha Siddiqa in her book, *Military Inc: Inside Pakistan's Military Economy* has observed that "Milbus is military capital that perpetuates the military's predatory style." This mega financial empire, worth approximately $40 billion gives the Army fiscal autonomy and assured preeminence. It is both a manifestation of the feudalistic character of the Pakistani society and a perpetuation of non-democratic forces.

Alliances and Collusion

Pakistan has shown amazing flexibility and dexterity in balancing alliances with America and China. The first alliance was with the USA through SEATO and CENTO in the 1950s. It resulted in the induction of frontline equipment like Sabre jets, Patton tanks and guns, which, unfortunately, emboldened Pakistan to attack India in 1965, resulting in the American cooling off in the 1960s and 1970s. The Americans returned in the 1980s to use Pakistan as a firm

base for their Afghanistan operations for two decades and then lost interest, only to return again. The USA has essentially used Pakistan intermittently, yet Pakistan got considerable largesse in funds and equipment like the F-16s.

Pakistan also opened a channel to China after the 1962 operations and even acted as facilitator to set up Kissinger's forays to Beijing. The Pakistan-China friendship is described metaphorically as 'stronger than steel and deeper than oceans' but China has been discreet enough to only posture this and not get embroiled physically in the 1965, 1971 and Kargil operations. China has helped Pakistan to build nuclear weapons and missiles, flouting the proliferation regime. It has also got a signicant footprint in armament complexes at the Heavy Industries Taxila, Ordnance Factories Wah and aviation complexes, with the latest being the joint production of the JF-17. This collusion with China is getting further cemented through the China Pakistan Economic Corridor (CPEC), notably development of the Gwadar port.

Conclusion

Notwithstanding these peculiar biases in the ethos of the Pakistan Army specifically at the higher echelons, it is not a pushover but has a professional framework. At the unit level, the Army is cohesive and remains efficient, hence, it will not be pragmatic to underestimate it. Independent and competent experts feel that in the long-term interest, it will be in order if the Army yields the mandated space to other legitimate agencies of the state. Though it may appear highly optimistic and unlikely, it is hoped that the Army will embark on correctives to become a functional and professional Army.

Lieutenant General **KJ Singh**, PVSM, AVSM & Bar (Retd) is former GOC-in-C Western Command.

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Balochistan: Can It Become Pakistan's Achilles Heel

ANURAG BHARDWAJ

Introduction

Balochistan, an important strategic location bordering Afghanistan and Iran, with a 760-km-long seacoast, has been simmering with occasional bursts, since the creation of Pakistan. An already fragile region, Balochistan, a result of the systematic weakening or destruction of all social structures by Pakistani establishments, creates a potentially explosive situation that borders the most vulnerable provinces of Afghanistan: Helmand and Kandahar. The Baloch movement now deepens the fissures within the Pakistan community, rather than unifying an already struggling nation. It appears that the time is approaching when the crisis will finally *boil over'*. Almost fifty years after a bloody conflict in the early 1970s that official sources estimate caused more than 5,000 deaths among the Baloch rebels and almost 3,000 among the Pakistan Army, Balochistan is again heading towards an armed insurrection. Insurgencies by Baloch nationalists have been fought in 1948, 1958-59, 1962-63 and 1973-77, with an ongoing stronger and broader insurgency beginning in 2003-04[1]. One of the defining hallmarks of the continuing Baloch insurgency has been its association with the energy dimension and the probable exploitation of the province's natural resources and raw materials by China and global multinational companies. In the wake of the US designating the Baloch Liberation Army (BLA), an armed separatist group of Balochistan, as 'global terrorists' on July 2, 2019, the call for an *Azad* (independent) Balochistan is likely to become shriller by the day and is going to haunt Pakistan soon.

Weak governance, provincial inequality and continuous military repression has contributed to political disorder and increase in Extremism.

Historical Perspective and Strategic Importance

Among the earliest residents of the central Caspian region, it was during the 17th century, after dominating Balochistan culturally and politically, that the Baloch carved out a nation state, the Khanate of Kalat. In 1839, the British occupied Balochistan and subsequently it was divided into various parts: these were Kalat, Lasbela, Kharan and Makran.[2] The British also contributed to the international division of the Baloch people by demarcating the borders across Pakistan (Balochistan), Iran (Sistan and Baluchestan) and Afghanistan (Nimruz and adjoining provinces). In each country, the Baloch people have been confined with other communities within provinces which are among the least developed areas of the respective countries.

Balochistan was an important region to the Portuguese, the Russians and the British from the point of view of both strategy and trade, being located at the southeastern edge of the Iranian plateau.[3] The presence of Iran in the west, Afghanistan in the north and the Arabian Sea in the south makes Balochistan an important geo-political and geo-strategic location. The whole region is extremely rich in vital natural resources like oil, gold, copper and gas. It strategically bridges the Middle East and Southwest Asia to Central Asia and South Asia and forms the closest oceanic frontage for the land-locked countries of Central Asia. Today, Balochistan is Pakistan's largest, but least developed province, which is home to over 13 million people. The majority of the province's population comprises the Baloch (52 percent), seconded by the ethnic Pashtuns (36 percent). Balochistan is demographically and ethnically divided into five major ethnic groups: Baloch/ Brahvis, Pashtuns, Hazaras, settlers and minorities. Balochistan can be divided in two distinct parts: the northern districts that are almost entirely populated by the Pashtuns, and the central and southern districts (including the entire coastal belt) that are almost entirely Baloch. The capital city, Quetta, though claimed by both ethnic groups, however, is dominated by the Pashtuns. Apart from Quetta, which remains an issue of contention between the Pashtuns and Baloch, there is virtually no overlap in the areas that these two main ethnicities inhabit.[4]

Balochistan: Where Pakistan went Wrong

In May 1947, three months before the formation of Pakistan, the final negotiations for the future of Balochistan commenced. Thus ensued a series of meetings

among the Viceroy, Jinnah and the Khan of Kalat. It resulted in a 'communique' on August 11, 1947, which highlighted that:[5]

- The Government of Pakistan recognises Kalat as an independent sovereign state in treaty relations with the British government with a status different from that of the Indian states.
- Legal opinion will be sought on whether or not agreements of leases will be inherited by the Pakistan government.
- A 'Standstill Agreement' has been made between Pakistan and Kalat.
- Discussions will take place between Pakistan and Kalat at Karachi at an early date with a view to reaching decisions on defence, external affairs and communications.

However, soon after the creation of Pakistan, all the highlights of the 'communique' mentioned above were blatantly violated and breached by Pakistan. And the final nail in the coffin was put on March 26, 1948, when the Pakistan Army moved into the Baloch coastal region of Pasni, Jiwani and Turbat and a day later i.e. March 27, 1948, Kalat succumbed to the Pakistani forces, with the Khan of Kalat coerced to merge his state with Pakistan. It should be noted that the Balochistan Assembly had already rejected any suggestion of forfeiting the independence of Balochistan on any pretext. So even the signature of the Khan of Kalat, taken under the threat of dire consequences, was not viable because the Parliament had rejected the accession and the accession was never mandated by the British Empire either, which had given Balochistan under Kalat independence before India. Hence, the sovereign Baloch state, after the British withdrawal from India, lasted only 227 days. So, to say that the Baloch have been ill-treated by all the governments and military establishments in Pakistan since their land was illegally and forcefully taken over, would be an understatement. What has followed in Balochistan, is nothing but Pakistan's iron fist tactics to quell the resistance.

Deep Roots of the Crisis

Balochistan's disaffection and alienation from Pakistan stem from politics and not economics. There has been an acute state of injustice, provincial inequality and continuous military repression that has pushed Pakistan's largest province to the brink of rebellion. The core issues of the Baloch resistance movement are enumerated as under:

- Pakistan's back stabbing post its creation and thereafter the 'Iron Curtain' extended by Islamabad over the region, prevented the availability of first-

hand narratives of the Baloch and their side of the story. Balochistan opted for autonomy at the time of independence, but today the situation has become worse. The demand for separation is becoming louder by the day.

- The Pakistan Army took the matter into its hands in the Balochistan equation since independence, leaving hardly any room for governance. The Army is accused of systematically repressing and marginalising the Baloch. It is also accused of promoting religious groups to counter the narrative of the Baloch nationalists. The Army has become synonymous with extra-judicial abductions, killings and missing persons. It is said that since 2004, over 1,40,000 Baloch have been displaced and at least 25,000 have gone missing.[6]
- The provincial inequality over the years has fiercely triggered a sense of deprivation among the Baloch. Even the provincial governments have been severely subdued in their efforts to improve conditions as Pakistan takes direct decisions over policies governing the province.
- The latest round of insurgency started in 2003-04 as a small group of militants began targeting the security forces. The conflict intensified after a tribal leader, Akbar Bugti, was killed in a battle with the security forces. Since then, the demands of some nationalists have morphed from political autonomy to all out independence. The heavy-handed approach of both the Pakistan Army and the state is often blamed for pushing young Baloch towards the separatist groups. The BLA has been increasingly active in recent years. Its enjoys mass support and the sole reason for this support is because the community feels that it is fighting for a just cause.
- Balochistan is also home to the port of Gwadar, which is managed by China. The province features prominently in Beijing's multi-billion dollar Belt and Road Initiative (BRI). Despite that, the province remains the most under-developed and backward, and with the least youth employment in the country. Foreign interference, shifting tribal loyalties and the presence of religious extremists have compounded the problem. In an interview in 2015, Brahamdagh Bugti, leader of the Baloch Republican Party, living in exile in Switzerland, and grandson of slain nationalist leader Akbar Bugti, said that Chinese economic projects in Balochistan were aimed at 'colonising' the province and must be resisted.[7] The Baloch fear that the development of Gwadar port would change the demography of their region, thus, reducing them to a minority.
- Around 90 percent of the settlements in the province do not have access to basic civic amenities like clean drinking water, and people there earn

less than the national average. The dismal social security and underdeveloped social infrastructure in this resource rich state shows the complete apathy and neglect by the state.

Balochistan is a cauldron of ethnic, sectarian, secessionist and military violence threatening to boil over at smallest provocation.

- One of the regressive parts of the Baloch struggle is the divide within. The struggle involves two groups. The nationalist Baloch have anti-state sentiments and promote the voice of "Azad Balochistan". The other group, known as the moderate Baloch, claim full autonomy under the 1973 Constitution. The ideological stance of the two factions about independence and political autonomy is another reason for the destabilisation of Baloch society.

Pakistan's Internal Strife: Crises Galore

Pakistan, on its creation, inherited grave internal and external problems. It will not be wrong to call Pakistan a state born with many deformities. Be it the Kashmir issue, Durand Line conflict or Balochistan problem, Pakistan has always managed to do one thing with classic consistency i.e. make a mess of anything it tackles. Several serious problems are rattling Pakistan today e.g. sectarian violence, military-politico rift, economic crisis and Financial Action Task Force (FATF) imbroglio, Afghan Taliban dilemma, growing presence of the Islamic State Khorasan Province (ISKP) in Balochistan, loss of international credibility, terror sponsor nation tag, degenerating social structures, and, above all, radicalisation of the society. The enormity of the crisis is such that it can lead to a situation of unrest any time soon in the state. Never before, since the creation of Pakistan has the country been hounded by so many precarious problems simultaneously that the very basis of its foundation is shaking. Weak governance and overreliance on its deep state, and actions by the Pakistan Army have contributed to political disorder and an increase of extremism. Among all these serious issues, the lingering problem of Balochistan is again rearing its head: all these are reasons capable of causing a major upheaval in Pakistan. The Baloch insurgency has resulted in major security operations, pitting the Pakistan Army against the Baloch people, attacks against Punjabi settlers and sectarian violence against the Hazara Shias that collectively threaten to derail major development projects and increase instability in Pakistan as a whole at this critical juncture.

For decades now, Pakistan has been blaming Iran, India and Afghanistan for fomenting trouble in Balochistan by means of money and arms. It seems a

hypocritical stand by a nation whose own state policy of *jihadi* terrorism export is now an open secret. However, there have been reports that under the regime of Afghan President Mohammed Daoud Khan in the 1970s, training camps were set up in Afghanistan to support the Baloch separatists in Pakistan. Later, in 2012, reports of the existence of Baloch training camps in Afghanistan surfaced again, which was also agreed upon by the then President Karzai though he denied any support of the Afghan government to terror activities.[8] However, in this game of revenge, Pakistan has been the aggressor in exporting terror, and Afghanistan tried to respond in the same coin but could not succeed beyond a point.

Pakistan accuses the Indian intelligence agencies and Indian consulates in Kandahar and Jalalabad of providing covert arms, financial support and training to the BLA in an attempt to destabilise Pakistan and block Chinese influence in Balochistan. At any given opportunity, Pakistan spreads this narrative to both its people and the international community but without giving any shred of evidence. Blaming India for the atrocities and blunders committed by the Pakistan political-military-bureaucratic establishment in Balochistan is helpful to Pakistan as it gives it leverage on the Kashmir issue and also helps to deflect focus from its own acts of omission and commission. The Indian government has always refuted Pakistan claims as baseless and nothing but blatant lies. Some analysts argue that such interference would be against Indian interests, as India, like Pakistan, also seeks to profit from the Baloch oil and gas resources.

If this was not enough for Pakistan, the alarming increase in the footprint of the Islamic State in Iraq and Syria (ISIS), especially in Balochistan since 2018, has further added to its woes. A suicide attack, killing more than 150 people in an election rally in Quetta on July 18, was the beginning of the ISIS' growing influence in Balochistan.[9] Today, the ISIS is targeting religious minorities e.g. Shia Hazaras, Pakistani forces, foreign nationals and locals on a regular basis in Balochistan. In January 2015, the ISIS had announced its so-called Caliphate in Khorasan, a region that encompasses areas from both Afghanistan and Pakistan, on either side of the Durand Line,. Pakistan has for long been denying their presence but now it is being witnessed all over Balochistan.

An analysis of terror related incidents in Pakistan in 2018 clearly brings out the increasing volatility in Balochistan. It was the only region where terrorism related killings surged by over 23 percent compared to 2017. The attack by the BLA on the Chinese consulate in Karachi in November 2018 has raised concerns about the security of Chinese nationals in Pakistan. The Baloch rebels believe that China is militarily supporting the Pakistan Army in its efforts to crush the Baloch

insurgency. This trend has continued in 2019, as the Baloch insurgency shows no sign of a slowdown despite the Pakistan Army's deplorable killings against the community. Whether it was the February 19 killing of nine Pakistani soldiers in a suicide attack in Quetta or the April 19, killing of 14 people, including 10 Navy, three Air Force and one Coast Guard personnel on the Makran coastal highway by unidentified gunners or the May 19 seizure of the Pearl Continental five-star hotel in Gwadar, the situation is worsening by the day.[10]

Conclusion

Today, Balochistan is slowly but surely turning into a serious threat to Pakistan's cohesion. It is a cauldron of ethnic, sectarian, secessionist and militant violence, threatening to boil over at any time. Law and order in the province continues to deteriorate at an alarming pace. Though the US ban on the BLA will affect it monetarily and restrict arms support to the Baloch insurgent group, making the Baloch struggle heavily pitched against the odds, the insurgency doesn't show any sign of slowing down primarily due to two main reasons. First, the fear of getting reduced to a minority in their own province; and, second, the Pakistani establishment is not likely to undertake any mid-course correction with regard to Balochistan as it is known for persisting with its follies. At this stage, the Baloch will be readying themselves for a long pitched battle, however, any separation from Pakistan seems a far-fetched idea because of the lack of any encouraging international support. Any success for their cause also lies in their unity which in the past has been a derailing factor. The way events are unfolding in the South Asian region, with the dynamics changing faster than the weather, any further slippage in the already dwindling state of affairs in Pakistan can act as a lifeline for the Baloch struggle which is sure to become an 'Achilles Heel' for Pakistan in the near future.

The sentiment of the seven-decades old-Baloch insurgency is best captured by the statement of the late Akbar Bugti: "I have been a Baloch for several centuries. I have been a Muslim for 1,400 years. I have been a Pakistani for just over 50."

Colonel **Anuraj Bhardwaj** is Senior Fellow, CLAWS.

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SCHOLAR WARRIOR

SECTION IV

REGIONAL NEIGHBOURHOOD

CENTRE FOR LAND WARFARE STUDIES

Sri Lanka Terror Strikes:
Islamic State—Retreat to Revival

NARENDER KUMAR

Introduction

Sri Lanka witnessed one of the most ghastly terror strikes in recent history in which more than 250 people were killed while praying on Easter. The terrorists maintained complete confidentiality of their mission and preparation during the run-up to the day of the strike. Those who follow the Islamic State (IS) and Al Qaeda are no strangers to their strategy and *modus operandi* of operations, with surprise as their main weapon. They exploit every unguarded approach and the most unexpected corridor to penetrate and carry out terrorist attacks that they perceive as the responsibility of every Muslim. After the collapse of the Caliphate, the IS was looking for new regions to demonstrate its presence and made the landfall in South Asia. The most worrisome aspect is that every deadly terror attack is a success story that encourages others to join *jihadist* organisations. Groups like IS and Al Qaeda are more than just loose associations of radicalised fighters. Each has developed its own indigenous military capacity on the ground, maturing in certain countries from terrorist cells into full-blown insurgencies.[1] Radicalisation is a method that disengages an individual or a group of people from the society and societal values to work to achieve the group's objective through *jihad* and display loyalty even at the cost of own lives. South Asia's large Muslim population is a lucrative target and potential destination to pursue the agenda of global *jihad*.

Islamic State: Retreat to Revival

Of the last 16 years, the worst year for terrorism was 2014, with 93 countries experiencing an attack, and 32,765 people killed across the globe.[2] 2014 was the year when the IS rose from the ashes of Sunni resistance in Iraq and Syria and unleashed unprecedented violence that had not been witnessed since the holocaust. The reason for such heavy attrition was the ability of terrorist organisations to remain diffused, diverse, dispersed and destructive. Sri Lanka has no geographical proximity or ethnic affiliation with the West Asian Arabic nations (the epicentre of the IS), yet it made inroads thousands of miles away from Syria and Iraq and struck with complete surprise in, apart from Sri Lanka, even Europe, Africa and now South Asia. It achieved this reach through the World Wide Web (WWW) and was in a position to establish ideological linkages, align cadres to its objectives, arrange logistics and identify targets to strike with impurity.

After the collapse of the Islamic State and its retreat from the West Asia, it is looking for new territories to revive and resurge. It has already made a significant presence in Africa, landfall in South Asia and deeper inroads in Central and East Asia.

The attack in Sri Lanka is a message that geographic and demographic fault lines cannot stop the IS from hitting at a place of its choosing. The philosophy of *jihad* is to ask no one and seek no permission but target all those who are impediments in the establishment of the Caliphate. The IS and Al Qaeda maintain "...exploit every unguarded approach and target every disbeliever, whether he is a civilian or military, whether that country is in collusion with the West or not, for they have the same ruling. Both of them are disbelievers".[3] The key point is that terrorists go where they see opportunities, thus, undermining distinctions between high- and low-threat areas.[4] Patrick J. Kennedy had said, "Terrorism is psychological warfare. Terrorists try to manipulate us and change our behavior by creating fear, uncertainty, and division in society." Anwar al-Awlaki, the Al Qaeda leader, in one of his lectures had said that the war for the establishment of the Islamic Caliphate is "the Battle of Hearts and Minds".[5] Al-Awlaki, during his discourses had sent a message to *jihadists* across the globe, "Don't rush to Iraq and Afghanistan, stay back in your own country and wait for the opportunity." There is a need to understand that the IS has been disabled but not destroyed. As a result, the threat from the IS has increased manifold after the collapse of the Caliphate, especially from the cadres returning from Syria

Dealing with radicalisation and cognitive manipulation is important in fighting terrorism.

and Iraq, and those who had stayed back on the advice of Anwar al-Awlaki. The returning cadres can still be monitored but those who are self-radicalised through the World Wide Web, are difficult to monitor, especially individuals who do not publicly declare their radical ideologies.

Ali Soufan, a former Federal Bureau of Investigation (FBI) agent points out, "Stage one of ISIS and al-Qaida's strategy, laid out in the *jihadi* handbook *Management of Savagery*, is to create, and take advantage of, regions of chaos or 'savagery' and move in to fill the vacuum."[6] Therefore, all these attacks are with the purpose to create chaos and a vacuum so that new frontiers can be created. The attack in Sri Lanka is a perfect case study to understand the potential of radicalisation: an affluent family, with social status and everything at its disposal that one looks forward to materially, yet it chose to carry out serial suicide bombings on Easter to fulfill its commitment to *jihad* in Sri Lanka. The hallmark of this attack was the complete surprise, confidentiality, precision with which the attackers struck and the technical proficiency with which they assembled and detonated Improvised Explosive Devices (IEDs). The identification of the bombers and their psychological preparation was of a very high order and neither did they buckle under the fear of death nor reveal their objectives even to friends. In fact, each one of them went alone to the designated target without hesitation or perceived fear.

Repercussions and Way Forward

Understanding the conceptual aspect of terrorism is as important as putting counter-terrorism structures in place. Unless the counter-terrorist forces understand the strategy, organisational objectives and tactics adopted by the terror groups, it will be very difficult to dissolve their roots and prevent them from executing acts of terrorism. Counter-terrorist forces are becoming ineffective especially while dealing with lone wolves and modules of the type that carried out suicide the attacks in Sri Lanka. Terror organisations are using everyday use technologies to unleash terror and create chaos: 84 people were killed, including 10 children, after a truck driver plowed into a crowd gathered to celebrate Bastille Day in Nice, Southern France.[7] Such an attack cannot be prevented by counter-terrorism forces since the individual was not part of any large organisation nor did he possess any weapon. Therefore, what is more important is to deal with the root cause and that is radicalisation and cognitive manipulation of the vulnerable sections of society.

Battlefield Cyber Space: Al Qaeda was the first terrorist organisation that exploited the cyber space as the new frontier. The cyber space is an environment without boundaries, a privileged place where terrorists find resources, undertake propaganda activities, and from which it is possible to launch attacks against enemies everywhere in the world.[8] Access to the internet has changed the way individuals are radicalised and attacks are planned. Online platforms provide great opportunities for promoting radicalisation and accelerate the speed with which radicalised individuals mobilise.[9] The Sri Lankan terror module of the IS was the product of *E-Jihad*. The National Tawheed Jamaat of Sri Lanka and the Tamil Nadu Thowheed Jamaat (TNTJ) have ideological linkages and it will be a miscalculation to think that Indian Muslims will remain insulated from *E-Jihad* any longer. Absolute control and dominance of the cyber space may not be possible but monitoring and targeting of radicalised cadres is the need of the hour. India will have to tighten its laws to prevent misuse of cyber space by IS ideologues and fringe elements.

Battle for the Hearts and Minds: Today, the Islamic State is as much a media conglomerate as a fighting force. Abu Musab al-Zarqawi had urged Al Qaeda cadres to be mindful of how depictions of extreme bloodshed against women children and Muslims would damage Al Qaeda's reputation. He said, "I say to you that we are in a battle, and more than half of this battle is taking place in the public eye and we are in a media battle in a race for the hearts and minds of our *Umma* (Muslim people)."[10] He asked Al Qaeda to refrain from future beheadings of Muslims, lest the masses be turned off by the images of cruelty.[11] The IS has realised that it is important to first win the "battle of hearts and minds" and then win the battle for the Caliphate. One of the reasons why the IS could not retain control over territory was that it failed to control the "hearts and minds" of the people whom it thought were its subjects. India's 18 million Muslim population is vulnerable and a potential target of such an ideology, irrespective of the Sufi and moderate forms of Islam.

Cultural Annihilation to Create Space for Caliphate: Cultural annihilation through a philosophy of hitting the *kuffar* (unbelievers) where they live[12] is gaining momentum. The suicide bombing in Sri Lanka was an endeavour to attack cultural symbols and practices that are perceived as unislamic. The IS believes in annihilation of the concept of Westphalian states, institutions of democracy, secularism, freedom of expression and freedom to live by one's own values. It preaches hate and intolerance, going to the extent of suggesting that those who do not believe in the *Shariah* are the enemies of Islam and should be annihilated. All symbols of cultural heritage are considered to be *haram*.

Thus, a narrative is being created that modern education and democracy is satanic and an impediment in the creation of the Caliphate. There is a growing number of *madrasas* in India and what is being taught there is anybody's guess. But organisations such as the Popular Front of India (PFI), Tauheed Jamaat, and Students Islamic Movement of India (SIMI) are suspected to have a hardline approach, especially towards democracy and cultural freedom. Even anti-*shirk* conferences are being organised that have gone on to advocate that voting for man-made laws is *shirk*. In Kerala and the Tamil Nadu, the anti-*shirk* movement has gained much traction and is being supported by Islamic State feeder groups.[13] Education is the only way to prevent cultural disengagement in the heterogeneous society of India and *madrasa* education also needs to be regulated so that it does not act as a platform of radicalisation and disaffection.

War against Ideology is More Potent than Elimination of Foot Soldiers: We have to go into the pull factors to find out what brings these people together. It is ideology and we have to deal with that. If we don't, we will continue to suffer for years to come.[14] Ali Soufan says, "The missing link in the counter-terrorism strategies is not looking into what these folks believe in. Ideology is the cornerstone of these organisations. That's why we should not be distracted by different names, different groups, I think we have to go into the glue factor that brings them together. It is ideology and we have to deal with that."[15] Without neutralising the ideology, the cadres will continue to swell across the globe and in India as well. There is a need to dissolve the roots of ideologies that act as the glue to the radicalisation.

Block Corridors of Peril: There are four 'corridors of peril' that India must deal with. The first corridor is cross-border terrorism being spread by Pakistan through Jammu and Kashmir. The footprints of the Islamic State are already present in Kashmir with the formation of the Islamic State of Jammu and Kashmir. The group may be a small one but the idea already exists and can find resonance even beyond Kashmir. Peninsular India is the second corridor. The All India Thowheed Jamaat of Tamil Nadu, is among the most influential radical organisations in South India. The March 1, 2016, report published by Middle East Media Research Institute (MEMRI) described the organisation as "an ISIS precursor" because its ideology closely resembles that of the IS.[16] This is the same organisation that has linkages with the National Tauheed Jamaat of Sri Lanka, the main perpetrators of the April 2019 terror attacks. The concept of *shirk* is an important principle for all Islamic groups, especially the Deobandi groups. The anti-*shirk* conferences in Tamil Nadu should be a cause of concern.

Education is only way to prevent cultural disengagement in heterogeneous Indian society.

This should also cause concern because it was in the coastal town of Thondi in Ramanathapuram district of Tamil Nadu that in 2014, a group of 26 young Muslim men posed for a group photograph, sporting black T-shirts with the IS logo in front of a mosque.[17] Thus, the ideology has made inroads in peninsular India. The third corridor of peril is Bangladesh, where the IS and Al Qaeda have already registered their presence through the Jamaat-ul-Mujahideen-Bangladesh (JMB) and Ansarullah Bangla Team (ABT). The JMB has ideological linkages with Al-Qaeda and ABT has aligned itself with the IS. The fourth corridor of peril is cyber space that is in fact creating pan global linkages. The Sri Lankan terror module of the IS was radicalised through *E-Jihad*. Therefore, India needs to guard the land and maritime borders and cyber space to prevent radicalisation and close linkages with the IS and Al Qaeda ideologies.

Focus on Anti-and Counter-Radicalisation: Deradicalisation may be a buzz word but radicalised individuals are by and large irredeemable. Therefore, the focus must be on ensuring that all activities leading to radicalisation are curbed. This cannot be done by counter-terrorist forces alone—it requires a whole of government approach. Parents and school teachers must monitor children and their social behaviour to prevent them falling into the trap of radical organisations. Religious teachers, social scientists and friends must also play an important role to prevent radicalisation. Engagement of the youth in education, sports, cultural activities and skill development is essential. All these issues need not be taken up only by the government—even social organisations should forge partnerships with the civil society. All the stakeholders must stand on the same page to fight the menace of radicalisation that would breed terror in the future.

Intelligence Grid and Data Bank: The main source of the advance intelligence of the terror strikes in Sri Lanka was Morocco, followed by India. Morocco has one of the most potent and vibrant intelligence grids and data banks, covering almost every region that is vulnerable to *jihadi* terror strikes. Morocco dismantled "183 terrorist cells" in the country that were in the various stages of planning of terror attacks, and "361 devastating terrorist projects were neutralised" by Moroccan intelligence agencies. More than 3,000 people, including 292 individuals with previous criminal records, were arrested by the Moroccan authorities.[18] Such capabilities and international cooperation are required to fight transnational terrorism. There is a need for India to develop such capabilities so that it can

provide inputs to Sri Lanka, Bangladesh, Myanmar, Maldives, Nepal, Pakistan and even the extended neighbourhood of the Central Asian Republics. India can insulate itself if the threat is neutralised even from the neighbourhood.

Conclusion

Political terrorism is warfare to gain control of territory to establish the Caliphate by annihilating the institutions of governance and replacing them with the *Shariah*. The war against terrorism is not short; complacency is suicidal but overreaction can be catastrophic. Terrorism cannot be eliminated by the use of military force, but by a combination of kinetic and non-kinetic means. More important is to eliminate and defeat ideas that are more lethal than guns. Terror organisations are ahead at the moment in the battle of perception, the war of the media and exploitation of everyday technology as a weapon of violent extremism. Use of technology is the way forward to detect and destroy the threat before it causes collateral damage. The focus should be on exploiting artificial intelligence, digital intelligence and autonomous systems to prevent acts of terrorism. Cellebrite's digital forensics tools can rapidly unlock, extract, decode, and analyse digital data from multiple sources, including cloud. Being able to quickly analyse and sort through large volumes of data is critical to identifying terrorists and their accomplices as well as preventing future attacks.[19] The attack in Sri Lanka is a lesson for India to monitor radical organisations that are mushrooming across the country under different names and with different objectives.

Brigadier **Narender Kumar**, SM (Retd) is Distinguished Fellow, Centre for Strategic Studies and Simulation, United Service Institution of India, New Delhi.

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SCHOLAR WARRIOR

SECTION V

MILITARY TECHNOLOGY

CENTRE FOR LAND WARFARE STUDIES

Latest Trends in Unmanned Aerial Vehicles and Need for Unmanned Combat Aerial Vehicles in the Indian Army

PK CHAKRAVORTY

Evolution of Modern UAVs

The United States (US) and Israel have been pioneers in the use of Unmanned Aerial Vehicles (UAVs). The origin of these can be traced back to 1917 but mass usage was done by the US in Vietnam. It is reported that the US Air Force flew thousands of unmanned reconnaissance sorties over North Vietnam and China during the Vietnam War. Having good links with the US, Israel purchased the US built UAVs and appropriately used them in operations. The Israeli Air Force started using UAVs for reconnaissance and as decoys since the early 1970s. It is possible that the Israelis used them as attack drones during the Yom Kippur War of 1973. During this war, the Israelis sent a number of UAVs to the Egyptian Air Defence (AD) radars, arrayed like manned aircraft, intending to attack. The fighter bombers followed and attacked the guns, missile launchers and radars that were turned on against the UAVs. They perfected this art in the 1982 Beka'a Valley, Lebanon, offensive against Syria wherein the entire air defence system of Syria was paralysed and the Israeli Air Force destroyed more than 80 tanks.[1] Since then, UAVs have played a crucial role in all operations.

The classification of UAVs in the US armed forces follows a tier system. There are separate tiers for the US Air Force, Marine Corps and US Army. The United States Air Force tier commences with the small/micro UAVs filled by the Batman (Wasp Block III). Tier I comprises low altitude, long endurance UAVs represented by the Gnat 750. Tier II consists of the Medium Altitude, Long Endurance (MALE) UAVs which currently comprise the MQ-1 Predator and MQ-9 Reaper. Tier II plus has High Altitude, Long Endurance (HALE) UAVs. These UAVs have an altitude ceiling of 60,000 to 65,000 ft, air speed of 560 km per hour, radius of 6,000 km and endurance of 48 hours. The role for this type of UAVs is currently filled by the RQ-4 Global Hawk. Tier III are the high altitude, long endurance, low observable UAVs. The parameters are similar to the Tier II plus aircraft. The RQ-170 Sentinel is in this class of UAVs. The characteristics of the Marine Corps and US Army tiers are similar except for the micro UAVs. With regard to the micro UAVs, the Wasp III fills the role. Tier I is filled by the RQ-11B Raven B. Tier II consists of the Scan Eagle and RQ-2 Pioneer and Tier III of the Pioneer and Shadow.

On June 20, 2019, Iran shot down a US military UAV which, according to the US, was in the international air space. It was an unprovoked attack on a Global Hawk drone made by Northop Grumman, costing around $130 million. The incident led to flights being diverted from the Persian Gulf region. The downing of the UAV could escalate tensions further between the adversaries. Incidentally, the Global Hawk made its first flight on February 28, 1998, and has since amassed more than 250,000 flight hours. It has participated in military operations in Iraq, Afghanistan, North Africa and the Indo-Pacific region.[2]

Latest Trends

UAVs have been improving by the day and their frequent usage has resulted in newer applications based on user requirements. The latest trends are elucidated below.

Flexibility in Autonomous Operations

Initially, UAVs remotely piloted aircraft and could not be pre-programmed. Currently, UAVs can be pre-programmed and undertake Automatic Take-off and Landing (ATOL).[3] Moreover, UAVs once flying on a pre-programmed course may be altered mid-course and new instructions loaded, allowing tremendous flexibility in application.

Aerial Refuelling

Aerial refuelling was initially tested when the X-47B test UAV of the US Navy undertook the first ever autonomous aerial refuelling from a KC-707 tanker in April 2015. This is a complex task and enhances the range of the UAV.

Vertical Take-Off and Landing (VTOL)

UAVs are able to undertake VTOL like helicopters. They have rotors and are able to be used for a variety of applications by this method.[4] These are extremely useful in areas without runways and on ships.

Ground Control Stations

The latest trend is to control UAVs with laptops and, in the later stages, move on to mobile phones where all communications would be monitored. UAVs are going to advance to the system of systems where they would be controlled by jet fighters and undertaking missions or being released from the back of C-130 transport aircraft and undertaking missions.[5]

Swarms

Swarms are flocks of UAVs which are the latest trend in the field. China has been working on cutting edge technologies by exploiting gaps in US trade policies to ensure that it is able to innovate in the field of drones. It is of interest to note that the Russian Ministry of Defence in January 2018 reported that its forces in Syria were attacked by a swarm of homemade drones in a coordinated attack at the Khmeimim air base at Tartus in Syria. The attack was at dusk and the Russian air defence had spotted 13 unidentified small size air targets at a significant distance from the military base. It was observed that 10 were approaching the air base, and three the naval facilities. Six of the drones were intercepted by electronic warfare units. Three exploded on contact with the ground and three were made to land outside the base. The remaining seven were eliminated by the Pantsir-S anti-aircraft missiles. It is not known who launched these UAVs as the same was denied by all the parties. The attack shows that the age of drone swarms has arrived and it is an issue that has to be comprehended by all countries. The Indian armed forces too have to be prepared for this.

Acquisition of UAVs: Trends in Indian Army

The Indian armed forces have been operating UAVs for over a decade. It is true that the Indian Army was the pioneer followed by the Air Force and

Synergy is required between three services to optimise UAV employment.

subsequently the Indian Navy. At the outset, the Defence Research and Development Organisation (DRDO) was tasked to produce a catapult launched UAV which was developed by the Aeronautical Developmental Establishment (ADE), Bangalore, and improved to meet user requirements. Most of the UAVs of the Indian armed forces have been procured from Israel Aerospace Industries (IAI), Malat, whose UAVs were in service with numerous Armies. The Indian Army initially obtained the Searcher Mark I, followed by the Searcher Mark II which could operate at an altitude ceiling of 15,000 feet and, finally, it acquired the Heron which could operate at an altitude ceiling of 30,000 feet. The Indian Air Force immediately followed the Army and acquired the Searcher Mark I followed by the Searcher Mark II, and acquired the Heron UAVs prior to the Indian Army. The Indian Navy also acquired the Heron UAVs which suited its long range offshore requirement. Reports indicate that the Indian Air Force has of late acquired the Harop which is an Unmanned Combat Aerial Vehicle (UCAV). India is also going to acquire 100 Predator UCAVs from the United States. The Navy is likely to acquire 22 Guardian UAVs.

In as much as our DRDO is concerned, it has developed the long endurance UAV Rustom-II which has successfully completed development trials. It is producing 10 UAVs and will shortly offer them to the armed forces.[6] It is reported that the UCAV Aura is also being developed by the ADE with the prototype still under development.[7] Further, the Spylite mini UAV is being procured directly by a Command Headquarters. The UAV weighs 9.5 kg, its rail launcher is carried between two rails and it is recovered by a parachute. It has an endurance of four hours and can undertake surveillance in high altitude terrain. This is manufactured by CSS, a Hyderabad firm which has a joint venture with the Indian company Cyient and Blue Bird Aero System of Israel.[8] It is anticipated that about 75 UAVs will initially be inducted.

Employment of our UAVs

UAVs comprise great force multipliers and there must be synergy among the three Services to optimise their employment. They could be employed for multifarious tasks fruitfully. Presently, our three Services have limited numbers of these aerial vehicles and each Service is looking towards its individual requirement. In as much as the Army is concerned, the Herons are performing exceedingly well in surveillance missions in the high altitude

regions as also providing critical information to manoeuvre elements in our southern deserts. They would be providing the target inputs for our missiles and also provide Post Strike Damage Assessment (PSDA) on engagement of targets. The Herons have been able to fly in the dual role and thereby fly at ranges of 400 km, yet in high altitude areas screening problems do occur. This can easily be overcome by providing Satellite Communications (SATCOM) to these UAVs which, apart from overcoming the problem of screening, would enhance the range of the UAV to 1,000 km. The Searcher Mark II is being used in the mountainous regions as also in the plains and semi-deserts. It is to the credit of our UAV pilots that they have optimised the aerial vehicle successfully under our conditions. They have provided excellent inputs about intrusions on the Line of Control (LoC) as also on issues pertaining to terrain, which assists us in operational planning. The issue which is of concern is that the quality of pictures obtained while using the Synthetic Aperture Radar (SAR) does not give a clear indication of the object. Recent international improvements in SAR provide a clear image of the object. As most of the militants, whether in the north or northeast, have their hideouts in areas of thick foliage, there is a need to obtain high quality SAR devices to generate good images which would lead to the militant camps with precision. The Searcher Mark I variety is a short range UAV which is being suitably used in the hilly regions and plains. The Nishant, an indigenous product manufactured by DRDO, which is launched from a vehicle and recovered by parachute, was inducted, but all four have crashed. All UAVs presently held by the Army are being controlled at the operational level and serve the needs at the higher level. There is a dire requirement of UAVs at the tactical level to force multiply the results at the ground level for undertaking missions with accurate intelligence.

Need For UCAVs in the Indian Army

The Indian Air Force is currently equipped with the Searcher Mark II and Herons, and is in the process of inducting the Harop UCAV. The tasks visualised are surveillance and destruction of selected targets by loitering missiles, and PSDA. The Searcher Mark II and Heron are similar to the systems held by the Indian Army, while the Harop is a loitering missile capable of seeking targets and destroying them with pin-point accuracy. The Harop is also described as a self-destructive killer drone. The Harop can be used in high density conflict and counter-insurgency with 1,000 km range and six hours endurance. It can

UCAVs are required for strategic & operational planning and target engagement.

be launched against land-based and sea-based targets. The drone loiters over the target area and attacks the targets, after which it undergoes self-destruction. The UCAV detects strong pulses from targets such as missiles and radars, and hits at the source. It is possible to launch the Harop from the ground, sea and air. The Predator Avenger UCAVs of the US incorporate stealth technology, and can fly up to 20 hours. The weapons on board could include bombs and missiles. The package for India is being negotiated.[9]

The Indian Army needs UCAVs for its battle requirements. The versatility of the UCAV has been demonstrated in strikes against terrorist camps in Iraq and Afghanistan. India needs UCAVs particularly for surgical strikes across the LoC, apart for surveillance missions. Further, we have to note that China has already featured its Chang Hong-3 and Chang Hong-5 UCAV platforms in various defence exhibitions in recent years. Considering China's developments in this field, the day is not far when Pakistan will receive these Chinese built aerial systems.

In as much as the Army is concerned, at the strategic and operational levels there is a requirement for UCAVs and short range loitering missiles. The UCAVs could be formed on the Herons, with each of them mounted with two fire and forget missiles. Each divisional artillery brigade must have a battery of UCAVs comprising eight aerial systems. Further, each corps must have a loitering missile battery comprising eight missiles, with associated ground systems. At the tactical level, there is a need for mini UAVs which would be hand launched, have an endurance of two hours, range of 10 km and a payload which can provide good details of the area over which the vehicle operates. In the initial stages, it would suffice if each infantry battalion, combat group and artillery regiment is provided with two systems, each having two aerial vehicles.

While the requirements are clear, the moot point is what the roadmap for their procurement is. The DRDO has been developing the Rustam, a Medium Altitude Long Endurance (MALE) UAV and Aura, a UCAV, for a long time. Any process undertaken must meet timelines, as inordinate delays are operationally not acceptable. The UCAV and the loitering missile are being produced by Israel which is setting up joint ventures with DRDO. It would be prudent if our inescapable requirements are obtained from the Original Equipment Manufacturers (OEMs) and subsequent requirements are delivered by Joint

Ventures (JVs). The other development issues could be examined by the Army, in conjunction with DRDO. Like in all projects, the private sector must be brought in. It is recommended that the issue be accorded priority. Further, the Predator Avengers need to be acquired from the United States at the earliest.

Major General (Dr.) **PK Chakravorty**, VSM (Retd) is Senior Fellow, CLAWS.

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Chinese Yaogan Satellites:
The Game Changers

SHAILENDER ARYA

China is exploring new frontiers—from the rapidly opening Artic routes to the depths of space. In particular, space has received much attention and resources, and many Chinese ambitions hinge on space exploration and use of space for various purposes. China's Space White Paper released in December 2016 unambiguously stated, "*To explore the vast cosmos, develop the space industry, and build China into a space power is a dream we pursue unremittingly*." China's rapid march into space has implicit military implications. In this rapid march, a key role has been played by the Yaogan satellites, a series of Chinese reconnaissance satellites, with the first satellite Yaogan-1 launched on April 26, 2006. It was China's first space-based Synthetic Aperture Radar (SAR) system. While the Chinese media often states the functions of the Yaogan Weixing (remote sensing) satellites as land resource surveys, crop yield studies, scientific research, and disaster relief, there is a consensus among the military analysts that the actual role of the Yaogan satellites is military Intelligence, Surveillance, and Reconnaissance (ISR). The pace of launching satellites and their sophistication have seen a marked increase since 2016. According to the Union of Concerned Scientists Satellite Database, as of November 2018, China had 284 operational satellites. These included 134 remote sensing satellites, 41 communication satellites, and 40 navigation satellites.

The Larger Picture

The Yaogan satellites form a part of the larger space policy. China intends to be the first space power by 2045. At the highest levels, People's Republic of China

PLASSF is a functional command that unifies strategic level space, cyber and EW operations.

(PRC), has set itself a goal to exceed all others by 2045, in time for its 100-year celebration of the establishment of the PRC. Certain key observations about the Chinese space programme have been obtained from 2019 Hearing before the US-China Economic and Security Review Commission. Firstly, China is determined to become a leading space power, which requires continuing to boost its innovation capabilities in both its civilian and military sectors. Secondly, the PLA is closely involved in most, if not every, aspect of China's space programme. Thirdly, the boundaries between the military and civil silos of China's programme are thin, if they exist at all. Fourthly, the PLA views the space and cyber domains as closely connected in strategy, and, therefore, China created the new Strategic Support Force in 2015.[1]

Strategic Support Force

The most important PLA reform has been the creation of a unified PLA Strategic Support Force (PLASSF). It is a functional command that unifies strategic-level space, cyber, and electronic warfare operations.[2] Xi Jinping has described the PLASSF as "*a new type operational force to maintain national security and an important growth point for the PLA's new quality operational capability*."[3] Under the aegis of the PLASSF, China employs a robust space-based ISR capability designed to enhance its worldwide situational awareness. The PLASSF utilises an organisational structure that is domain-centric rather than function or discipline-centric.[4] It has two subordinate operational departments; a Network Systems Department responsible for conducting strategic cyber and Electronic Warfare (EW) operations, and a Space Systems Department responsible for space operations.[5] A major goal of the PLASSF appears to be to improve the PLA's joint operational capability by integrating strategic-level Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) and counter-C4ISR capabilities with service and Theatre Command capabilities.[6] The Yaogan satellites play a crucial role in integrating these capabilities.

Launch Stations and Rockets

The China National Space Administration (CNSA) is the national space agency with its headquarters in Haidian district, Beijing. The primary spaceports are in Jiuquan Satellite Launch Centre, Taiyuan Satellite Launch Centre, Xichang Satellite

Launch Centre and Wenchang Satellite Launch Centre. Yaogan satellites have been launched from both the Taiyuan Satellite Launch Centre in China's Shanxi province and the Jiuquan Satellite Launch Centre in China's Gansu province. The weights of the sensors carried on the satellite as well as the lifetime of the satellite are the major determinants of the mass of the satellite. SAR sensors are in general heavier than optical sensors and require more power for their operations.[7] The launcher system for the Yaogan series is the Chang Zheng (CZ), meaning Long March. The capabilities of the CZ 2C, CZ 2D, CZ 4B and CZ 4C launchers that have placed the various Yaogan satellites in sun-synchronous orbits are 2,100 kg, 1,150 kg, 2,230 kg and 2,950 kg respectively.[8] The first generation SAR satellites were launched by the CZ 4C, while the Yaogan 6 and 18 satellites have been launched by the CZ 2C launcher. The Yaogan 28 was carried by a CZ-4B launcher. The Yaogan 30G, 30H, 30J and the Yaogan 30K, 30L, and 30M were launched by a CZ 2C launcher. The Yaogan 32-01-01 and 32-02 were on the maiden CZ-2C (3) YZ-1S launcher.

Yaogan Series 30 and Beyond: Of the Yaogan series, there are currently 39 Yaogan satellites in orbit, providing Electro-Optical and Infra-Red (EO/IR) imaging, SAR, and Electronic Intelligence (ELINT) capabilities. Yaogan 1 has confirmed breaking up, and a few others that have completed their useful lives, have been excluded.

Yaogan 30 Series: A CZ 2-D rocket carrying the Yaogan-30 remote sensing satellite blasted off from Jiuquan on May 15, 2016, and placed the Yaogan 30 into sun-synchronous low earth orbit.[9] It was followed by a series of triplet satellites in the next two years. The *first triplet*, Yaogan 30-01-01 to 30-01-03 satellites, was launched by the CZ-2C (3) rocket from Xichang on September 29, 2017. The reports hinted towards a Signals Intelligence (SIGINT) mission for these satellites, especially to detect ships by their radio emissions. The satellites are spaced by 120 degrees in their orbit, and are working in cooperation with the earlier Yaogan 30 satellite. A *second triplet*, Yaogan 30-02-01 to 30-02-03 followed on November 24, 2017, into an orbital plane 119 degrees west of the first one.[10] A *third triplet*, Yaogan 30-03-01 to 30-03-03, in an orbital plane 120 degrees east of the first followed on December 25, 2017. A *fourth triplet,* Yaogan 30-04-01 to 30-04-03 was orbited on January 25, 2018.

Yaogan 31 Series: The triplets of the Yaogan 31 (31-01) series were launched in a secretive manner from Jiuquan on April 11, 2018.

Yaogan 32 Series: The Yaogan 32-01-01 and 32-02 are Chinese military satellites whose visualisation during the launch hints towards being SIGINT satellites.

They were launched on October 9, 2018, on the CZ-2C (3) YZ-1S launcher. The designation hints that more groups of Yaogan 32 satellites are planned.[11]

Need for Military Satellites

PLA analysts describe space-based C4ISR systems as a critical part of a modern military's sensor-to-shooter network. US defence expert Kevin Pollpeter has assessed that the PLA's development of long-range precision-strike capabilities requires a robust space-based C4ISR network to locate, track, and target enemy installations and ships hundreds of kilometres from Chinese territory and coordinate forces from multiple Services in joint operations.[12] The Yaogan series is the manifestation of these C4ISR capabilities.

According to Andre Tate from *Jane's*, China has a strategic need for surveillance of its seaward approaches for national defence, and to underpin its goal of exerting sea control in its exclusive economic zone. To support its military posture and principal area of operations, China needs to be capable of achieving air, surface, and sub-surface surveillance in the East China Sea (ECS), South China Sea (SCS), the Philippine Sea, and into the west Pacific. As its carrier force grows beyond the *Liaoning* and starts to operate outside these areas, coverage is likely to expand to include the Sea of Japan and Indian Ocean. The requirement spans not only the capability to be alerted about ships and aircraft approaching the areas that China intends to control, but also the tactical need for targeting data to support its large inventory of long-range Anti-Ship Cruise Missiles (ASCMs), as well as Anti-Ship Ballistic Missiles (ASBMs).[13]

To ensure accurate targeting, China will require to integrate multiple forms of long-range surveillance in real-time. A major requirement is the identification, location and tracking of an US Aircraft Carrier Group (ACG) in the western Pacific Ocean, well before it reaches within striking distance of the Chinese mainland.[14] To be able to locate the ACG well before it comes within the range of the Over The Horizon (OTH) radar, an advanced space reconnaissance and broad area surveillance capability in terms of the Yaogan satellites are needed. The dedicated Yaogan satellites perform the identification, location and tracking function for the ASBM mission. Together with the OTH radar, they provide the vital C4ISR inputs necessary for a successful missile strike by the DF 21D, which is dubbed as the 'carrier killer' on a moving American ACG, which, as of now, is considered too big (and costly) to sink!

Yaogan Functions

Space based C4ISR systems are critical component of modern military's sensor to shooter network.

The functions and capabilities of Chinese satellites are rarely stated officially. Inferences are drawn from the launch vehicle and the parameters of the satellite's orbit. A satellite with a SAR payload will be substantially heavier than an EO or an IR platform, requiring a heavier launch vehicle. A 35,000-km geostationary orbit will suit a communications satellite, but not one for high-resolution imaging, which requires to be placed in a lower orbit. In order to reduce the interval between the times when a satellite passes over an area of interest, additional satellites may be placed in similar orbits, ideally distributed evenly around the globe so that the interval between passes is roughly constant.[15]

ELINT Satellites: ELINT satellites pick up the electronic emissions from the ACG and locate it in the ocean with a relatively coarser spatial resolution. They provide the coarse location which is used to cue the imaging and SAR satellites to precisely locate and track the target in the geographic space. The Yaogan 9 (Yaogan 9A, 9B, 9C), Yaogan 16 (16A, 16B, 16C), Yaogan 17 (17A, 17B, 17C), Yaogan 20 (20A, 20B, 20C) and Yaogan 25 (25A, 25B, 25C) are the five triplet clusters equipped with ELINT sensors that provide broad area surveillance.[16]

SAR Satellites: SAR satellites are cued by the ELINT satellites or by other satellites in the constellation that have located the object of interest. SAR sensors have the advantage that they can see through clouds and can image objects during night passes. The Yaogan 13, 23, 29, 1, 3, 10, 6 and 18 appear to be SAR satellites.

EO Satellites: EO satellites that are also cued by the ELINT satellites or by other satellites that had located the aircraft carrier earlier. Optical imaging satellites operate only during daylight conditions and would not be able to function under cloudy conditions.[17] The Yaogan 30, Yaogan 26, Yaogan 4, Yaogan 24, Yaogan 28, Yaogan 7 and Yaogan 21 constitute the high-resolution optical satellites. The sensors they carry have resolutions of between 1 to 3 metres (m). The Yaogan 27, Yaogan 19, Yaogan 22 and Yaogan 15 satellites are optical imaging satellites with medium resolution (3 to 10 m). They act as a broad area coverage complement for the SAR as well as the high-resolution optical imaging satellites.

Military Designations and Clustering

JB-9:[18] The JB-9 constellation comprises five satellites from the earlier series (Yaogan 8, 15, 19, 22, and 27) in a sun-synchronous orbit. The close interval

between passes during daylight suggests that these are for optical imaging, and the 1,200-km orbit height indicates that they have a relatively wide field of view, with resolution in the bracket of 3-10 m.[19]

JB-8: The most numerous of the Yaogan surveillance platforms are the 18 satellites which have an ELINT function. The majority of them are grouped as the JB-8, and are placed in orbit as triplets in close proximity. These triplets are tasked with detecting electromagnetic emissions and determining the geographic location of the source by triangulation, based on the Time Difference of Arrival (TDOA) at each of the satellites. The JB-8 satellites are in orbits at approximately 1,100 km and 63 degrees inclination. Multiple triplets provide global coverage with revisit times of three hours or less.

JB-7: China has six military surveillance satellites in sun-synchronous orbit, carrying the SAR. Four are at an altitude of 500 km and likely form the JB-7 constellation. These SAR satellites descend over the equator at around 0200, 0430, 0600, and 1000 hrs, therefore, the maximum interval between SAR passes is four hours.

JB-6: The Yaogan 30-1 A, B, and C are at a lower inclination of 35 degrees and altitude of 600 km, which increases the probability of detecting an emission and improves the accuracy of geolocation in the critical areas of the first island chain and west Pacific.[20]

Understanding the Functioning of Yaogan

The simulation reports indicate that the orbital planes of three operational ELINT satellite clusters are well spaced out and typically make 18 contacts with the moving target in a day. The ELINT satellite pass durations vary, with the maximum pass duration being about 23 minutes. The maximum period of non-coverage by an ELINT cluster for a typical target is about 90 minutes. Therefore, the three ELINT clusters ensure persistent detection, coarse location and coarse tracking of the ACG over the high seas. The SAR and optical imaging satellites provide about 24 satellite passes during which the target can be imaged. When these imaging opportunities are successful, the target can be located with an accuracy of about 100 metres. The current Yaogan constellation provides about 16 targeting opportunities for a ballistic missile launch during which the uncertainty in the location of the carrier is less than 10 km.[21]

Space Ecosystem

China's capability to launch, establish presence and resource utilisation has undergone significant enhancements. In January 2019, China established its first state-funded space-based solar power plant in Chongqing, supported by the China Academy of Space Technology (CAST). The CAST had developed the electro-optical digital imaging satellite of the Yaogan series.[22] The Chinese state-funded space programme is currently estimated at approximately US$ 8 billion. Euroconsult estimates the size of the Chinese space value chain to be US$ 16 billion. In 2018, the Chinese commercial space industry received new investment totalling US$ 2 billion. In 2019, there are no less than 11 Chinese private start-ups focussed on space launch. The Yaogan development project was significantly funded by the PLA. The Shanghai Academy of Space Flight Technology (SAST), which also builds the Feng Yun weather satellites, built the SAR satellites.

Future Plans

The Yaogan series has already acted as discouragement for the US carriers. China may now launch additional Yaogan satellites to cover the Indian Ocean region. In addition, China plans to establish a high-resolution Earth Observation (EO) system capable of stable all-weather, 24-hour, multi-spectral, various-resolution observation by 2020. China also plans to deploy remote sensing constellations that will add redundancy, flexibility, and timeliness to its remote sensing capabilities. The Superview series of satellites is planned to form a 24-satellite constellation made up EO and SAR satellites and several mini-satellites by 2022.[23] A second constellation made up of the Jilin series of satellites is planned to consist of 60 satellites by 2020, and 138 satellites by 2030.[24] The final goal of these Chinese space operations is to achieve space superiority (*zhitianquan*) defined as "**ensuring one's ability to fully use space while, at the same time, limiting, weakening, and destroying an adversary's space forces**." The Yaogan series is a critical, yet only a part of this final goal.

Colonel **Shailender Arya** is a regular contributor to CLAWS.

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SCHOLAR WARRIOR

SECTION VI

MILITARY HISTORY

CENTRE FOR LAND WARFARE STUDIES

A Few Good Men…

RAJ MEHTA

Lieutenant Colonel Megh Singh, VrC, set high standards; leading his men by personal example and obtaining results that put commando operations behind enemy lines on a pedestal…He created India's Special Forces…Here is the gritty story of a capable but disenchanted officer who had put up for Premature Retirement (PMR) in 1965 when war clouds began looming. In that crisis, the Indian Army was destined to discover his genius.

A hands-on, maverick General known for his out-of-the-box thinking, Western Army Commander Lieutenent General Harbakhsh Singh, VrC, recalls in his memoirs (*In the Line of Duty: A Soldier Remembers*) that one day, he sat in his office in Shimla, mulling over his operational level options, as disquieting news from Jammu and Kashmir (J&K) kept coming in daily about the mounting casualties there. It was the Ides of August in 1965 for the troubled Army Commander. Then unknown to the Indian Army, Pakistan's Operation Gibraltar, created explicitly for taking Kashmir by force by inciting insurrection in the Valley by *azaadi* seeking Kashmiris, abetted by thousands of Pakistani raiders, was under way. J&K in 1965 came under the operational responsibility of Western Command and, all along the western front, more so in J&K, the shadows of war loomed large.

The tall, superbly fit, experienced veteran General looked up, perplexed to find standing in front of him, his visibly agitated, recently arrived (August 9, 1965) General Service Officer (GSO) 2 (Training). He was IC-5682 Major Megh Singh, 3 Guards. While commanding the battalion as a Lieutenant Colonel, something had occurred in the command which led to the officer's courts martial, demotion to the rank of Major (thus, supersession) and removal from command, followed

by overnight posting to Headquarters (HQ) Western Command in a low-grade training assignment. The officer, on arrival, had immediately applied for Premature Retirement (PMR), realising that he had shot his bolt in the Army.

Known for his professional competence, dare-devilry and unorthodox approach to soldiering, Megh passionately recounted to his attentive Army Commander, some of his World War II exploits behind enemy lines and the Nagaland raids, which General Harbakhsh heard with mounting delight. Megh then offered his services to raise, train and lead a commando force to infiltrate, and operate in, small teams behind enemy lines to cause confusion, casualties and dislocation in decision-making in the enemy's mind, at minimum cost and maximum operational impact. Perhaps the braveheart had told the Army Commander that he should be allowed to exit the Service with his head held high. Harbakhsh recalls in his book that he approved of the Megh offer immediately. It was the very answer to the solution he was seeking; crippling the Pakistanis in their rear areas, with value added. Without waiting for government clearance, the Army Commander approved the raising of such a force by Megh.

He told Megh that if he succeeded, he would be promoted and given another battalion to command. He then called up the General Officer Commanding (GOC) 15 Corps, Lieutenant General KS Katoch, MC, at Srinagar and asked him to take a personal interest in briefing Major Megh Singh, discuss and approve viable objectives behind enemy lines with Megh and put his expertise/recommendations on small team operations in selected enemy objectives to optimal use. Ever the gentleman, Harbakhsh sought and obtained the Corps Commander's permission to allow Major Megh Singh to call up the Army Commander directly if there was an urgent, unanticipated requirement for manpower/operational issues/logistics where instant approval was of critical essence.

The Army Commander assured Major Megh Singh, "I will speak to (General) Kashmir Katoch, you go and report to him." There is further mention of the incident when Major Megh Singh did indeed call him directly, seeking his permission to enroll a volunteer as a member of his force. After great deliberation over the issue, General Harbaksh overruled it…. The volunteer was none other than then Major (later Brigadier) Bhawani Singh, MVC, the Crown Prince of Jaipur State who, though commissioned in 3 Cavalry, later joined 9 Para and then moved to 10 Para (Cdo) and was their Commanding Officer (CO) in 1971 when Chachro, deep inside Pakistan, was captured by the battalion, assisted by the legendary dacoit Baldev Singh of Bakhasar, a border village on the Rajasthan/Gujarat/Intelligence Bureau (IB) junction. Baldev acted as the Maharaja's guide

all the way to Chachro, 60 km inside Pakistan in an operation that ended in the award of the MVC to the 'follow me' Maharaja but that is another story …

Megh left HQ Western Command on August 22, 1965. Already briefed by the Army Commander, GOC 25 Infantry Division (Inf Div), General Amreek Singh, gave Megh complete liberty to choose his men and discussed possible operational areas where his force could make a difference. With Poonch mutually agreed upon as Megh's area of deep operations behind enemy lines, General Amreek Singh personally took him to meet his equally positively minded Commander 93 Infantry Brigade (Inf Bde), Brigadier Zora Singh, who was responsible for Poonch.

Megh chose his men from 3 Rajput and 3 Raj Rif. His past professional rapport with the two contributing COs helped him choose 60 superbly fit men from among them, 30 of them being Kaimkhani Muslims from 3 Raj Rif who were locals of the Poonch area. He also selected an officer and Junior Commissioned Officer (JCO), Lieutenant Mohinder Singh and Naib Subedar (Nb/Sub) Dil Jan and handpicked a few braveheart Sappers from 402 Field Company who had the kind of skills he wanted. Overall, Megh now had a force of 2 officers, 2 JCOs and over 70 men in all, all volunteers.

A digression is warranted here to inform readers about what made Megh special. From Rajasthan, he was born in a Rathod Rajput home on March 1, 1924. Commissioned into the Patiala State Forces, in line with the Rajput martial tradition, Lieutenant Megh saw active war with the British 8th Army led by Lieutenant General Sir Oliver Leese in the Italian Campaign in World War II, after the Maharaja offered his State Forces to the British war effort.

A volunteer, Megh got involved in commando operations behind the Italian/German lines of the Axis forces, called the Gothic Line and later Green Line in the Apennine mountains. These mountains (peak height almost 10,000 ft) run the length of Italy for 1,400 km and comprise parallel smaller ranges spread over 250 km. It was tough country to negotiate for operations in depth but Megh learnt a lot from his experiences there between August 1944 and March 1945.

After Independence and substantial troop amalgamation thereto due to the division of manpower assets between India and Pakistan, his unit became part of the newly created Brigade of Guards and was designated as 3 Guards. Megh, in later years, had rich experience of Counter-Insurgency (CI) operations in the then restive Nagaland; was an instructor at the Indian Military Academy (IMA) and attended the Defence Services Staff College in 1955–56. Clearly, he was on an ascending graph career-wise when, tragically, destiny cast a blot on his military

Fig 1: The Appenine Mountains, Italy

career when in command of 3 Guards. When all seemed lost, with retirement his only viable option, destiny stepped in. The looming war and his spontaneous interaction with General Harbakhsh gave this gritty soldier a new lease of life.

On August 27, 1965, with his manpower in place, Megh addressed his officers and men for the first time. Among motivational speeches, what he said must rank high in quality, class and candidness. He told his force that they comprised Rajputs in the main and some equally capable others. Soldiering for them all had been a way of life and cheerful acceptance of victory or defeat was ingrained in their genes. They were, thus, martial brothers at arms and needed no formal introduction. They would together fight for the honour of the Motherland and if needed, die for it, regardless of caste, creed, religion.

Fig 2: Lieutenant Colonel Megh Singh as CO 9 Para (Cdo)

Pakistan, he said was actively supporting infiltrators in J&K from bases deep inside that country. These infiltrators were causing havoc in India. They must now be paid back in their own coin, with value added. If this meant making the supreme sacrifice, his entire force must be ready for it. The coming operations would severely test the mettle of the force, Megh said, "What you achieve or fail to achieve will not only reflect on you, your community, your regiment and your unit but it will have a profound effect on history too. In case you fail, history will hold you guilty. I know your worth and that is why I want you to join me."

Megh ended his impassioned plea by saying: "I am fully qualified to lead you in such types of operations, as I have operated behind the enemy lines in World War II in Italy and have planned and participated in many raids in Nagaland. I shall always be at the head of your column, even if it is to be done at the cost of my life. In return, I wish to have your loyalty, obedience and cooperation. In the end, if there is anyone among you who is not prepared to serve with me, he is free to walk out and go back to his unit".

His men responded by pledging their lives for India. Meghdoot Force had been constituted, without any fallout from among its bravest-of-brave officers, JCOs and men, now all 80 odd of them. Put through four days of intensive training, the force was launched on its first mission on September 1, 1965. The HQ 93 Inf Bde GS (Ops) sitrep (status report)of September 1, referred for the first time in official correspondence to Major Megh Singh's force as Meghdoot Force.

The Poonch operations were aimed at:

- Disrupting the enemy lines of communication between Road Dwarandi-Bandi Gopalpur to deny the enemy the ability to send war material/reinforcements to their Raja post which was a key 93 Inf Bde objective (September 1-4). Linked to this was the capture of Nejapir post in conjunction with the brigade

attack on Raja and Chand Tekri posts (September 5-6).

- Capture of Ari Dhok post on September 7.
- Raid on Pakistani Administrative Base southwest of Kahuta (September 7-9).
- Link up by the Meghdoot Force with forces of 68 Inf Bde/19 Inf Div that had targeted the Haji Pir Pass (September 10).

Led by Megh himself, each of these commando missions was dazzlingly successful, the Uri-Poonch link-up being the most strategically significant of all as it put a dramatic end to the huge Pakistani advantages of operating against the Indian deployment in the Kashmir and Poonch Valleys using interior lines of communication emanating from its possession of the Haji Pir Bulge. It placed Haji Pir Pass firmly in the possession of 19 Inf Div/15 Corps, leaving 15 Corps Commander Lieutenant General KS Katoch and his Army Commander delighted.

Fig 3: Pakistani POW's Captured in Battles Around Haji Pir Pass, 1965

Katoch, aware that India was on the receiving end in the Chhamb-Jaurian-Kalit-Akhnoor area where Pakistan's Op Grand Slam was yielding results dangerous for India's territorial integrity, rushed Megh to that sector. On September 13, Megh was briefed by the GOC 10 Inf Div.

Creating a new force (he was permitted only a small graft of Lieutenant Mohinder and 12 men from the Meghdoot Force and inducted fresh bravehearts he had known and tested in Nagaland), on September 17, the Army and Corps Commanders were present where Megh was briefed at HQ 191 Inf Bde by fellow

Guardsman, Brigadier Manmohan Singh. Fifty ex-Servicemen seeking revenge, led by Naib Subedar Kanwal Singh, volunteered to join him and were accorded instant approval. This military-civil force, named Badal Force, performed brilliantly in the two raids they undertook. They destroyed the enemy base at Thil on September 18-19 and on September 22, destroyed the enemy base at Nathal. During this later raid, Megh, by then a VrC, was seriously wounded, being hit thrice, including in his thigh. He allowed his evacuation but only after ensuring, the destruction/capture of Nathal.

The Meghdoot/Badal Force had in all, launched seven operations, killing/injuring Pakistanis, with some estimates reaching 600 and at a cost of 10 bravehearts dead, some wounded. Harbakhsh recalls: "On the morning of September 24, 1965, Megh Singh had just been evacuated from Akhnoor with a bullet in his thigh … in the presence of the Corps Commander, I pinned the rank of Lieutenant Colonel on his shoulders." The Army had kept its promise.

Megh went on to raise 9 Para (Cdo). He and a few good men under him had grittily, honorably, created India's elite Special Forces.

Major General **Raj Mehta**, AVSM, VSM (Retd).

The officer is from the Armoured Corps. He is familiar with the areas of Chhamb-Jaurian-Akhnoor, having been GSO 3 (Ops) in 1975-78 and later, COS in 2005-06 in formations under whose operational responsibility this area comes. As GOC of an LC Division in North Kashmir in 2003-05 and COS at Srinagar thereafter, he is familiar with both sides of the Uri-Poonch divide across the Pir Panjal/Haji Pir Bulge areas.

SCHOLAR WARRIOR

SECTION VII

MOTIVATION

CENTRE FOR LAND WARFARE STUDIES

Major Asa Ram Tyagi (MVC): Hero of Dograi

CLAWS RESEARCH TEAM

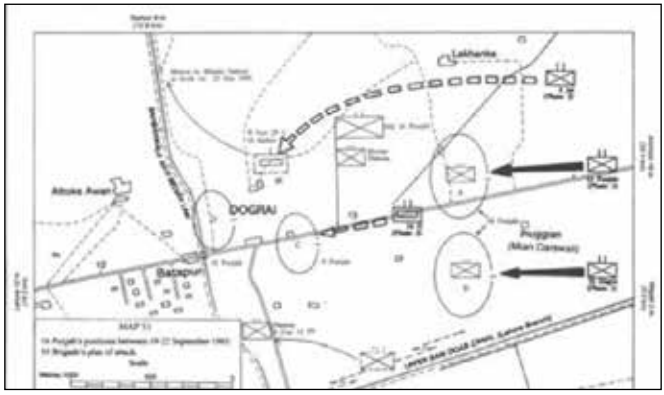
Preamble

The Battle of Dograi, one of the bloodiest battles in Indian military history, was fought at the town of Dograi near Lahore—first with guns and grenades, then with bayonets, and, finally, with bare hands on the dark night of September 21/22, 1965, between the soldiers of the Indian Army's 3 Jat and Pakistan's 16 Punjab.[1] 3 Jat entered the annals of history by carrying out an opposed canal crossing against a well-entrenched enemy twice, once on September 6, and then again on the night of September 21, to capture Dograi and threaten Lahore. The town was merely a few kilometres from Dograi and an Indian advance into Lahore would have decimated the Pakistan Army. However, they managed to escape further humiliation as the ceasefire was announced on September 23, 1965. The Battle of Dograi is a saga of grit, determination and personal valour of all ranks of 3 Jat to achieve the impossible and emerge

victorious. In this determined unit was a young, dashing officer, Major Asa Ram Tyagi who was to leave his own personal indisputable mark on the battle front. Born to Shri Saguwa Singh on January 2, 1939, in Fatehpur in Ghaziabad district of Uttar Pradesh, Major Asa Ram Tyagi was commissioned in 3 Jat on December 17, 1961.

1965 Indo-Pak War and Battle of Dograi

3 Jat had moved to Amritsar after a high altitude tenure in Sikkim and was in the process of reorienting their training as part of 15 Infantry Division when the war clouds started gathering. Pakistan launched Operation Grand Slam on September 1, 1965, to capture Akhnoor after it had suffered considerable reverses in Jammu and Kashmir (J&K) when the Indian Army captured the Hajipir Pass by end August. After the attack on Akhnoor, the Indian leadership decided to relieve pressure in J&K by attacking Pakistan further south on the western front and the Indian troops crossed the international boundary on September 6, 1965, by launching an attack towards Lahore.



Source: Dograi: A Battle Like no Other.

Battle of Dograi

15 Infantry Division was leading the spearhead towards Lahore. Commanded by Lieutenant Colonel Desmond Hayde, MVC, 3 Jat was part of the 54 Infantry Brigade and was tasked to capture the far bank of the canal and establish a bridgehead for the further offensive to Lahore. It was to follow in the wake of 15 Dogra. As the Dogras suffered heavy casualties, 3 Jat led the advance for the operations of 15 Infantry Division. Dograi was a small township on the eastern

bank of the Ichhogil Canal, with the canal itself a formidable defensive objective. Capture of Dograi and the bridges on the canal was vital for the Indian Army's advance to Lahore. Dograi was held by 16 Punjab and elements of 8 Punjab, 3 Baluch and 18 Baluch, with two of its companies at Mile 13.[2] Two troops of tanks were also in the location to assist the Pakistan infantry.

The attack plan to capture Dograi was in two phases, with 13 Punjab to capture Mile 13 by midnight September 21. In phase 2, 3 Jat was to capture Dograi from the north by taking a detour and attacking the Pakistani posts from the rear. Lieutenant Colonel Hayde had under command an electic mix of young spirited officers and experienced Junior Commissioned Officers (JCOs). He broke convention by placing young officers under experienced senior JCOs and his orders were explicit, when he said:

> Follow the leader. Shoot at anything that looks potentially harmful; ask no questions. Reach your stated objective dead or alive but reach because I certainly will. Secure the objective and keep it secure because the enemy will counter-attack and you must not allow him to regain what we have captured.[3]

Saga of Courage

The attack by 3 Jat on Dograi began at 0130 hours on September 22, 1965. After taking a detour of almost 6,000 metres, the Jats had reached the flanks and rear of the Pakistani positions. The Alfa company, led by Major Tyagi, advanced to capture the eastern edge of Dograi, which was well defended by one enemy company with tanks, recoilless guns and pillboxes. The battle which commenced with guns, grenades and bayonets, soon escalated into a fierce hand-to-hand fight. Major Tyagi, after assessing the enemy deployment and resources available with him, decided to press ahead with the forwardmost platoon of his company. While assaulting the enemy positions, Major Tyagi was fired upon and injured but he continued to move ahead, directing his soldiers to fire. In fierce hand-to-hand combat, he was bayoneted by a Pakistani officer, but Major Tyagi bayoneted him back and killed him. Though badly wounded, he kept rallying his troops to attack the enemy bunkers. Heavy fire from the tanks led to the realisation that the enemy tanks were the biggest threat to the unit's success and needed to be neutralised. Without caring for his personal safety, Major Tyagi single handedly attacked two tanks with hand grenades and neutralised their crew members. Consequently, the two enemy tanks were captured intact and a major threat

was eliminated. Unfortunately, during the process, Major Tyagi was hit by three more bullets. Undeterred, he continued to advance along with his troops till he fell unconscious. Major Tyagi later succumbed to his injuries and achieved martyrdom.

Inspired by his heroism and exemplary leadership, his company soldiers fought with double vigour and succeeded in capturing the objective. Dograi was captured by 0300 hours—27 hours of non-stop combat and flushing operations continued wherein the Jats did not pause or ponder, till the last of the enemy was cleared from Dograi. 3 Jat paid a heavy price for its victory, with 322 all ranks killed and wounded against 552 all ranks who took part in the battle. Most importantly, they captured 108 all ranks of 16 Punjab, including their Commanding Oficer (CO), Lieutenant Colonel GF Golewala. In addition, six enemy tanks were destroyed and another six captured. Major Tyagi was awarded the 'Maha Vir Chakra' for his daredevilry, indomitable spirit, outstanding leadership and supreme sacrifice. The success at Dograi made the enemy position at Mile 13 untenable. The two enemy companies located in this area fled across the canal. By September 22, 13 Punjab had secured their objectives and four enemy counter-attacks had been beaten back at Dograi by 3 Jat. The ceasefire which came into effect on September 23, turned out to be the saviour for the beleaguered troops.

Citation for the Maha Vir Chakra awarded to Maj Tyagi reads:

"On the night of 21 September 1965, IC-13056 Major Asa Ram Tyagi personally led the leading platoon of a company of a Jat Battalion to capture an enemy position in Dograi village in Pakistan, which was defended by a troop of tanks, covering pillboxes and recoilless guns. While assaulting the enemy position, Major Tyagi was hit by two bullets in the right shoulder. In spite of his injury, he pressed on against the enemy tanks, personally destroyed the crew with grenades and captured two tanks intact. In this process, he was again hit by three more bullets, but still continued to lead his company till he fell unconscious. He was subsequently evacuated to a military hospital where he died. Greatly inspired by his conspicuous bravery, his men captured the objective."

The nation honoured this brave soldier by immortalising his name in a number of institutions and projects. The Shaheed Major Asa Ram Tyagi Smriti Sewa Trust is being run in Modinagar in his honour. The road from Modinagar to

Fatehpur is named after him. Also, a housing project of Tyagi Nagar in Lucknow has been named after Major Asa Ram Tyagi, MVC.

The saga of Dograi continues in the folkfore of Haryana villages. The song below captures the essence of the Jat valour….

Kahe suney ki baat na bolun ankho dekhi bhai,
Teen Jaat ki katha sunaun sun le mere bhai,
Paanch Sitambar raat ghaneri hamla Jaton ne maari,
Dushman me mach gayi khalbali kaanp uthi Dograi

Notes

1. Dabas Maninder, "The Battle Of Dograi - When the 3 Jat Battalion Sealed the Victory for India in the 1965 War", *India Times*, September 20, 2017.
2. RS Mehta, "Dograi: A Battle Like no Other", *Scholar Warrior* (CLAWS, New Delhi), 2015.
3. Ibid.

SCHOLAR WARRIOR

SECTION VIII

MISCELLANEOUS

CENTRE FOR LAND WARFARE STUDIES

Commentary

China's 2019 National Defence White Paper: An Assessment

AMRITA JASH

On July 24, 2019, the State Council Information Office of the People's Republic of China (PRC), released the latest White Paper titled "China's National Defense in a New Era".[1] Being tenth in order, it was released after an interregnum of four years,[2] since the last White Paper, released in 2015, on "China's Military Strategy".[3]

The key element that defines the 2019 document is the construct of a "new era". In view of this, it remains indisputable that this vision is based on Chinese President Xi Jinping's bold ambitions of moving China "closer to center-stage" as "socialism with Chinese characteristics has entered a new era".[4] Wherein, in the "new era" China has "stood up, grown rich, and is becoming strong; [and] it has come to embrace the brilliant prospects of rejuvenation".[5] This confirms China's departure from Deng Xiaoping's dictum of "keeping a low profile", as China under Xi aims to take a central role on the world stage by, as China likes to profess, creating a "community of shared destiny", which justifies its longstanding rhetoric of "never seek hegemony". What distinctly looms large in the 51-page document is the ''US-factor'' and China's ''defensive'' military posture.

First, China's growing US challenge is highlighted in three main perspectives:

- In terms of the vision of the international order wherein the US is the source of global instability. As the document pointedly mentions:

> International strategic competition is on the rise. The US has adjusted its national security and defense strategies, and adopted unilateral policies. It has provoked and intensified competition among major countries, significantly increased its defense expenditure, pushed for additional capacity in nuclear, outer space, cyber and missile defense, and undermined global strategic stability. The North Atlantic Treaty Organisation (NATO) has continued its enlargement, stepped up military deployment in Central and Eastern Europe, and conducted frequent military exercises.[6]

- In defying the US championed vision of the "Indo-Pacific", the document highlights the continuity in the Chinese vision of calling it the "Asia-Pacific". According to the Chinese, the region, generally, "stable" has become a "focus of major country competition, bringing uncertainties to regional security", which is mainly because:

> The US is strengthening its Asia-Pacific military alliances and reinforcing military deployment and intervention, adding complexity to regional security. The deployment of the Terminal High Altitude Area Defense (THAAD) system in the Republic of Korea (ROK) by the US has severely undermined the regional strategic balance and the strategic security interests of regional countries.

That is, regional instability is caused by US actions and its military alliances, deployments and interventions. As the document categorically notes, the uptick in Japan's and Australia's military engagement, in alliance with the US, is to seek a "bigger role in security affairs" in the Asia-Pacific. This perspective also highlights China's 'QUAD' quandary, however, there is no mention of India in this security matrix.

Second, The US is highlighted as an external actor intervening in China's sovereignty in the South China Sea. As the document indirectly notes:

> Countries from outside the region conduct frequent close-in reconnaissance on China by air and sea, and illegally enter China's territorial waters and the waters and air space near China's islands and reefs, undermining China's national security.

However, despite the looming US challenge, in Chinese eyes, ''homeland security'' is still the gravest concern given that the "fight against separatists is becoming more acute". That is, Taiwan independence, Tibet independence and East Turkistan—a triumvirate which Beijing calls the "The Three Evil Forces". Moreover, China's security challenges also remain in terms of unresolved land disputes (India) and territorial sovereignty over some islands and reefs (Diaoyu/Senkaku Islands with Japan), as well as maritime demarcation (East China Sea with Japan). Given these odds, the document clarifies that China's actions are ''just and peaceful'' and, unlike other global actors, Beijing is "actively contributing to building a community with a shared future for mankind"—the White Paper describes Chinese power as the underpinning of the shared community.

Third, China's "defensive" military posture acts as an attempt to highlight the debated query of 'what is China's defence in the new era?'. This is justified under various grounds, which are:

- Most importantly, to quell the rising concerns over China's assertive military posture, the document justifies that "[a] strong military of China is a staunch force for world peace, stability and the building of a community with a shared future for mankind". This is to suggest that China's meteoric military rise is a boon rather than a bane for regional and global peace and stability—an attempt to dispel the notion of China's 'charm offensive'.
- In assessing China's military reforms and defence policies as adopted, the document provides a blueprint of the work that has been done since 2015 under Xi's command of ''fight and win''. Wherein, the document pointedly notes the numbers of military training events, exercises and drills under ''realistic combat conditions'', with an emphasis on China's new war-fighting capabilities in the Western Pacific and South China Sea. But in terms of advanced weaponry, the White Paper mentions only the Type 15 tanks, Type 052D destroyers, J-20 fighters, and DF-26 intermediate and long-range ballistic missiles, thus, further maintaining the opacity. The document also highlights a record of China's United Nation's Peace-Keeping Operations (UNPKO) as well as various joint activities of the People's Liberation Army (PLA) and People's Armed Police (PAP) in regional security dialogues and cooperative platforms with other countries.

- On the issue of military spending, China's comparative increase in military expenditure has been downplayed. Rather, terming it as "open and transparent" as well as "reasonable and appropriate", the document suggests that China's defence expenditure remains at a "relatively low level", when compared to that of other countries.

Given these perspectives, what are also noteworthy are the aspects to which the document has turned a blind eye. Two significant departures as noted are: *first*, the "Belt and Road Inititative" (BRI) finds no mention in the document despite being Xi's most championed theme since 2012. This conscious oversight signifies that China's progress in the BRI has failed to match its projected ambitions. This negligence, thus, is indicative of China's growing uncertainty over fulfilling the BRI dream.

Second, with reference to India, the 2019 White Paper makes an extensive mention of India, unlike the practice in the past White Papers. With no significant red alarms attached, India is significantly mentioned in suggesting that China strives to promote stability and security along the border with India, and take effective measures to create favourable conditions for the peaceful resolution of the Donglang (Doklam) standoff. Here, a linkage can be drawn to China's new found interest in an early settlement of the boundary dispute with India. However, how strong is the Chinese intention towards seeking a resolution with India remains highly uncertain and questionable.

In an overall assessment, the 2019 White Paper continues in the tradition of being more 'rhetoric' than 'real'. It appears as a balance-sheet of Chinese actions and inactions in the changing international system and, most importantly, a justification of these. However, despite being rhetorical in tone, a concrete conclusion can be drawn on two significant aspects. First, the Sino-US divide is on the rise, wherein China seeks to ring a warning bell for the US and its alliances. Second, the PLA has, slowly and steadily, evolved into a confident war-fighting force with an emphasised need of improving its "informationization". Thereby, the 2019 White Paper, in definition appears to be more symbolic, calling China's actions 'defensive' in the new era.

Dr. **Amrita Jash** is Associate Fellow, CLAWS.

Notes

1. "Full Text: China's National Defense in the New Era", Xinhuanet, July 24, 2019, http://www.xinhuanet.com/english/2019-07/24/c_138253389.htm. Accessed online on July 28, 2019.
2. China releases its defence White Papers every two years.
3. "China's Military Strategy", State Council of the People's Republic of China, May 27, 2015, http://english.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm. Accessed on July 28, 2019.
4. Xi Jinping, "Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era", Speech delivered at the 19th National Congress of the Communist Party of China, October 18, 2017, http://www.xinhuanet.com/english/download/Xi_Jinping's_report_at_19th_CPC_National_Congress.pdf. Accessed on July 29, 2019.
5. Ibid., p. 9.
6. Xinhuanet, n. 1.

Sino-Indian Boundary Dispute: A Little Known Historical Perspective

BALJIT SINGH

In the normal course of duty during the first week of June 2019, one AN 32 air-craft, with thirteen servicemen on board, lost contact some thirty minutes after take-off from Jorhat on the flight to Mechuka. It was natural that all possible means, terrestrial and spaceborne, were pressed into service to locate the ill-fated aircraft, but it would take seventeen days in all to first locate, and, ultimately, retrieve the mortal remains of the servicemen and vital instruments from the scattered wreckage. For sure, this was not the first calamity of the kind in response to the ongoing and routine demands upon the armed forces by the national security imperatives, all along the Sino-Indian boundary. But for most Indians (that is, 9.99 out of 10) the question uppermost in their minds was, "Where is Mechuka"?

Well, for the benefit of the post 1970s generations' countrymen, it may be pertinent to recount briefly the history leading to the emergence of both India and China as sibling republics, in the latter half of the decade of the 1940s, after years of long, bitter struggle against their respective alien and archaic systems of governance. While India's freedom movement was anchored by Mahatma Gandhi around the ideology of non-violence, that of China was embroiled in a full blown war against the Japanese invasion in 1938, followed by a decade of a bloody civil war during the People's Liberation Army's (PLA's) "Long March".

There was no formal unity of purpose between these two Asian countries, involved though they were concurrently with their respective politico-societal movements for overthrowing the old order, yet there existed a sense of unstated sympathy for each other's cause. So much so, that in 1938, the Chinese General Zhu De made a formal request to Jawaharlal Nehru for a team of physicians to manage their mounting battlefield casualties. The Indian National Congress promptly made an appeal through a Press statement, resulting in five practising physicians/surgeons (Drs. M. Atal from Allahabad, M. Cholkar from Nagpur, D. Kotnis from Solapur, B.K. Basu and Debesh Mukherjee from Calcutta) volunteering, while one donor wisely provided an ambulance and the All-India China Day Fund piled up to a respectable Rs 22,000/!

The team first arrived in China at the port of Hankou, in Wuhan province. They were then sent to Yan'an, the revolutionary base at the time in 1939, where they were warmly welcomed personally by Mao Zedong, Zhu De and other top leaders of the Communist Party, as they probably comprised the only such aid to come from another Asian country. But, above all, this entire undertaking signified *"help from a nation itself struggling for freedom, to another nation also struggling for its freedom"* and that idea got further reinforced with Jawaharlal Nehru's visit to mainland China in 1939. Perhaps herein also lay the seeds of Mr Nehru's latter days' optimism in the spirit of *"Hindi Chini Bhai Bhai!"*, and who could fault him but narrow-minded sceptics?

However, what followed a mere two decade later was to belie every vestige of the hoped for fraternity between Asia's two ancient civilisations. Within days of the proclamation of the People's Republic of China (PRC) in November 1949, the restive PLA first flexed its muscles to ignite war on the Korean Peninsula and once General McArthur prevailed successfully, the PLA switched gear to begin the process of annexing Tibet (for aeons a sovereign country), with the motherland, beginning 1952. So, by a wicked twist of destiny, what for several centuries had been the acknowledged and open Indo-Tibetan boundary was to metamorphose by 1954 as the bitterly, ongoing disputed Sino-India border.

China's aggressive intents were fairly well read by both Prime Minister Nehru and Home Minister Sardar Vallabh Patel but, sadly, the downsized Indian Army post World War II was woefully inadequate to defend both the western and northern borders simultaneously. It was against this despondent backdrop that what in hindsight proved the sterile policy of "Showing the Flag" along our northern border was put in place and among other Army posts set up in 1958,

in the extreme northeastern segment was the trio of Mechuka (West Siang), Longju (East Siang) and Kibithoo (Lohit Valley), separated from each other and homeland India at large by totally inaccessible terrain. For instance, as recently as 1987, it took soldiers marching from Sadia 12 to 16 arduous days to reach the destination, Mechuka!

Of course, none of these extremely isolated posts, sited on express security purposes, would have been viable but for the highly motivated and skilled crews of the Indian Air Force (IAF) who manoeuvred their magnificent flying machines through highly challenging ground and aerial environment with aplomb. The approximately 800-metre-long Mechuka Advanced Landing Ground (ALG) in almost true east-west alignment is less than 30 km from the Sino-Indian border which inhibits pilots from making a circuit to descend and ease on the throttle. As such, they kind of "drop" down with a thud somewhere close to the midpoint of the ALG in the hope that the brakes would thence hold fast!

The skin prickled with a sudden rash of goose bumps, the heart pounded in the ears above the roar of engines straining to terminate the flight on the constricted, ad hoc landing strip and ultimately when the aircraft came to a juddering halt (momentarily in an exaggerated nose down and tail up profile!), one's body was drenched in a shower of cold sweat: an indelible experience of every landing on the ALG at Mechuka in the 1980s! Anyone on the passenger flight manifest who may have held a contrary view of those tense few seconds, *"is either a liar or a Gorkha",* borrowing from Field Marshal SHFJ Manekshaw's inimitable exposition on the instinct of fear in battle.

As an ongoing Standard Operating Procedure (SOP), one among the officers at the post receives the flight crew, ushers them inside a tent where they have a smoke, sip steaming cups of tea and munch delicious, hot "*pakoras*". Simultaneously, a bunch of soldiers offload the cargo in a jiffy, mindful that clouds may descend on them at the next wink of the eye. Under the supervision of a crew member, the empty AN 32 is next manually realigned on the ALG, for the return flight.

The take-off is another magnificent experience and, at the same time, somewhat chilling. At this stage, there is no apprehension of air violation of the international border but uncomfortably close to the tip of the ALG is the looming, thickly wooded mountain top. So the take-off is weirdly dramatic; as the engines of the aircraft in its stationary mode are revved to full throttle to develop maximum thrust, the AN 32 literally starts bucking upon the ALG like an

unbroken rodeo horse and on climaxing, it zooms forward like a shooting star, lifting above the mountain top within kissing distance of its tree tops!!

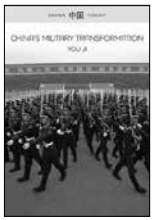
In closing, allow me to ask the readers whether the arrival of the Indian medical mission in Wuhan province in 1938 and the exclusive meeting between President Xi Jin Ping and Prime Minister Modi about two years ago also in Wuhan province was a mere accident or an intellectual diplomatic move to turn the clock of Sino-Indian history back by a century? After all, Dr Dwarkanath Shantaram Kotnis and the Chinese nurse Guo Quinglan did fall head over heels in love, married in 1941, and had a son who, on the advice of Nie Rongzhen (a PLA General or Commissar?) was named Yinhua: Yin (India) and Hua (China)! Sadly, like many blighted love stories, Kotnis died in the line of duty on December 9, 1942, and Mao Zedong went on record in his homage, *"The Army has lost a helping hand, the nation has lost a friend. Let us always bear in mind his internationalist spirit"* during the burial of Dr. Kotnis in the Heroes Courtyard, in Nanquan village.

In fact, Mao Zedong personally wrote a condolence note to the Kotnis family, a copy of which was presented by China to the University of Mumbai, in 1950. And true to that sentiment, every Chinese leader visiting India, beginning with Chou Enlai in the 1950s, has especially gone to Solapur, to meet with the Kotnis family. And as recently as November 2006, President Hu Jintao had the widow Guo Quinglan in his delegation to India and together they visited the Kotnis family.

Isn't this fancy baggage from the history of the Sino-Indian fraternity which should nudge the two nations to break from the troubled past and accept the existing status quo as the international border?

Lietenant General **Baljit Singh** (Retd), was commissioned in June 1956. On the sidelines, during the last 25 years he took up the cause of "Nature Conservation" within and by the Armed Forces; two years before superannuation, he was invited on the Board of Trustee of WWF India and served two terms.

Book Reviews



Chinese Military Transformation, Politics and War Preparation

You Ji
Cambridge, UK; Malden, MA: Polity Press, 2016. 284 pp
US$ 22.95, Paperback ISBN 978-0-7456-7078-2

Chinese Military Transformation, Politics and War Preparation is a book written by You Ji in 2016 and published by Polity Press, Cambridge. The book makes easy reading and shows the phenomenal research that the author brings to bear in this book. The book has three parts. Part 1 deals with the politics of the Peoples' Liberation Army's (PLA's) transformation. It consists of two chapters: Chapter 1 dealing with China's civil-military relations and Chapter 2 dealing with PLA politics under Jiang Zemin and Hu Jintao. The second part analyses the PLA's internal functions and has two chapters dealing with the PLA and national security, and the People's Armed Police Force. The third and final part covers the PLA's primary professional functions in three chapters. Chapter 5 deals with national defence strategy, Chapter 6 with aerospace power and Chapter 7 with China's deep ocean expansion.

In Chapter 1, You Ji has traced how the civil-military relations in China have transformed from the era of Deng Xiaoping to that of Xi Jinping. This chapter clearly brings out the fact that the privileged status of the PLA has been visibly diminished in the overall Party and state apparatus and society (p. 28). Xi Jinping's China dream has also been highlighted in terms of a rich nation, powerful military and global power status as the foundation of the Chinese dream. While there is no major state/society confrontation in the current form of the PLA backing the civilian political agenda, the civilian commitment to the PLA's modernisation will continue to help. The efforts by the PLA to change the ratio of conscription

between urbanites and peasants has been well highlighted. This is a confirmation of the changing nature of the personnel in the PLA. The enhancement in the technological and educational quality of the PLA personnel is changing the peasantry nature of the PLA from within. The urban intake has outnumbered that from the countryside. This chapter also aptly brings out the changes that the PLA is undergoing in its ideological foundation, implying thereby that a gradual shift is taking place from ideology towards nationalism. The conditional subjective control that China adopts lies between the two Western concepts of subjective control and objective control. The former is based on indoctrination of thought and personalised background. The latter reinforces civil supremacy over the military through promoting its professionalism and institutional autonomy. The changes in the civil-military relations have given the PLA an unprecedented level of autonomy in managing its affairs, thereby presenting the PLA with decreased need to be involved in civilian politics. Its obedience to the Party, thus, remains strong.

In Chapter 2, the author deals with PLA politics under Presidents Jiang Zemin and Hu Jintao. This chapter highlights the importance of legitimacy to reign (*Zhengtong*), a key concept in Chinese imperial politics. It talks about four sources of power for the successor viz. power of anointment, the Party's organisational back-up, the top leader's institutional authority conferred in his formal top Party, state and military posts and, lastly, the leader's institutional power entails enormous risk and severe penalties to any political challenger to his authority. The author goes on to explain how Jiang and Hu exercised control over the PLA by controlling the Central Military Commission (CMC) in the name of the Party leadership. However, he fails to extrapolate the same to Xi Jinping. You Ji clearly explains how Hu Jintao's complete exit set a powerful new norm, exerting huge pressure on his successors to follow suit. The author also commends Jiang Zemin and Hu Jintao for campaigning for the PLA's professionalism. This chapter also explains how the PLA meritocracy deepens as it is linked to force professionalisation due to officer selection and promotion, upgradation of hardware and software, and daily running of combat activities. The promotion system in the PLA has been well explained in this chapter (p. 57). By 2012, 20 percent of all commanders below battalion level possessed a PhD or MS degree and 25 percent of soldiers had a Bachelor's degree. The author also explains how officers with strategic vision are being promoted and how meritocracy and professionalism reinforce each other in the selection of senior officers. Tertiary qualification is also an essential requirement for senior level

officers. The separation of functions between the Politbureau and CMC ensures that the Party leadership has control over the PLA in the political and ideological domains without coming in the way of organisational issues. The author also contends that proper equilibrium between effective civilian control and the necessary PLA autonomy remains unresolved.

The second part has been covered under two chapters. Chapter 3 deals with the PLA and national security. A reasonably well-known fact, that the PLA wields influence in China's foreign policy-making, has been borne out by the author. The author also substantiates the PLA's subordination to civilians in managing strategic foreign affairs and formulating specific policies through examples (p. 73). Interestingly, it is also brought out that war aversion is a shared policy priority between the PLA and civilian leadership. There is also a nuanced expression that the PLA supports the civilian leadership in return for having a favourable defence budget. You Ji further states that the PLA supports Xi Jinping's policy of a hardened approach to protect China's territorial integrity mainly in the form of a retaliation strategy and tentative attempts to reshape the existing regional security order that jeopardises China's national security interests. He quotes Shambaugh and says Beijing's assertiveness is confined to sovereignty disputes and a small geographic area in Asia. According to him, beyond this, Chinese international behaviour has not altered much. Purhaps because this book was written in 2016, it has not considered the assertive actions that have been taken by China post release of the book. The statement that PLA officers are sharper than diplomats when discussing national security issues but not less sensible and sensitive towards questions on war and peace and order of battle is an interesting observation (p. 79).

On the command and control, the fact that state agencies managing the East and South China Seas disputes come under the PLA's control when a standoff occurs needs to be noted. The author clearly brings out the fact that the PLA exercises a directional role in national security and defence related foreign affairs at both strategic and operational levels and concludes that the assumption of the PLA's disobedience is natural but overstretched. The point that the PLA leadership enjoys much closer official and personal contacts with Xi Jinping than top diplomats is important. The author also brings out that civil-military coordination suffers due to a lack of communication channels, and the organisational barriers. The conclusion the author arrives at is that civil-military interaction in China on foreign/security affairs will remain possible, based on shared core interests and rational assessment of China's external challenges.

He is also emphatic that in the foreseeable future, an overt PLA show of force can be ruled out and Taiwan will remain relatively quiet, the Spratly challenge is manageable, and Sino-US relations will follow their own logic of self-regulation. The author has been proved wrong by the current impasse in the US-China relations. In China, social support to increase financial and material inputs for the PLA's war preparation is dominant.

Chapter 4 of the book deals with the People's Armed Police (PAP). This chapter explains in detail the roles of the PAP. It clearly brings out that this force is capable of regular ground force operations for standard land warfare. It is a militarised police, patrolling and controlling the border areas and urban streets, and provides security for key state institutions and personnel. This force also maintains social order and political stability, and pursues assigned economic activities and commercial profits. It is the only armed organisation in China that is entrusted with law enforcement and allowed use of force to shield regular PLA troops from confronting mass riots. The chapter also brings out the evolution of the People's Armed Police and gives detail about its establishments and levels of manpower. Though the author states that the PAP is under the dual leadership of the CMC and the State Council, the command and control of the PAP has changed recently, and it has been placed under the CMC only. The fact that the CMC is solely responsible for the appointment of top internal security force officers whom Xi Jinping personally approves, reveals the influence that the PLA has over the PAP.

The third part of the book has three chapters on national defence strategy, aerospace power and China's deep ocean expansion. In Chapter 5, You Ji explains the evolution of the national defence strategies of China, starting from active defence to limited regional war under conditions of informationisation. He also explains the operational tactics of the three "antis" (anti-tank, fixed wing aircraft and airborne troops) and the three defences (defence against nuclear, chemical and biological attacks), and goes on to the five "antis" (anti-unarmed aerial vehicles, stealth aircraft, cruise missiles, carrier battle groups and space-based platforms)and five new defences (defence against long range detection and monitoring, precision strikes from long distance, strategic cyber disruption, attack from space/near space and new weapon systems like lasers and microwave weapons). The doctrinal precepts of the defence strategies have been explained well in a tabulated form. The author also explains the status of PLA's Information Technology (IT) transformation in two stages in the period between 2012 to 2050. The statement that direct infantry engagement on a large scale will become a

rare thing in the future for the PLA (p. 135) needs to be noted. In terms of frontier defence, the author states that this term indicates open-ended and expanding national and economic security interests that require the PLA's protection, with its growing power projection capabilities (p. 137). As far as policies for war-preparation and war-fighting go, the author contends that it is a "politics in command" strategy, and states that the PLA, in a particular domestic and international context, enforces restrictions on top civilian PLA leaders whenever they contemplate war, and goes on to explain this with a few examples.

Chapter 6 of the book deals with aerospace power. The PLA Air Force (PLAAF) is in a state of transition and endeavours to catch up with the global trend of integrating air power with space power in informatised warfare. It is also in the process of transforming itself from a tactical defence force to a strategic offensive one to carry out missions beyond national borders. The PLA has, at the strategic level, rectified defensive guidelines in war-planning by adding long range preemptive operations into its combat doctrine. Since China's population and industrial centres are located within 500 km of the coast, the PLAAF has projected a 3,000 km defence depth beyond the eastern coast as the required range. By this, it covers the US territory of Guam and the vicinity of the islands where US bases are located. In the air defence arena, the concept of the PLAAF has shifted from anti-aircraft to both anti-aircraft and anti-missile defence. The PLAAF's objectives in future wars have been prescribed clearly and state that the employment of air power is oriented towards dealing with combat situations at strategic, campaign and tactical levels. By assisting in naval blockades, the PLA AF will also obtain air control around the islands. The moment the decision to go to war is made, the PLAAF will attack first. The organisational structure of the PLAAF, which the book talks, about has undergone changes due to the military reforms that have been undertaken by China. The pattern of deployment of the PLAAF has also been given in this chapter. The PLAAF is expected to establish three rings of air defence. The first ring will be territorial air space where it will seek reliable air control. The second ring extends from the coastal line to the first island chain in the Pacific. The third ring is the area between the first and second island chains where the PLAAF maintains effective deterrence and monitoring. As far as the space arena goes, China feels that this space will determine the outcome of future wars and, therefore, development of military capabilities in this space is the first priority. The author also feels that integrating air and space power is a strategic necessity. The PLA's space project is a defensive one but with an offensive intent. The book also lays out the PLA's space strategy (p.156). The

author says that in the near to immediate future, the PLA seeks space denial from the earth. He also explains the methodology of engagement for a space confrontation. While describing the PLAAF structure, the book says that it can be constructed only with an appropriate equilibrium in the order of battle. This implies that the PLAAF requires a suitable ratio between jet fighters and strike aircraft; and also a suitable ratio between combat planes and supporting ones. The book also describes the problems that the PLAAF faces in terms of aero-engines. The roadmap for the induction of the modern J-20 aircraft has also been given. The special aircraft like the Airborne Warning and Control System (AWACS) are described as force amplifiers for the PLAAF. This chapter also gives the details of the AWACS aircraft. After this book was released,the KJ-600 aircraft, meant for operations from an aircraft carrier, has been under trials. In the space section, the book gives the details of satellites that are in operation and their roles. The major changes in the Air Force's development have been explained in five different points (p. 179). These changes in the force development are guided by the principle of network-centric warfare.

Chapter 7, the last chapter of the book, deals with China's deep ocean expansion. The author says China's maritime ambitions are expanding but its combat focus is based on the regional security threats—not global ones (p. 181). The combat reach of the PLA Navy (PLAN) is restricted to the availability of land-based air cover which is still inadequate in range and efficiency. The PLAN is functioning on the principle of "One point, One line and One zone". The point is Taiwan, the line is the Sea Lanes of Commmunication (SLOCs) of 10,000 nautical miles (nm) and the zone is the two oceans. The book also talks about four revisions of the PLAN's doctrine, the present one being the naval confrontation in the East and South China Seas. The author also says that securing the first island chain is to secure the PLAN's survival through enlarged maritime defence depth. Beyond 2020, the PLAN's combat reach should be trans-regional. The three concepts of near seas, intermediate seas and far seas configure different combat postures and fleet missions in forward defence, layered defence and preemptive defence. The author says that in the Maritime Silk Road, he notices a clear military relevance in China's Indo-Pacific strategy. The necessity of erecting a "chain of pearls" in the Indian Ocean emanates from this. China's Indo-Pacific ambition is in economics first and supplemented by naval presence or access. The PLAN's two oceans strategy is restricted to the northern Indian Ocean as it is limited to protecting the key waterways for China's SLOCs. China also feels that it should remind India that since the latter is not able to protect the Indian Ocean SLOCs

itself, the PLAN has to share the responsibility of doing so. The PLAN is expected to acquire overseas supply points for its naval expeditionary fleets, though this may take some time. The PLAN has started monitoring between the first and second island chains. The book also mentions that the PLAN is increasing efforts to create more strategic space for its ocean fleets. The author feels that an aircraft carrier will remain theoretical and largely a peace-time weapon, not suitable for many of China's war scenarios. The US naval academics feel that the Chinese carriers cannot survive major sea battles. The author seems to indicate that China's carrier ambition by China may not be a correct choice. The carrier pilots seem to be a problem faced by the PLAN. Only 13 pilots have been accredited so far, as per the author.

This book is a seminal work on the limited objectives that the author has set for himself. It comprises essential reading for all military professionals and academicians who follow, and work on, China's PLA.

Lieutenant General **S L Narasimhan** PVSM, AVSM*,VSM PhD (Retd) Member, National Security Advisory Board & Director General, Centre for Contemporary China Studies.

Rise of China: A Military Challenge to India

Narender Kumar
KW Publishers, New Delhi, 2018,
pp. 220, Price Rs 940.00
ISBN: 978-93-87324-59-6 (Hardback)
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The enigma of China's growth, shrouded in mystery, is now revealing itself. Shedding its pretence for 'peace and development', China realises that the military is an important factor in state security. While pushing for multipolarity to create a polycentric world order, it is looking at enhancing its comprehensive security in both traditional and non-traditional domains. The changes in the security architecture and aspirations of China in the Xi Jingping era have direct implications on India's security. Unlike other great powers of the past that New Delhi has encountered, China impinges directly on India's geo-political landscape in multiple ways. The book written by Brigadier Narender Kumar, provides a professional inside view of the rise of China and points out that it is time for India to get its act together and focus on the capability and capacity building of its military, transit from "dissuasion to deterrence".

Out of the ten chapters in the book, the first two examine the emergence of China and how geography and demography have shaped its strategic culture. The author has also succinctly brought out the frailty afflicting China which, according to him, is "a civilisation masquerading as a nation-state" as it fails to meet the parameters of a nation-state. According to him, China represents "less of a people's republic and more of a government's republic". The baggage of the Han nation's perception will always create a faultline with non-Han Chinese. The demographic dividend is now giving way to demographic distress with the one child policy, and "China will grow old before it gets rich".

The initial chapters assess the way China has managed its internal and external challenges while trying to create a narrative of peaceful rise and national rejuvenation through its defence reforms, economic engagement, technological advances, statecraft and diplomatic outreach. Though it has attempted to project itself as a responsible global power by participating in various multilateral fora under Xi, China has displayed periodic proclivity in confronting the established international rules and norms and existing security arrangements when these adversely affect its interest. The author has delved at length into China's military capability and how it is developing full spectrum military capabilities riding on the reforms unveiled by President Xi. While China may be seeking to acquire the trappings of a superpower, the

book shows how it falls short of it owing to its food and energy insecurity and lack of political influence, despite its economic and diplomatic outreach in the form of the Belt and Road Initiative (BRI), Go West Policy, Non-Western Alliance, Brazil, Russia, India, China and South Africa (BRICS), Shanghai Cooperation Organisation (SCO), Association of Southeast Asian Nations (ASEAN) and Asian Infrastructure Investment Bank (AIIB).

The next three chapters are India specific in which the author has established how India has emerged as a "geographical pivot in the centre of the Indian Ocean". The book very effectively discusses the possible scenarios of conflict and competition between China and India. The fascinating point is the discussion of the "Rolling Strategy" by China: a strategy to push India along the Line of Actual Control (LAC). The implications of such fallout have been well covered. While recommending a policy prescription for India and development of its military capabilities, the author has evaluated the strategic options that exist for India and has suggested some force structuring options. Some of the suggestions like infrastructure upgrades, Intelligence, Surveillance, Reconnaissance (ISR), maritime security and Ballistic Missile Defence (BMD) are already under active consideration by the government. However, it is the vexed issue of a response mechanism for border guarding which, according to the author, needs immediate attention as border violations have the potential to upset mutual relationships.

The last chapter is the prognosis in which the important question is "whether China is rising or has it risen"? With the millennium strategic goal set as 2049 by when it intends to achieve its dreams of rejuvenation, the journey for China is fraught with challenges along the Indo-Pacific and along its periphery. That China has risen despite the US' hegemony may not be the true essence of the rise as it faces internal and external headwinds. The period of strategic opportunity is giving way to the period of strategic friction. India's needs to hedge against the rising China will require deft diplomacy and credible hard power.

Rise of China: A Military Challenge to India is a timely book which highlights India's lacunae in dealing with the challenges posed by China. It is a data intensive book and has lots of tables that will help the reader to analyse complex dialogues in an easy way. Written in lucid language, the book navigates along the strategic and operational realms and is a must read for those who are in the business of defence and diplomacy. The Chinese conundrum will always be a source of concern for India. Hence, India will do well to take note of the suggestions made in this book and make considered policy decisions.

Brigadier **Vivek Verma** has been closely associated with CLAWS as its Deputy Director.

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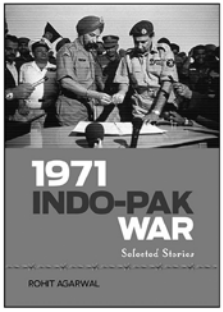

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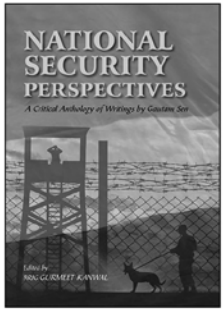

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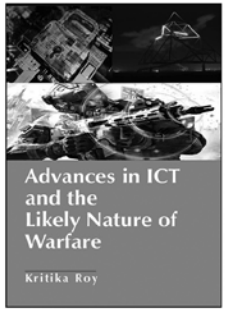

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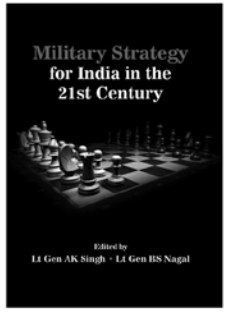

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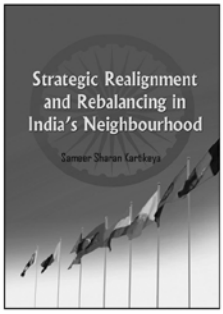

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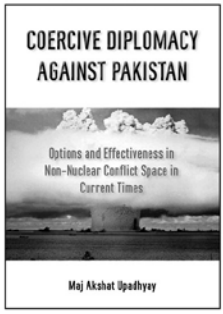

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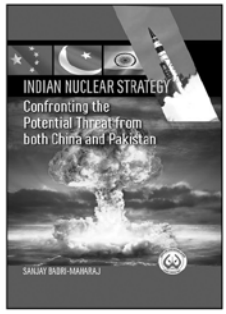

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