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Editor

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(d) Part D	1" Week of Apr 2020 Registration Open for 2020	Nov 2020	Pta 4000/-	Hs 1200- such for Tec. CA & MH Rs 1000- each for Adm and ML

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3. The article should be in Aerial Font (preferably), size 12 and English (U.K.). Avoid use of symbols like %, & and so on. The date style should be 24 October 1970. Abbreviations if any, should be used in their expanded form the first time and indicated in brackets.

 The full name and address of the author along with a brief Curriculum Vitae should be given. Serving officers are advised to follow the prevailing Services instructions for publications of their articles.

The author will receive a copy of the issue of the Journal in which his/her article appears along with three offprints.

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(M)

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1. Endnotes are notes added to the main body of a paper or an article, in which the author directs readers to sources referred to or to add extra comments of his or her own. Endnotes are placed at the end of the paper/article. A superscript number ('1144--) at the end of the sentence signals the reader to look for the corresponding endnote at the end of the article. The endnotes should be numbered consecutively, starting from '1'. Citations should include the author's name, title of the book (in italics), publishing information (in parenthesis) and pages consulted, all separated by commas. For example :-

 Michael Baxandall, Painting and Experience in Filteenth-Century Italy: A Primer in the Social History of Pictorial Style, (Oxford University Press, London, 1988), p. 45.
 Lina Bolzoni and Pietro Corsi, The Culture Memory, (Bologna: Societa editrics il Mulino, 1992), p. 45.
 Use of Ibid, op. cit., and Ioc. cit.

Ibid: refers to the immediate preceding reference; op. oil: refers to the prior reference by the same author and *loc.* oil: is used instead of op. oil: when reference is made to a work previously cited and to the same page in that work. For example :-* R Poirer, *Learning Physics*, (Academic, New York,

1993), p.4,

* Ibid., p. 9.

* T Eliot, Astrophysics, (Springer, Berlin, 1969), p. 141. 'R Millan, Art of Latin Grammar, (Academic, New York, 1997), p.23.

* Ellot, op. cit., p.148.

* Eliot, loc. cit.

3. Where websites have been used to access information, the complete web address of the website should be cited, followed by the date the website was accessed by the author. For example :-

http://www.fordham.edu/halsail/mod/1497degama.html. Accessed on 06 January 2016.

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During this period a total of 25 new books have been added. Details of the new books are available on USI Website.

Research Projects

Members interested in undertaking research projects may submit research proposals to USI (CS3 / CAFHR). At present, seven chairs have been instituted in CS3; namely, Field Marshal KM Cariappa Chair, Admiral RD Katari Chair, Air Marshal Subroto Mukharjes Chair, Port DS Kothari DRDO Chair, Ministry of External Affairs Chair, Flying Officer Amandeep Singh Gill Chair, Assam Rifles Chair and two Chairs in CAFHR namely; Maharana Pratap Chair and Chhatrapati Shivaji Chair. Copies of the Rules for Award of Fellowship Grants and Conduct of Research are available on the USI Website.

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During the period Jan - Mar 2020, 16 registered as New Life Members; 08 Ordinary Member renewed membership and 01 registered as new Ordinary Members.

Course Members

During Jan-Mar 2020, 100 Officers registered for Course Membership.

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NOTE

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Editorial

The article titled "Countering Unmanned Aerial Systems" 1. authored by Lt Gen PR Shankar, PVSM, AVSM, VSM (Retd) is lead article in the current issue of the USI Journal. It is futuristic in nature. The UAVs are being used for offensive and defensive roles. The dropping of arms using UAVs, through the smuggler network across the well fenced Indo-Pak Border in Punjab signifies a new facet of ingenious use of Unmanned Aerial Vehicles (UAVs). The major advantage of UAV is that it is cheap, carries less escalation risk, and is deniable, more flexible in employment in operations when compared to conventionally manned aircraft. In asymmetric noncontact operations, deniability can become a major factor. A counter UAV system has to have three integral parts. Firstly, there must be an assessment of the UAV threat. Secondly, surveillance and monitoring of the anticipated UAV threat as it unfolds. Thirdly, capability to degrade, destroy or deter the threat from enemy UAVs. There is a need to have a cogent counter UAV philosophy, which the author has put forward in this article.

2. The article titled "Evolving Geopolitical Developments in China : Implications for India" authored by Maj Gen BK Sharma, AVSM, SM and Bar (Retd), Director USI focuses on the Chinese looking at the geopolitical issues purely from the prism of their core interests. The evolving geostrategic scenario demands that Beijing focuses on the US challenge and avoids overt confrontation with India. The author has brought out that the Sino-Indian relations will continue to be characterised by cooperation, competition and conflict. India and China will compete for domination of resources, location and influence in the region. Beijing is constantly gaining a competitive advantage in the strategic balance vis-à-vis New Delhi. India should use the window of heightened strategic brinkmanship between China and US to build capacities to reclaim influence in the region.

3. Article titled "The Changing Dynamics of Global Terrorism" by Dr Ajai Sahni is very perceptive. The author is of the view that perception of terrorism as a movement against states by non-state entities using irregular warfare tactics is far from the truth. The role of sponsoring states in terrorist movements, who have benefitted has generally been overlooked and hardly any effective action against such supporting states has been taken. According to the author Western and Arab ambitions to secure 'regime change' is Syria fuelled terrorism in the region. A number of other examples have also been given in the article. Further as long as terrorists inflict death and destruction outside the western cultures, movements are dismissed as local consequences of misgovernance or as freedom struggles. If significant casualties take place in western countries, overwhelming menace of 'global threat of terror' gets highlighted. The author is of the view that most international Islamist terrorist movements are products of acts of commission or omission by the western powers principally the US and their allies. However, according to the Global Terrorism Index (GTI) 2019 death from terrorism came down 52 per cent from the peak in 2014. The Islamist scourge appears to be past its half-life. New wave of terrorism may arise and the coming avatar may be more disruptive than the past. Terrorists of tomorrow may pursue Network Centric Warfare (NCW), cyber terrorism, bioterrorism and nuclear terrorism. Of these potential of cyber terrorism is the highest. Global cyber integration is getting augmented and smart cities are increasing at a fast pace, often without adequate protection of their cyber networked infrastructure. With an estimated 30.73 billion electronic devices now connected and expected to reach 75.44 billion by 2025, the potential for destructive disruption is beyond imagination.

4. The article titled "China, Pakistan Aerospace Connect" authored by Air Marshal Anil Chopra, PVSM, AVSM, VM, VSM (Retd) makes interesting reading. After creation of Bangladesh in 1971, Pakistan forged a strategic alliance with China in 1972. Today China supports Pakistan on Kashmir, Pakistan supports China on Tibet, Taiwan and Xinjiang. Sino-Pak Aerospace cooperation has been lynch-pin of their relationship. China helped Pakistan in establishing Aeronautical Complex at Kamra in 1973. Currently, Pakistan is believed to have capacity to produce 25 JF-17 ac per year. In this 58 per cent of the airframe is Pakistani and 42 per cent Chinese. Pakistan with help from China is looking for export markets in competition with India's Light Combat Aircraft (LCA), PLA AF has 1700 combat aircraft. In addition, PLA Navy has 450 aircraft and some more are soon to be inducted as part of aircraft carriers. These make PLAAF formidable. Pak Air Force has 20 fighter squadrons. The IAF has 30 fighter squadrons. Some defence analysts believe that to cater for two fronts, there is a need for India to eventually increase combat squadrons to around 50. The IAF requires, advanced fighters, sophisticated support platforms and smart long range weapons. There is a need for IAF to build up force levels quickly.

Current issue of the journal has 10 articles. Abstract has been given at the beginning of each article. These make very interesting reading.

Review of the following books has been published in this journal.

- (a) Containing the China Onslaught : Role of the US, Japan, India and other Democracies.
 Reviewed by Shri Asoke Mukerji, IFS (Retd).
- (b) Trumped : Emerging Powers in a Post-American World. Reviewed by Shri Navtej Sarna, IFS (Retd).
- (c) China's Strategic Behaviour Reviewed by Brig Vivek Verma.
- (d) Securing India's Strategic Space with valour unlimited. Reviewed by Col Kul Bhushan Kaushal (Retd).

Major General Y K Gera (Retd)

Outline of a Counter UAV Philosophy

Lieutenant General P R Shankar, PVSM, AVSM, VSM (Retd)®

Abstract

The employment of Unmanned Aerial Vehicles (UAVs) in war and peace is proliferating rapidly. These are being used for offensive and defensive roles, to include surveillance, attack and logistics, besides other complimentary tasks. They are changing equations of conflict as was evident in the attack by a swarm of UAVs on the Aramco oilfields and ferrying of arms across the well fenced Indo-Pak border. Their role in non-contact warfare is increasing. In such a scenario, it becomes imperative that effective counter UAV systems are developed. As of now there is absence of a cogent counter UAV philosophy. Some counter UAV measures are being propagated and marketed in an inorganic and isolated manner. There is a requirement to have an overarching and holistic philosophy to counter the UAV threat. The counter UAV philosophy needs to be based on established threat patterns of adversaries. Thereafter, the vulnerabilities of UAVs have to be exploited to detect and locate them. Finally, one of the many kinetic/nonkinetic methods of their destruction have to be put into action. This article outlines such a philosophy from first principles in the near absence of any literature or reference material of significance on the topic.

Proliferation of Employment of UAVs

sage and utility of UAVs is expanding in all walks of life to

accomplish all kinds of tasks. In the military domain, UAVs were first employed for surveillance to look over the hill. Slowly but steadily, the roles of the UAVs have proliferated in the battlefield. They started out as surveillance platforms and have graduated to being electronic platforms for a large variety of uses. From defensive

platforms they have become very effective offensive platforms. The attack on the Aramco oilfields by a swarm of UAVs signifies a new strategic dimension in their offensive use. Earlier, UAVs were offensively used by USA to carry out precision and surgical attacks in Afghanistan and Irag. They used sophisticated long-range UAVs like the weaponised Predator/Reaper for offensive tasks. These took off from air bases/aircraft carriers in the Gulf and were controlled by satellites from mainland USA. The prime example of such an offensive operation was the deadly surgical attack which eliminated Major General Soleimani in Baghdad airport. As against this, in the Aramco oilfield attacks, low cost explosive laden UAVs were used with an equally deadly effect. The differentiating factor is that the Aramco attacks caught a costly and sophisticated air defence system flat footed and looking foolish by completely evading it. While there have been instances of quadcopters having been used offensively in the Middle East conflicts, the dropping of arms using UAVs, through the smuggler network across the well-fenced Indo - Pak border, in Punjab, signifies a new facet of ingenious use of UAVs. It heralds the era of employment of UAVs for logistics. Logistic employment will expand as the capability envelope of the UAVs enlarge with shape and size. UAVs are now truly changing the dimensions of warfare.

The Form Factor of UAVs

Military UAVs come in various shapes and sizes. Largely they come in fixed wing or in quadrotor configurations. They also appear in the form of helium filled balloons; tethered or untethered. They operate from low altitudes right up to near space altitudes. Countries have already started exploring deployment options in near space. The major advantage of the UAV is that it is cheap, carries less escalation risk, is deniable, more flexible in employment, deployment and operations when compared to conventional manned aircraft. The employment options available in the military domain are manifold. They are unfolding at great pace, especially in asymmetric situations. We are just beginning to understand their utility in non-contact operations where deniability must be built in. As days go by, UAVs will dominate discussion on the battlefield. Equally, there will be a lot of discussion as to how to counter them. Armed forces have realised that they must defend themselves against this innovative and ubiquitous third dimension threat. However, any form of defences against them need a very systematic and organised approach.

The Counter UAV Philosophy Approach

It is intended to present a broad philosophy and outline the entire range of counter UAV options to pick and choose from. This is an approach from first principles since there is very little literature available to refer to. Ideally, all the options should be adopted in a holistic, balanced and systematic manner if a comprehensive anti UAV system is to evolve for deployment in a military environment. Counter UAV operations in smuggling or other related security scenarios are not being discussed in this article. At the outset, a counter UAV system has three broad parts. Firstly, there must be an assessment of the UAV threat in each environment. Secondly, the task is to carry out surveillance and monitoring of the anticipated UAV threat as it unfolds. The third part is to deter, degrade or destroy the threat from enemy UAVs. An adjunct to this is regulating the usage of UAVs. This also must be given adequate thought.

Assessment and Appreciation of the UAV Threat

UAV threats from formal adversaries as well as from terrorists/insurgents/ non state actors must be assessed militarily. The appreciation starts with the UAV holding and capability of the adversaries. In our context, the holdings, characteristics and capabilities of UAVs held by China and Pakistan are of prime importance. We would also need to get a handle of how terrorists and insurgents can use UAVs and what their targets would be. It is mentioned that terrorists and insurgents favour Quadcopters and use them as surprise weapons to create out of proportion effects. It must be expected that Pakistan and China will employ UAVs aggressively since they have robust UAV programmes. Their UAV employment philosophy must be kept track of as it evolves. This must be followed by an assessment of the ground and weather conditions along our borders. It will give us a fair idea as to which UAVs can be used where, when and how. For example, in conditions of rain, snow or high wind speeds in mountainous terrain, UAV operations are precluded. Similarly, in hot / turbulent conditions of summertime deserts and even high altitudes, UAV operations are difficult and limited. In cloudy conditions, satellite control of UAVs is not feasible. Hence depth of UAV operations is limited. UAVs cannot be flown in jet streams and that is a major seasonal and geographical constraint in the Himalayas. It must be realised that most UAVs are relatively lightweight and low powered. Hence, their employment in adverse weather conditions, high altitudes/ mountains is guite predictable and will be confined to fair weather windows. Also, the range of operations of UAVs are restricted by communication ranges. These are in turn restricted by line of sight ranges. Further, as our adversaries continue to operate UAVs in peacetime, they are establishing a pattern in each area. The pattern will indicate timing, routes, heights, endurance parameters, exposure and so on. It is one thing to fly an UAV and another thing to carry out operational flying with a UAV. Hence, such demonstrated operational patterns define the broad envelope of feasible operations in each area. All UAVs must operate from some base. Hence, the infrastructure on the other side will give an indication as to how the threat can manifest itself. Presence of airfields, forward ALGs, widened roads, broad highways, corelated with characteristics of UAV, will indicate as to how the adversary will employ UAVs. It is also important to start monitoring the literary discussion which goes on in UAV related articles which appear in media. An assessment must also be made regarding the sources of procurement, technology and types of payloads, communication and other technical parameters. Finally, an assessment must be made of the intended targets of offensive UAVs. These targets would be soft and vulnerable. If these are attacked, the results could be spectacular and strategic. If all these issues are correlated sensibly as part of an intelligence plan, a clear threat picture will emerge. We will know as to what we are up against. It will also reveal chinks in the adversary's armour. Otherwise it will be a search in a haystack for the proverbial needle.

Monitoring, Detection, Identification and Surveillance

Vulnerabilities. Monitoring, detection, identification and surveillance of hostile UAVs is a prerequisite to countering them effectively. One should know where and when to deal with a threat before knowing how to deal with it. The problem is simple to define but widespread to crack. The UAV is a speck which can appear in a huge area despite the best of assessment. Hence, zeroing on to this speck at the earliest is the key. This can be done only through organised surveillance and monitoring. The principles of monitoring and surveillance are akin to other Air Defence (AD) surveillance system. In most cases, the larger and high-altitude capable UAVs will be caught by the Air Defence surveillance network. It is, however, the low-level flying UAV which is difficult to detect. Detection of UAV(s) is feasible if we understand those characteristics which make them liable to be detected. Firstly, the UAV or a swarm of UAVs are a dead giveaway due to their sound. The constant high decibel whirring of UAVs cannot be hidden. Secondly, UAVs are slow fliers. Their movement is easily trackable unlike high speed manned aircraft. Thirdly, UAVs must be persistent over an area. Whether it is for surveillance of an area or for acquiring a target prior to attacking it, they must persist and spend time on target. In doing so they become detectable. Every drone has a form factor which in turn constitutes its radar cross section. Hence, radar tracking is a feasibility. Lastly, every UAV is a mass which is constantly receiving or sending electronic signals. These electronic signatures can be detected. Each type of surveillance needs a bit of further understanding.

Acoustic Detection. The acoustic signature of an UAV is unmistakable and cannot be hidden. The UAV can be tracked using a passive gridded network of acoustic sensors. Using the differential of sound intensity and time differentials of incidence of a sound wave at each acoustic sensor the UAV can be tracked with reasonable accuracy. Suitable algorithms for this correlation can be developed through simulation models. The good old principles of sound ranging used to locate guns is a logical start point. The best part is that the UAVs acoustic signature will not be swamped by other battlefield noises due to its distinctiveness. If a swarm is approaching, the detection will be even easier due to either cancellation or cadence of frequencies.

Electronic Signatures. Every UAV has a number of communication links to control its flight and payloads as also for data transmission. These will be ubiquitous all-round transmissions/ reception. Further, if it has an active payload like Synthetic Aperture Radar (SAR) on board, the radar will also emit. All these electronic emissions can be detected through simple electronic Direction Finder (DF) procedures. Through ingenious Electronic Warfare (EW) methods, it can also be detected as to what is the business of the hostile UAV and can be hacked into. It is in this context that the knowledge of characteristics of the UAV is important. The UAV has multiple electronic signatures which make it vulnerable.

Radar Detection. All UAVs, small or big have a radar cross section. Of course, with a small radar cross section and using under

the radar horizon low level flying tactics, the UAV tends to avoid detection. However, it does not mean that it cannot be detected. Continuous Wave (CW) doppler radars with phased arrays can detect high speed gun and mortar shells at more than 50 km away. Such radars can detect UAVs of most variety. Hence the existing Weapon Locating Radar grid must be dual tasked for location of hostile UAVs also.

Optical and Thermal Tracking. The time tested, simple and effective optical tracking method should not be discounted. One can use instruments like Long-Range Reconnaissance and Observation System (LORROS) and other optical systems to see and track hostile UAVs. These optical trackers could be part of a mobile/static observer network like any other AD system. The thermal signature of an Internal Combustion (IC) engine powered UAV can be detected by any thermal imager due to the high thermal contrast of the UAV engine against the background of the sky.

Passive and Active Tracking. In a very broad sense, locating any hostile UAV can be done either passively or actively. However, it has to be timed and cover a wide area as per threat assessment. Passive location systems will have to be the primary means of detection. An active system must zero on to the hostile UAV based on the pointers provided by the passive system. It should further be able to act in concert with offensive systems to destroy / degrade hostile UAVs. The passive and active systems must be deployed in a grid with adequate communications to be responsive to situations. UAV detection, surveillance and monitoring grids must be meshed with the existing AD surveillance system.

Destruction and Degradation of UAVs

General. Once a UAV is located and monitored, it can be destroyed or degraded, kinetically or non-kinetically. It can be tackled electronically or physically. Electronic methods are easier and effective options, specially against low flying electric powered UAVs which do not emit any thermal signatures. Against high level flying IC engine-based UAVs, physical and electronic options can be employed as per availability with equal effect. Both these options are discussed.

Electronic Degradation. Electronically every UAV can be interfered with. All UAVs have communication links to receive control

signals, send back data and receive GPS signals. These linkages can be jammed to degrade the UAV. Most UAVs have a safety feature which makes them return to base when their flying control signals are interfered with / broken. Once the control links are interfered, the UAV will return to base. Jamming the GPS receivers will render the UAV to go back to base or go awry. Interfering with the data channels will blind the UAV. A more sophisticated variance of this is 'spoofing'. Higher powered transmissions of frequencies than those used to control the UAV, or its payloads can be used to spoof and take over the UAV or even crash it to destroy it. There are methods available to do so.

Kinetic Destruction. Any UAV can be destroyed kinetically. The slow speeds of UAVs and their need to be persistent exposes them. Hence, they become vulnerable to kinetic / physical destruction by anti-aircraft guns, missiles or Directed Energy Weapons (DEWs). Larger UAVs and Balloons (tethered or untethered) are easy targets for existing AD systems once detected. Heat seeking missiles would be very effective against IC engine powered UAVs. The near space threat must be defeated physically with missiles. Lasers and high-powered microwaves can also be used against UAVs. Lasers can be employed to critically injure the UAV to make flying a difficult proposition. High powered microwaves will fry its electronics and render a UAV ineffective. There are also suggestions to use water cannons, nets and machine guns against low flying UAVs. However, these would be for really low flying objects. All in all, kinetic destruction of UAVs will be a 'horses for courses approach'.

Rules and Regulations

The UAV threat has assumed gigantic proportions since the sector is largely unorganised. Unless there are clear rules and regulations put in place and UAV operations come under a regulatory authority, very little knowledge will surface about the technologies and technical specifications of various UAVs. Clear rules, regulations and controls regarding UAV registration, usage, traffic, no fly zones, payloads allowed, communication protocols and so on will bring in transparency in the system. In turn, it will aid in detection and monitoring of UAVs in the hinterland, which will add to the effort of combating the hybrid and asymmetric threat. It will also go a long way in avoiding fratricide.

Anti Swarming

UAVs in a swarm are the new threat. Generally, UAVs in a swarm intercommunicate with each other. The swarm could be in an autonomous mode or in a controlled mode. In a controlled mode, the swarm would generally have one 'Queen Bee' controller. The swarm could be directed against one target or against multiple targets with each UAV in the swarm assigned to a task/target. A well-organised swarm is difficult to destroy physically, since destroying just one UAV or a few will not achieve the results required. It is best to electronically degrade the swarm by interfering with the intercommunicating system. If the controller or queen bee in the swarm can be detected, it should be targeted. However, it is easier said than done.

Effect on Own Operations

Many options are available to detect and neutralise UAVs and many more will come up in future. However, one of the most important issues is the effect such counter UAV operations will have on own air and electronic operations. The range of air operations include use of airspace by own aircraft, missiles, UAVs and Artillery. Care should be taken to ensure that counter UAV operations do not hinder own operations either during war or peace. Airspace management, frequency management, electronic silence and other restrictions will have a large role to play – not only in counter UAV operations but also in other routine operations. Hence command and control of counter UAV operations will have to be meshed in or be part of Air Defence operations in the larger scenario. Counter UAV operations can not be left in 'weapons free' mode lest they become fratricidal.

Conclusion

UAV operations are coming of age and the UAV threat is increasing by the hour. As the threat increases, the need to protect own forces and vulnerabilities against this potent game changing threat is also growing. However, counter UAV operations are at a nascent stage and are greenfield in nature. They are just surfacing and lack clarity in how to approach them. In any perspective, counter UAV operations must be a systemic approach and this must mesh in with existing Air Defence systems in the battlefield and with other civil systems which will evolve in future. [®]Lieutenant General PR Shankar, PVSM, AVSM, VSM (Retired) is a former Director General of Artillery. He is an alumnus of National Defence Academy, Khadakvasala, Defence Services Staff College, Wellington, Army War College, Mhow, Naval Post Graduate School, Monterrey and National Defence College, New Delhi.

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Evolving Geopolitical Developments in China: Implications for India

Maj Gen BK Sharma, AVSM, SM & Bar (Retd)®

Abstract

The upwards trajectory of China's geopolitics in the beginning of 2018 has flattened in the beginning of 2019. This may be the result of the US trade war with China, hiccups in the Belt and Road initiative or the geopolitical churning in Asia. The article illuminates the geopolitical situation and the implications it has for India based upon the author's travel to Chengdu and Tibet in 2018. The problems that China faces are seen in light of its internal dynamics and a prognosis made keeping in view developments in Tibet. With this background, the author looks at evolving Sino-Indian relations which include a yearning to enhance trade relations while being sceptic about growing strategic proximity between India and the US. The conclusive point made is that the Chinese look at the geopolitical issues purely from the prism of their core interests and seem to have hazy understanding of India's core interests and concerns. India needs to bridge this gap. Both credible deterrence and deft diplomacy are required for this.

Introduction

he "One Belt, One Road" initiative is a concerted push to

expand China's global influence. This push has come up against the hurdle of President Trump's trade wars with China, as well as growing suspicions regarding the project by the cooperating countries that it is a disguised debt trap. At the same time South Asia is in the midst of a geopolitical churning as a result of a number of developments. China's efforts to increase its influence throughout Eurasia by the Belt and Road Initiative (BRI) of which the China Pakistan Economic Corridor (CPEC) is a major component, impacts India in particular as the CPEC makes China a major stakeholder in Pakistan's stability. Increased Chinese civil and military presence in Pakistan is inevitable. At the same time India's efforts to work with South and Southeast Asia; attempts by the United States to recalibrate its own grand strategy to address new power dynamics across the arc of Asia from the Pacific to the Indian Ocean and the US military drawdown from Afghanistan are all churning factors. These shifting dynamics carry within them the seeds of contestation which has implications for India. Despite their developmental similarities, and substantial and growing trade relations, China and India's bilateral strategic rivalry means that they have competing priorities in the arena of international relations. They broadly agree on matters relating to the international economic system, energy security, and the environment. However, they have differences when it comes to matters of non-proliferation, Asian security, regional stability in Southern Asia, and security in the global commons.

The Year of the Pig and Xi Jinping's Credibility

2019 is the "Year of the Pig" in the China. In the Chinese Zodiac the pig is believed to be a symbol of optimism, enthusiasm and hardwork. However, fissures are appearing in Chinese optimism in the BRI. The Chinese are enthused with 'China Dream' that inter alia posits rejuvenation of China as a great power by 2049. For this, the BRI is de-facto China's grand strategy, CPEC its flagship project and President Xi Jinping is the main architect. The US is perceived as a threat to the rise of China and India and Japan as the principal players with proclivity to bind with Washington to balance China. China perceives the US trade war as part of the US ploy to stymie its rise. So the primary focus for China for the moment is how to deal with an intransigent Trump Administration on priority. Much of President Xi Jinping's credibility is predicated on the prognosis of the BRI. There are concerns that a pushback on the BRI will cause socio- economic stress in the country and impinge on the credibility of President Xi Jinping as a core leader. Internally, one of the principal concerns of China is the radicalization of the Muslim population in the Xinjiang province and the international condemnation it has attracted on human rights violations in dealing with that. Externally China's primary concern remains the future trajectory of Sino - US relations.

Internal Dynamics

Domestic Concerns

There is considerable internal debate on President Xi Jinping's decision to abolish the term limit and do away with Deng's 'Collective Leadership Model', effect of the US economic sanctions on China and social stresses, caused due to rapid urbanization. Barring some elite netizens, the majority believe, that leadership continuity is an imperative to weed out corruption and marginalize groups resisting reforms. There is a belief that President Xi Jinping will seek one more term and then hopefully hand over power to a new leader. There is a view that nomination of a successor well in advance has its own flaws, such as, creation of coteries, cliques, parallel power centres and jostling for influence. There are concerns that sustained economic sanctions could bring down China's Gross Domestic Product (GDP), incrementally ranging from 0.3 per cent to 1.0 per cent. Such a reduction would entail loss of about 10 million jobs in the manufacturing sector and resultant displacement of workers mostly to urban centres. China believes that the US economic sanctions notwithstanding, it would remain the centre of gravity of the global supply chain. In its assessment the sanctions are bound to hit American consumers and give jitters to the world economy. China intends to mitigate reduction in exports by enhancing domestic consumption.

Demography and Development

Presently, 60 percent of Chinese population lives in urban areas. Rapid urbanization has caused socio – economic strain in the society. Most of the government schools in urban areas are overcrowded, with a teacher to student ratio reaching 1:80, and these schools are unable to accommodate more students, as a result they are being diverted to poorly run and costly private schools. There is acute housing crisis for the young, who earn on an average US \$400 a month and support their parents and in most cases even grandparents. The bank mortgage on house loans is extremely high; per person- 25 percent for one house, 50 per cent for two houses 75 per cent for three houses.

About 400 million people have transformed from agriculture sector to industry. President Xi Jinping is focussing on developing industry in the relatively less developed Western and Central parts of

China. There is a nation - wide campaign of mapping the poorest clusters in every province and allocating resources for their development. Relocation of people from far flung hamlets to new model cluster villages is underway. There is a drive for collection of more taxes from rich provinces and invest money in the less developed provinces. A new 'Rural-Urban Integration Model' forms the basis of development through rapid transport corridors and satellite townships. Villagers are being encouraged to create land banks and pool their resources to develop farmhouses and commercial enterprises to generate and share profits for improving living standards. Suburbs of major cities have a number of model villages, farmhouses, restaurants, recreational and conference facilities. The urban people visit these facilities to transact business, as well as experience village life.

Consolidation of Communist Party of China

China's Communist Party (CCP) has 90 million members. CCP branches exist down to village level. Senior party members are mandated to identify potential party candidates based on their talent, skills and behaviour. The newly introduced 'Social Credit System' effectively monitors the ideological orientation and behaviour of people. After evaluating their performance, they are granted party membership. Nomination papers are scrutinized and endorsed by select committees, before participation in elections. There is a proper election system for entry into committees at the district, prefecture, province and central level. Chinese ensure that top leadership rises from grass-root levels, village, town, county, prefecture, provinces, under a very well defined appraisal system. President Xi Jinping started his career as deputy of a county. The party and the administration work in tandem to jointly plan and execute development projects. Restructuring of CCP by President Xi Jinping has rendered party factions such as the Youth Communist League, Princelings, Shanghai Gang (Jiang Zemin clique) more of a myth. There is a well-streamlined system of addressing grievances. The constitution permits people to hold protests albeit with prior permission from the police. The aggrieved people can address their complaints to the administration and CCP committees up the chain. 'Inspection and Discipline' committees are effectively dealing with the grievances and disciplining erring officials and party members.

Developments in Tibet

The capital of Tibet Autonomous Region (TAR) Lhasa, can be visited only through Chinese travel companies, who conduct select groups of foreign tourists after obtaining permit from the Foreign Office. The connectivity along the Central Highway and Qinghai is through Qinghai-Tibet Railway (QTR) to Namtso Lake. Tibet figures prominently in China's strategic calculus: as it is the water tower of Asia, rich in resources, and shares vast borders with India, Nepal and Bhutan. China can use water and the disputed border as a strategic leverage vis-à-vis India. China has adopted a two-prong strategy to assimilate Tibet, i.e. firstly, the massive development of the region and the second, social re-engineering of the Tibetan population. China has developed massive multi-modal connectivity in Tibet. Gonga (65 km from Lhasa), is a modern airport astride Tsangpo River; with frequent flights to different parts of China. There is a regular international flight from Lhasa to Kathmandu. China is funding the construction of Nepal consulate in the Norbulinka complex, where reportedly the old Indian mission was housed before the annexation of Tibet by China. The airport has multiple runways and a portion of the airfield is used for military aircraft. The Central Highway connects the airport with Lhasa town across a 2.5 km long bridge system and a 2.5 km long tunnel system over the Tsangpo River. There are about seven passenger trains from Golmund (Qinghai province) to Lhasa (13 hours journey) and about three from Lhasa to Shigatse (less than three hours travel time), besides several goods trains. People from seven cities in China can travel by train to Lhasa. These trains are painted in disruptive olive green colour, probably keeping their military usage in mind. Naggu (the mother logistic base in Tibet) is on this line with a number of goods sidings. It is becoming the hub of economic activities in the Tibetan plateau. The Central Highway is being developed into an Expressway. There are a large number of resting and fuel stations on the way. Stringent accident prevention and rescue facilities are in place at regular intervals. Tourist companies have installed cameras in cabs and drivers are periodically advised to watch speed limits and halt for rests. The mountains in the northern Tibet are ideally suited for conducting third stage acclimatization of troops and for operation-oriented training for contingencies in the super high altitude region. The road can easily carry two-way heavy and long containers/prime movers. Wi-Fi and mobile connectivity exists in every nook and corner of Tibet.

Lhasa city though having traditional temples and monasteries wears a modern look as it has pubs, discothegue and departmental stores, selling international brands. The modern look is primarily conceived to influence the local people by giving them access to good guality of life, medical facilities and job opportunities so that the traditional lifestyle could be manipulated. Also, the life span has increased from 40 years, a few decades ago, to about 70 years and most of the youth are gainfully employed in airport security, local police, and administration and in the tourism sector. As part of social re-engineering and population control drive, about 20 percent Hans have settled in Tibet. Most of the villagers and nomads have been settled in model village clusters. Schooling till 12th standard is compulsory and Mandarin is compulsory from the first class level and is a criterion for getting government jobs. In fact, majority of youth in Lhasa now speak Mandarin and lure for Tibetan language is fading. Thus amidst the razzle-dazzle of modernity, Tibetan Buddhists feel a major spiritual deficit and a loss of inheritance. Chinese consider Dalai Lama a splitist for his demand of Greater Tibet that would entail re-constituting the boundaries of four existing Chinese provinces or autonomous regions, Sichuan, Qinghai, Gansu, and Yunnan. Such an idea of redrawing the boundaries on the ethnic lines is deemed as being secessionist and hence it is a Red Line for the CCP leadership.

CCP has done away with the system of adopting Lamaism at a young age. The children cannot go to seminaries till they have acquired formal education unto the 12th standard (18 years of age) in the government schools. Also, Chinese have put their own people in the management of Buddhist shrines, who provide a strict oversight on how these shrines are run. China thinks this is necessary to control corruption in the monasteries. The effect of social reengineering is manifest in the streets of Lhasa, where more youth are attired in swanky dresses playing with their smartphones than dressed in traditional costumes with their fingers on the beads.

Evolving Sino-Indian Relations

Post the Wuhan Summit, China has decided to whip up interaction with India at all levels with a view to gauge and shape India's perceptions. While they respect India's resolve to maintain strategic autonomy, the scepticism about growing strategic proximity between India and the US persists. China perceives that signing of Logistics Exchange Memorandum of Agreement (LEMOA), Communications Compatibility and Security Agreement (COMCASA) and possibly Basic Exchange and Cooperation Agreement (BECA) in the near future is bound to make India and the US de-facto strategic allies, which would be inimical to China's interests. China, therefore, seeks to improve relations with India, lest it outrightly falls in the US orbit. Also, China is keenly watching how India and Russia steer their strategic relations and execute recent defence deals in the face of Countering America's Adversaries through Sanctions Act (CAATSA) imposition. In the Chinese view, India wields considerable influence in South Asia and inter alia resorts to coercive strategy, particularly with Nepal, Sri Lanka and Maldives. They felt that India tried to intimidate the outgoing regime in Maldives but without much avail. China would keenly watch how India deals with the new regime in Maldives. There are concerns about politico - economic stability in Pakistan. Given Pakistan's sensitivity vis-à-vis India, there is unlikely to be any significant policy shift in Beijing on Pakistan, which has become a lynchpin in Beijing's South Asia/Indian Ocean Region strategic calculus. There is a yearning to enhance economic engagement with India, particularly on extension of Nathula trade route to Kolkata, China - Nepal - India Economic Corridor, Bangladesh–China–India–Myanmar (BCIM), connectivity from Kunming to Assam, export of Darjeeling tea and expansion of item list for the border trade.

Conclusion

The Chinese look at the geopolitical issues purely from the prism of their core interests and seem to have hazy understanding of India's core interests and concerns. They candidly admitted the need to interact frequently with India's strategic community to develop a balanced perspective on India. The evolving geopolitical scenario demands that Beijing focuses on the US challenge and avoids any overt confrontation with India. However, the ongoing thaw in the bilateral relations notwithstanding, the Sino-India relations will continue to be characterized by three Cs; Cooperation, Competition and Conflict. China is cognizant of India's growing economic heft and resolve to protect its core interests. Realpolitik on the part of China demands a tactical adjustment to steer relations with India to a manageable level so that the American challenge is mitigated.

South Asia / Indian Ocean Region (IOR) is virtually the centre of gravity of China's BRI. The successful completion of CPEC, China - Nepal Economic Corridor, China Myanmar Economic Corridor, Kyakphu port in the Bay of Bengal, Gwadar port in the Arabian Sea and critical infrastructure in Bangladesh, Sri Lanka and Maldives (the Maritime Silk Road signatories) is bound to alter the strategic landscape of the region to China's advantage. India and China will compete for domination of resources, location and influence. Structural factors in the relationship suggest that Sino-Indian relations will be marked by intensified competition. There is a widening gap in the comprehensive national power of India and China. Beijing is constantly gaining a competitive advantage in the strategic balance vis-a-vis New Delhi. India needs to have a nuanced understanding of the new "modus vivendi" with China. It should be deft in its assertions to make China understand and heed India's core interests and sensitivities. In the meanwhile India should use the window of heightened strategic brinkmanship between China and the US to build capacities to reclaim influence in the strategic neighbourhood and acquire a favourable strategic posture vis-à-vis China. Concurrently, measures to build strategic trust. complementarities and interdependence with China must continue with dignity and sincerity. Finally, India must heed the Theodore Roosevelt maxim, "speak softly and carry a big stick; you will go far". For India this implies achieving credible deterrence and showing deft diplomacy in engaging China.

The Changing Dynamics of Global Terrorism

Dr Ajai Sahni®

Abstract

Commentary on terrorism has underestimated the role of sponsoring states and great power destabilisation, giving rise to gross errors of assessment. Mythmaking and a range of distortions have resulted in flawed policies and irrational interventions. Deliberate provocation of hysteria about the 'rising threat of terrorism' is contrafactual and has been used as a bogey to justify unilateral interventions by great powers, inflicting appalling human costs. The reality is, global Islamist terrorism is past its 'half-life' and is declining. Nevertheless, the circumstances that have animated this, and earlier waves of terrorism, persist and, on many parameters, have worsened, creating the likelihood of future and potentially more disruptive waves of terror.

errorism has, for decades now, been wrongly assessed as a

movement against states by non-state entities, using tactics of irregular warfare, particularly the intentional and often indiscriminate targeting of civilians / non-combatants. The focus, consequently, has been on various terrorist formations that execute kinetic operations against target societies and states. Such a paradigm of assessment has led to tremendous errors of response and strategy, undermining the target state's reactions to the challenge of terrorism in all its *avatars*, often with catastrophic consequences. The point that has been substantially neglected within this framework of analysis is the near-ubiquitous role of sponsoring states in terrorist movements that have succeeded in attaining a certain scale and lethality, and in absence of any effective action against such supporting states, tactical responses against terrorist groups can be frustratingly unproductive.

Crucially, the role of the 'great powers' through the Cold War, and of various states, most prominently the United States (US), Pakistan and the West Asian regimes, and also increasingly other players, after the collapse of Soviet Union has been pivotal in creating and sustaining terrorist movements.

There has, moreover, been a persistent orchestration of hysteria and an absence of objectivity in evaluation of terrorist movements. In particular, a great deal of analytic misdirection and mythmaking has characterised the terrorism / counter-terrorism discourse across the world. Among the most significant and obvious cases in point, and one that illustrates the diverse patterns of distortion that have long afflicted assessments, have been the Islamic State (IS), also Daesh, formerly the Islamic State of Iraq and al Sham (ISIS), also Islamic State of Iraq and the Levant (ISIL), which have throughout been based on distortions and deliberate falsification. IS itself consistently exaggerated both its excesses and its victories. The truth is, it rampaged across regions of disorder and its initial 'conquests' were of areas under the control of other fragmented non-state armed formations. Where it confronted state forces, as in Mosul, it found an adversary terrorised by the wide propagation of videos documenting tortures, crucifixions and mass executions, and unwilling to defend Sunni majority areas. The most dramatic instance of this was Mosul, where a state force of two Divisions (30,000 men), armed to the hilt with tanks, armoured vehicles, artillery, attack helicopters and a more than sufficient arsenal of small arms, simply abandoned their weapons and fled in the face of a tiny rag tag bunch of under 1,500 Daesh fighters, who rode into town in open pickup trucks.¹

However, the moment IS hit the sectarian (Shia) and ethnic (Kurdish) fault lines, its advances stopped and the performance of Daesh fighters has been far from exemplary wherever they met with any determined opposition.

The myth of Daesh power also augmented when an everexpanding coalition of Western and Arab states engaged in a halfhearted and ambivalent fight against the terrorists, even as it sought to provide the group, and various other armed formations, with operational spaces and capabilities to weaken the Assad regime in Syria. Western and Arab ambitions to secure 'regime change' in Syria substantially fuelled Daesh power and terror. Lieutenant General David Deptula, who ran the US air war against Al Qaeda and the Taliban in Afghanistan, argued in September 2014, "ISIL can be paralysed from the air rapidly", but that the coalition air campaign against the group was a "drizzle", whereas what was needed was a "thunderstorm".² Meanwhile, convoys of oil tankers transported crude oil from Daesh-held territories into Turkey, where they were processed and exported, generating millions of dollars a week for the terrorist group, allegedly with the direct involvement of President Recep Tayyip Erdogan's family, as well as through Kurdish held areas.³

To distant analysts, however, it appeared that Daesh had the capacity to resist the combined force of a global alliance of some of the most powerful nations of the world. This myth was quickly exploded with the unambiguous entry of Russia into the fight in Syria, and the Daesh legend and state quickly disintegrated in the face of a relentless succession of reverses. Significantly, Russia's entry coincided with a chain of Daesh or Daesh inspired attacks against Western targets, and, abruptly, the resolve and response of the Western alliance was also transformed, with far more effective action directed against IS.

It is necessary to recognise, here, the centrality of Western fatalities to any assessment of the 'international' dangers constituted by a terrorist formation. As long as terrorists inflict fatalities in states outside the Western cultures, movements are dismissed as local, as consequences of domestic mis-governance or 'state terror', or as 'freedom struggles'. The moment significant Western fatalities occur; we discover the overwhelming menace of the 'global threat of terror'. Individual incidents are also weighted very differently in terms of who is killed. An exceptionally dramatic example of this was the Charlie Hebdo attack, in which 12 French citizens were killed in Paris on 07January 2015. World leaders descended in unprecedented numbers on Paris, to march, hand in hand, at the head of a mammoth crowd chanting "I am Charlie Hebdo", to demonstrate sympathy, solidarity and their will to fight against terrorism.⁴ The world media - led, naturally, by the dominant western media - went into frenzy about the threat of 'Islamic terror'. Significantly, between 03 and 07 January 2015, (the latter date coinciding with the Charlie Hebdo incident), Boko Haram reportedly slaughtered "over 2,000" people at Baga, in north eastern Nigeria, but few are even aware of this incident.⁵

Once Daesh had suffered a succession of defeats, losing the entire territory it once held under its quasi-state or deemed 'caliphate', another pattern of mythmaking emerged, once again feeding exaggerated and hysterical fears across the world: the idea that an even more dangerous *avatar*, IS 2.0 and even, in later writings, IS 3.0, had come into existence, constituting an even "more virulent threat"⁶ to global peace than it did when it controlled over 100,000 square kilometres of territory at peak, and exercised control over an estimated 12 million people.⁷ These 'hip' labels catch on quickly, particularly in much of derivative and uncritical non-Western commentary, and few question how the 'tattered rump'⁸ of a defeated terrorist organisation becomes version '2.0' or '3.0', after having lost its sway over vast territories, populations and resources and, crucially, after being widely delegitimised by a humiliating route?

Moreover, Daesh was, no doubt, a terrorist organisation; but its identity cannot be exhausted by this description alone. Its activities covered a vast array of phenomena – insurgency, civil war, resistance against foreign forces, war crimes, ethnic cleansing, genocide, slavery, mass rape of women and children, mass torture – many of these, no less, and some perhaps more, horrific than terrorism; but each distinct from the other. To simply label all its activities and motives, as well as the circumstances, and in some measure provocations, that may have fuelled this dynamic, is to falsify reality.

Against the continuing and strident commentary that warns us about the 'rising threat of global terror', it is useful to look at actual trends. According to the Global Terrorism Index (GTI) 2019, deaths from terrorism fell for the fourth consecutive year in 2018, down 52 per cent from their peak in 2014. The most significant element in this improvement came as a result of military successes against Daesh and Boko Haram, with the total number of deaths falling by 15.2 per cent between 2017 and 2018 to 15,952. The largest fall occurred in Iraq, which recorded 3,217 fewer deaths from terrorism in 2018, a 75 per cent decrease from the previous year. Deaths attributed to Daesh declined 69 per cent, with attacks declining 63 per cent in 2018. IS had an estimated 18,000 fighters left in Iraq and Syria, down from over 70,000 in 2014. Somalia recorded the second largest reduction in deaths for the second year in a row, with 824 fewer deaths recorded than in 2017.⁹
The fall in the total number of deaths from terrorism was mirrored by a reduction in the impact of terrorism around the world, with 98 countries recording an improvement on their GTI score, compared to 40 that recorded deterioration.¹⁰

Crucially, the number of deaths from terrorism fell for the second successive year in Europe, from over two hundred in 2017 to 62 in 2018. Only two attacks killed five or more people, compared to 11 in 2015, which was the peak year for terrorist activity in the region in the last decade. The total number of terrorist incidents also fell by 40 per cent, to 245 in 2018. Western Europe recorded its lowest number of incidents since 2012, with 183 incidents. The number of countries in Western Europe recording a terrorism-related death in 2018 fell from nine to five.¹¹ Very significantly, there were no recorded attacks by a known terrorist group in the US through 2018. Out of 57 recorded terrorist events, 28 were committed by far-right extremists, 27 by unknown perpetrators, and two by jihad-inspired extremists.¹²

Indeed, far-right political extremism and terrorism appears to be the greater threat in the West today, and constitutes an increasing danger across the world – with India at significant risk as well. GTI 2019 notes that far-right attacks increased by 320 per cent over 2014-18 in North America, Western Europe, and Oceania. This trend has continued into 2019, with 77 deaths attributed to far-right terrorists till September 2019. The number of arrests linked to rightwing terrorism in Europe in 2019 increased for the third year in a row.¹³ In a continuing process of analytic misdirection, however, counter-terrorism research and commentary continues to be dominated by the 'rising' threat of Islamist terror, and by groups such as Daesh and al Qaeda.

It is essential to reiterate, moreover, that most currently dominant international Islamist terrorist formations and movements are substantially a product of acts of commission or omission by the Western powers – principally the US – and their allies. It is useful to remind ourselves that the countries that experienced the greatest upheavals of the past decades as a result of destabilising external interventions, and of the West-backed Arab Spring, also had the largest increases in the impact of terrorism.

Far from addressing the issue through coherent counterterrorism strategies, it appears that the US (with or without the support of its traditional allies) continues to use terrorism - and often, just the bogey of terrorism - to justify a range of unilateral actions across the world, most of which have had dubious motives and manifestly destabilising consequences, and have inflicted appalling human costs. Recent US actions against Iran - and particularly the assassination of Maj Gen Qasem Soleimani - suggest that little has been learned from the disastrous adventurism of the past, particularly in Iraq, Syria and Libya, among others, as the American trajectory remains unchanged. The potential for further destabilisation of the vulnerable regions of the world is limitless, and demands that US and Western assessments of the threat of terrorism be examined very closely and critically, to unbundle the endemic conflation of terms, and to separate the real threat of terrorism from other security risks, strategic challenges, and the many 'great games' that are often mixed in, as well as from the range of deceptions that are intentionally used to muddy the waters.

A priority within such an examination is the idea of 'global networks' of terrorism, or specifically, of al Qaeda and Daesh. Both these groups have (quite naturally) sought to project a larger than life image of their power and influence by claiming attacks and affiliations far and wide, often on the most tenuous evidence. It is essential to examine the conditions necessary for conceding credibility of such claims. Networks, affiliations and linkages between terrorist formations or actions exist only where one or more of three factors are found: a clear transfer of command and control; the transfer of measurable resources, manpower or technology: or the augmentations of capacities and capabilities from the parent formation to the 'affiliate'. In an overwhelming proportion of cases where 'affiliation' is claimed, however, none of these factors are in evidence. At peak, a significant number of terrorist groups across continents claimed affiliation to Daesh. What was often seen. however, was simply the buying out of whole sections of al Qaeda, the Tehrik-e-Taliban Pakistan, the Taliban, Boko Haram, etc. By and large, these groups were already engaged in terrorist activities in their theatres of operation, and they continued with such activities more or less independently, with little or no augmentation of capacities, movement of cadres or transfer of resources. Essentially. the Daesh label and flag, at this stage, was thought to confer greater legitimacy among a particular target population, and attracted infinitely greater media attention - often providing weak and marginal local formations the 'oxygen of publicity' they sought. This, however, also had unintended consequences. The revulsion, anger and fear Daesh actions had inspired across the world often meant that state counter-terrorism agencies dedicated disproportionate resources to any formation thought to be connected, however remotely, to IS, resulting in decimation of these groups in many theatres of conflict.

The core of power for a terrorist group and its capacity for indoctrination rests on the propaganda of the deed. Here, al Qaeda and Daesh strategies diverged dramatically. Al Qaeda orchestrated spectacular acts of catastrophic terrorism - among others, the US Embassy bombings; the attack on USS Cole; and the greatest of all, the 9/11 attacks. Daesh could never reach this level of organisational efficacy and relied, instead, on dramatic acts of apparently extraordinary cruelty and destruction,¹⁴ widely advertised through all means of communication. This created an immensely larger than life image of its power, based on an exaggeration of its own cruelty and battlefield victories. Thereafter, its growth was defined by wartime 'successes', particularly the fall of Mosul and its rampage across a vast (largely uninhabited desert) territory. The loss of these territories, the visible string of humiliating defeats, the surrenders of large numbers of cadres, all these have discredited both Daesh and al Qaeda. While occasional acts of spectacular terrorism may keep a trickle of recruitments going, and opportunities for local revival may arise as a result of state collapse, or of great and external power mischief, most 'international' terrorist groups, existing and those that may rise in the foreseeable future, are likely to have a rather short half-life.

The reality is, the Islamists are on the wrong side of history. The essential challenge is to contain the scale of damage they are able to do before their inevitable defeat. Their imminent failure is seeded in an essential incomprehension of the nature of power, which they have reduced to the demonstration of primitive brutalities. Mass executions, enslavement, torture and the ritualistic murders that were televised across the world by Daesh, for instance, may create the illusion of power; may, indeed, establish local dominance, but these have little to do with the contemporary dynamics of national or global power.

Moreover, while the purported Islamist ideology may result in a false unity of purpose, the reality is that the assumed commonalities under this conceptual rubric are deeply misleading. The overwhelming motivation of those who join contemporary militant and terrorist Islamist movements tends to be local or personal, and the adherence to the Islamist flag is essentially a consequence of geography, opportunity and, often, subjective and historical accident. State failure, external state interventions and a power vacuum are often decisive in the rise of various movements of violence, and the adherence to a particular ideology is largely a matter of location and demography. Crucially, only a tiny core of adherents tends to be ideological, and motives for joining terrorist movements are widely varied, often idiosyncratic. This is why perceived victories of a terrorist formation result in a surge of support and recruitment, while a succession of defeats sees the quick falling away of all but a small kernel of 'believers'.

Crucially, enduring power today is based overwhelmingly on a sustainable complex of economic, scientific, technological base and intellectual capacities. Borrowed, gifted, looted or purchased technologies cannot be the basis of lasting power - this is a reality that terrorist formations and, indeed, most aspiring or disruptive states, fail to comprehend. While primitive brutalities can and do feed the illusion of power, they cannot consolidate real power. Terrorist formations lack the capacities to establish a lasting network of institutions and capabilities, as do many of their lesser sponsoring states. The 'great powers' - those who have provided the technical, technological and sometimes financial resources – directly or through other mediating powers - during early phases of a terrorist movement, have quickly found themselves targets of the very movements they saw fit to support, even as the geopolitical goals these were supported for have tended to prove elusive. At this stage, these major powers have deployed overwhelming resources against these 'international' terrorist groupings and the latter have, in the main, experienced rapid disintegration. While exceptions, such as the Taliban and its affiliates in Afghanistan, suggest a different dynamic, this is not a consequence of the tenacity or vitality of such groups but rather of persistent strategic errors in addressing the role of external state players - in this case, Pakistan.

It is significant that many of the traditional state sponsors of Islamist terrorism are gradually, sometimes fitfully, revising their longterm strategies to abandon this tool and withdraw support from various terrorist formations and other sponsoring states. Saudi Arabia¹⁵ and various West Asian states are certainly moderating their support to international terrorist formations,¹⁶ and particularly to Pakistan, the country that has long acted as their cat's paw, though they remain embroiled in proxy sectarian wars within their own region.¹⁷

Modern trends in terrorism have broadly been seen to follow cyclical patterns,¹⁸ and the Islamist terrorist scourge appears to be past its 'half-life'. Residual risks persist, of course, and significant regions remain afflicted by the remnants of groups that have tormented the world over the past decades. There has, however, been a progressive de-legitimisation of Islamist terrorism among the larger Muslim community, as well as some decline in state support over recent years, and it is not unreasonable to expect that the worst of this 'wave' is already in the past.

The circumstances that have animated past waves of terrorism, however, persist and, indeed, potentially and dramatically worsen, with greater global inequality and inequity, climate change, "technological unemployment"¹⁹ and the crisis of "useless people",²⁰ the consolidation of conditions of corporate and technological feudalism, and the progressive marginalisation of large proportions of the global population, as well as of regions and states at the poorer end of technological capability. Inevitably, new waves of terrorism will rise under the integument of some new bundle of grievances or ideology. At the same time, there has been a rising tide of irrationality, extremism and inflexion toward authoritarianism in politics, which can only contribute to a further trend towards destabilisation and increasing popular resentment.

New waves of terrorism are, consequently, likely to arise and the coming avatar is potentially even more disruptive than the past, as the terrorists of tomorrow pursue access to weapons of mass destruction. While there has been a great deal of commentary on the possibilities of nuclear terrorism, it is, in fact, bio-terrorism that holds far greater dangers. The Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism thus observed that the threshold of access is much lower for biological weapons and their "threat is greater than the nuclear".²¹

These dangers are compounded further by the rising potential of cyber-terrorism, as global cyber-integration augments, and smart cities rise, often without adequate protection of their cyber-networked infrastructure, and growing personal and service cyber-dependencies. With an estimated 30.73 billion devices now connected and expected to reach 75.44 billion by 2025²², the potential for destructive disruption can only be imagined, and will continue to increase exponentially.

These risks are further enlarged as terrorism continues to dovetail into state-backed misadventures in an evolving and deeply destabilising paradigm of "unrestricted warfare", within which "nothing is forbidden" and the distinctions between soldier and civilian vanish.²³ Conventional warfare between states, and particularly among the more powerful and advanced states of the world, is a receding likelihood, as apocalyptic weaponry proliferates. States are, consequently, likely to pursue their perceived geopolitical interests through a widening range of 'operations other than war' – including terrorism – exploiting the growing vulnerabilities of target states in a rapidly transforming world. Predicting these patterns of concealed assault and protecting against them will be the gravest challenge for states, particularly within an environment where leadership remain substantially unaware of the complexities of this new paradigm of warfare.

Endnotes

¹ See, for instance, "The Capture of Mosul: Terror's New Headquarters," *The Economist,* June 14, 2014, https://www.economist.com/leaders/2014/06/14/terrors-new-headquarters.

² "A thunderstorm not a drizzle of air power needed against ISIL", ABC Lateline, September 22, 2014, https://www.abc.net.au/lateline/a-thunderstorm-not-a-drizzle-of-airpower-needed/5761934.

³ Fazal Hawramy, Shalaw Mohammad and Luke Harding, "Inside Islamic State's Oil Empire: how capture oilfields fuel ISIS insurgency," *The Guardian,* November 19, 2014, *The Guardian,* https://www.theguardian.com/world/2014/nov/19/-sp-islamic-state-oil-empire-iraq-isis.

⁴ See, for instance, Kim Willshir, Anne Penketh and Alexandra Topping, "Paris welcomes world leaders to solidarity rally against terror attacks," *The Guardian,* January 11, 2015, https://www.theguardian.com/world/2015/jan/11/paris-world-leaderssolidarity-rally-terror-attacks.

⁵ See, for instance, Monica Mark, "Boko Haram's 'deadliest massacre', 2,000 feared dead in Nigeria," *The Guardian,* January 10, 2015. The number of fatalities were widely disputed, but the point is that, at the time of the incident, it was believed to have resulted in 2,000 or more dead, and yet found little resonance in the then strident global discourse on 'Islamic terrorism'.

⁶ See, for instance, Richard Sindelar, "ISIS 3.0: The More Virulent Threat," Lobe Log, April 4, 2019, https://lobelog.com/isis-3-0-the-more-virulent-threat/

⁷ Seth G. Jones, et. al., *Rolling Back the Islamic State*, Rand Corporation, 2017, p. 273, https://www.rand.org/pubs/research_reports/RR1912.html.

⁸ I borrow K.P.S. Gill's description of the defeated Khalistanis from "Endgame in Punjab – 1988-1993", *Faultlines: Writings in Conflict & Resolution*, Volume 1, May 1999, p. 69.

⁹ Global Terrorism Index 2019, Institute for Economics & Peace, November 2019, http://visionofhumanity.org/app/uploads/2019/11/GTI-2019web.pdf.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ The executions, rapes and tortures that Daesh relied on were not, in fact, all that 'extraordinary'. Most terrorist and insurgent groups have engaged in similar brutalities. The distinguishing mark of Daesh's use of its atrocities was their transformation into spectacle, captured on video and disseminated through sophisticated social media channels.

¹⁵ Lori Plotkin Boghardt, "Is Saudi Arabia's Counterterrorism Approach Shifting?", Policywatch 2913, Policy Analysis, The Washington Institute, January 9, 2018, https://www.washingtoninstitute.org/policy-analysis/view/is-saudi-arabias counterterrorism-approach-shifting.

¹⁶ Bethan McKernan, "More than 40 Islamic countries just met and vowed to wipe terrorism off the map", Independent, 27 November 2017, https://www.independent.co.uk/news/world/middle-east/islamic-countries-

terrorism-destroy-isis-muslim-riyadh-saudi-arabia-iran-egypt-syria-lebanon-a8077986.html.

¹⁷ Jonathan Marcus, "Why Saudi Arabia and Iran are bitter rivals", BBC News, September 16, 2019, https://www.bbc.com/news/world-middle-east-42008809.

¹⁸ David Rapaport suggests a 40-year cycle for each 'wave' of 'modern terrorism', with the current 'wave' impelled by 'religious terrorism' commencing in the 1980s. See, David C. Rapaport, "The Four Waves of Modern Terrorism," in A. Cronin and J. Ludes (ed), *Attacking Terrorism: Elements of a Grand Strategy*, Washington DC: Georgetown University Press, pp. 46-73.

¹⁹ John Maynard Keynes, "Economic Possibilities for our Grandchildren", Essays in Persuasion, New York: Harcourt Brace, 1932, pp. 358-373. Also at

https://assets.aspeninstitute.org/content/uploads/files/content/upload/Intro_a nd_Section_I.pdf.

²⁰ Karl Marx observed, "The production of too many useful things results in too many useless people." Economic and Philosophical Manuscripts, 1844, Third Manuscript, https://www.marxists.org/archive/marx/works/ download/Marx_Economic_and_Philosophical_Mauscripts.pdf. See also, Yuval Noah Harari, "The rise of the useless class", ideas.ted.com, February 24, 2017, https://ideas.ted.com/the-rise-of-the-useless-class/.

²¹ Graham and Talent, et. al., *World at Risk,* New York, Vintage Books, 2008, p.11.

²² "Internet of Things - number of connected devices worldwide from 2015 to 2025 (in billions), 2015-2025", *Statista Research Department,* November 14, 2019, https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/.

²³ Qiao Liang and Wang Xiangsui, *Unrestricted Warfare*, Beijing, Natraj Publishers, New Delhi, 2007.

[®]Dr Ajai Sahni is Executive Director, Institute for Conflict Management. He is also the Publisher & Editor of South Asia Intelligence Review.

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China, Pakistan Aerospace Connect

Air Marshal Anil Chopra, PVSM, AVSM, VM, VSM (Retd)®

Abstract

The JF-17 Thunder fighter aircraft, jointly developed by Pakistan and China, can be considered a showcase of Sino-Pak defence cooperation. Pakistan continues to be China's strongest ally. After dismemberment of Pakistan and creation of Bangladesh in 1971, Pakistan forged a formal strategic alliance with China in 1972. The China Pakistan Economic Corridor (CPEC) remains the 'crown-jewel' of China's Belt and Road Initiative (BRI). Pakistan continues to be a key element of China's 'string of pearls' policy to create sphere of influence around India. For Pakistan, China is a low-cost-highvalue deterrent against India. China helped Pakistan build its military-industrial complex, and Pakistan is the biggest purchaser of Chinese weapons. Aerospace has been the lynch-pin of Sino-Pak defence relationship. China helped Pakistan set up the Pakistan Aeronautical Complex (PAC). Pakistan today produces 25 JF-17 a year, and, with help of China, is looking for export markets in competition with India's Light Combat Aircraft (LCA). Pakistan Air Force (PAF) and Peoples Liberation Army Air Force (PLAAF) regularly conduct Shaheen series of joint air exercises. Close ties between PLAAF and PAF force Indian Air Force (IAF) to cater for a two front war. Pakistan is strong enough to be a spoiler and, in cahoots with China, could pose a substantial threat.

he JF-17 Thunder fighter aircraft jointly developed by Pakistan

and China, can be considered a show-case of Sino-Pak defence cooperation. Pakistan continues to be China's strongest ally. Their close relations date back to just after Sino-Indian war of 1962, when in 1963 Pakistan ceded to China 5,180 sq km of land in Karakoram region of north Kashmir¹ to appease China, and signed the Sino Pakistan Agreement. In return, China began providing economic and military assistance. After dismemberment of Pakistan and creation of Bangladesh in 1971, Pakistan forged a formal strategic alliance with China in 1972. In 1978, Chinese operationalised the Karakorum highway linking northern Pakistan with western China². China later became Pakistan's largest arms supplier. Today China supports Pakistan on Kashmir, Pakistan supports China on Tibet, Taiwan and Xinjiang. China's national strategic interest of getting a seaport and a highway close to the oil rich middle-east made it commit US\$ 46 billion in the Gwadar deep-water port and the road and rail corridor leading to it, called the CPEC. Long term plan is to lay an oil/gas pipeline from Gwadar to central China. CPEC remains the 'crownjewel' of China's Belt and Road Initiative (BRI). Pakistan continues to be a key element of China's 'string of pearls' policy to create sphere of influence around India. For Pakistan, China is a low-cost-highvalue deterrent against India. China helped Pakistan build its militaryindustrial complex, and Pakistan is the biggest purchaser of Chinese weapons. In the 10 years period (2008-18), China has supplied weapons worth over \$6.4 billion to Pakistan, with the US coming a distant second at \$2.5 billion³. Aerospace cooperation has been the lynch-pin of Sino-Pak relationship.

Evolution of Military Production Relations

In the early 1980s China was looking for partners and markets to buy its still low end products and platforms. Pakistan needed an ally to balance strong dominance of USA in their relationship. China initially helped Pakistan to upgrade the ordnance factory at Wah near Rawalpindi. China also allowed license production of MBT-2000 (Al-Khalid) tank which was essentially a Chinese variant of Russian T-90⁴. It also built a turnkey ballistic missile manufacturing facility near Rawalpindi. China is building the most advanced naval warships for Pakistan. China has also committed to supply Pakistan with eight new stealth attack submarines by 2028, four of which will be constructed in China and the remaining four in Pakistan⁵. Significantly, all these involve transfer of technology to Pakistan. China reportedly supplied Pakistan with nuclear technology including, perhaps, the blueprint for Pakistan's nuclear bomb. After India signed the 123 civil nuclear-agreement with USA, China agreed to set up two nuclear power stations in Pakistan.

Sino-Pak Aerospace Cooperation

The PAF is the 7th largest Air Force in the world and the largest in the Islamic world with around 410 combat⁶ aircraft. China started supplying PAF F-6 aircraft (air defence version of MiG-19) in 1965. A squadron of Harbin H-5, a Chinese version of Russian Illyshin IL-28, was formed in early 70s. China helped establish Pakistan Aeronautical Complex at Kamra in 1973. The complex is wholly owned by PAF with all appointments controlled by PAF Chief. In mid 1980s PAF received A-5Cs (Chinese MiG-19 ground attack variants) and Chengdu F-7s (Chinese MiG-21).

Pressler Amendment, 1990, banned most economic and military Pakistan after nuclear tests. USA assistance to froze F-16 deliveries and stoppage of spares for many years. Thereafter, Pakistan went whole hog to China for all its aerospace needs. In 2007, as a part of a joint-venture project. China rolled-out a 'designed' for Pakistan' fighter JF-17 'Thunder'7. Currently, PAF has 150 of these, and numbers will increase to 300 later. For long PAF was negotiating with China for 36 Chengdu J-10 'Vigorous Dragon' fighters (PAF designation FC-20), the tail-less delta wing with canards which Chinese claim comparable to JAS 39 and Dassault Rafale. The negotiations were called off in 2016. Six ZDK-03 Chinese AWACS have been inducted. 60 Chinese designed K-8 Karakorum intermediate jet trainers are currently in service and more are on order. PAF has also received four CH-4 recce-cum-strike drones which can carry up to 4 Precision Guided Munitions (PGMs) and reportedly have endurance of 30 hours. PAF has bought Chinese SD-10 (ShanDian-10) radar-guided, mid-range homing air-to-air missiles to equip the JF-17 fighters⁸. China has transferred 34 M-11, road-mobile, short range ballistic missiles (SRBM) with related technology, and manufacturing capability to Pakistan. Despite Chinese pledges to the contrary, it has continued to provide Pakistan with specialty steels, guidance systems and technical expertise in the latter's effort to develop long-range ballistic missiles. Hatf, Shaheen and Anza series of missiles have been built using Chinese assistance. China helped Pakistan develop nuclear warheads that directly contributed to Pakistan having nearly 150 nuclear warheads as on date.

Sino-Pak Success - JF-17 'Thunder'

The JF-17 Thunder or CAC FC-1 Xiaolong is a light-weight singleengine, multirole combat aircraft designed by China and produced jointly by Pakistan Aeronautical Complex (PAC) and the Chengdu Aircraft Corporation (CAC) of China. The aircraft can be used for aerial reconnaissance, ground attack, and air interception. This flyby-wire, 1.8 Mach fighter is powered by Russian Klimov RD-93 turbofan engine. China had contracted to buy 100 RD-93 engines from Russia for the FC-1 (JF-17), with an option to buy another 400°. It could later be powered by the Chinese indigenous Guizhou WS-13 engine. Aircraft has wide-angle Head Up Display, aerial refuelling, a data-link, and KLJ-7 doppler radar. The aircraft has an electronic warfare suite. It can carry 6,700 lb (3100 Kg) external load on seven hard-points. Weapons are mostly Chinese, and include the Gsh 23 PL-5 short-range air-to-air missile. LS-6 mm aun. 'Thunderstone' GPS-guided glide bombs, and YJ-12 supersonic and YJ-83 subsonic anti-shipping missiles. PAF maintains one squadron in the maritime strike role. PAF had ordered 600 Chinese PL-12 radar-guided Beyond-Visual Range (BVR) missile with a range of around 80 km. Chinese claim that missile is comparable to the American AIM-120 AMRAAM and the Russian R-77.

Aircraft costs have been kept low by borrowing technologies developed for Chinese J-10 fighter. The JF-17 was inducted in February 2010 and will soon become the backbone of the PAF. In 2015 PAC produced 16 JF-17s. Currently, Pakistan is believed to have capacity to produce 25 JF-17 per year¹⁰. Work share wise, 58 per cent of the airframe is Pakistani and 42 per cent Chinese. As of 2019, Pakistan operates around 100 JF-17s in five operational squadrons, plus a testing and training unit. Nearly 70 jets are of Block 1 Type, and remaining are Block Type II. The aerial refuelling got introduced in Block II. In May 2019, China has delivered the first overhauled multi-role JF-17 fighter jet back to PAF¹¹. The last three JF-17 Block II aircraft were delivered to the PAF in June 2019.

A Block III variant of the JF-17 is under development. Production of the Block III aircraft has reportedly started. It will have the Chinese KLJ-7A active electronically scanned array (AESA) radar, digital fly-by-wire flight control system, a new helmet mounted display, network-centric warfare capability, an infra red search and track system, new electronic warfare systems, weapons upgrade and a radar cross-section reducing 'pseudo-stealthy' airframe. The weapons will include new longer range and more sophisticated air to air missile, the PL-15 (150 km). The Block III is being called a 4th generation-plus fighter by some. The AESA and PL-15 combination with a 150km range would outrange all IAF aircraft till Rafale and SU-30 MKI upgrade enters service. The PAF plans to operationally deploy the latest variant in 2020. PAF plans to procure 50 Block III by 2024 and 26 two-seat JF-17Bs¹². Older JF-17s may also be upgraded to the Block III variant later. The earlier JF-17 variants were priced around \$15-28 million. The new Block III, will reportedly cost around \$32 million each. Since its induction in 2011, the JF-17 Thunder has accumulated over 25,000 hours of operational flying. The two-seat JF-17B is used for training, and is more effective electronic warfare platform with second seat having a weapons systems officer (WSO).

Three JF-17's have been sold to Nigerian Air Force in 2018, and have delivered at least six out of an order of eighteen JF-17Ms to Myanmar. China and Pakistan are aggressively trying to find possible export customers. Targeted countries are Algeria, Argentina, Bangladesh, Egypt, Iran, Myanmar, Malaysia, Morocco, Nigeria, Sudan, Sri Lanka and Zimbabwe. The reasonable price makes it attractive.

Tejas LCA and JF-17 Compete

Comparisons are being drawn between the JF-17 and India's Light Combat Aircraft 'Tejas' LCA Mk1. The Tejas uses many new technologies including large amounts of composite materials, advanced avionics and a unique aerodynamic configuration, and has a good potential to be expanded into variants. JF-17 is considered the aircraft of today and the Tejas the aircraft of tomorrow. The JF-17 Block II costs close to US\$ 25 million¹³, vis-a-vis the LCA Mk 1 around US\$ 28 million.

LCA Tejas has been manufactured by a single country, and is claimed to be the world's lightest supersonic fighter. Currently only one squadron with 16 aircraft has been formed. Aircraft production is still to be ramped up to 16 aircraft a year. The more comparable LCA Mk 1A will have its first flight only in 2021. The JF-17 is joint project between China and Pakistan. More than 100 are already flying. The aircraft production is now stable at nearly 24 aircraft a year. The Block III variant with a modern AESA radar is likely to induct in 2020. There are already two foreign customers flying the JF-17. JF-17 has been in service for last 10 years and serves in six squadrons at full operational capability, whereas the Tejas has only one squadron for four years. LCA and JF-17 are competing for the Malaysian contract. The two contenders have "fairly similar" performance. JF-17's Russian engine has maintenance and serviceability issues well known to Malaysia from their MiG-29 experience. LCA's General Electric F404 engine is much more reliable.

Beyond JF-17

Pakistan had chosen the Chinese Chengdu J-10B fighter over the Lockheed Martin F-16C Block 52/60, the most advanced F-16, currently in PAF inventory. J-10 B had a new radar and OLS targeting system, and its new generation stealthy features, such as its DSI intake. But deal never went through. Beyond the JF-17, China and Pakistan are involved in several projects to enhance military and weaponry systems. K-8 Karakorum advance training aircraft, tailor made for PAF based on the Chinese domestic Honodu L-15. China technology. supports Pakistan in space and AWACS systems, Pakistan Army has imported Chinese-built Low to Medium Altitude Air Defence System (LOMADS) LY-80.

Sino-Pak Arms Exports

China has an eventual goal of selling \$1 billion worth of defence equipment every year. Pakistan is pushing for greater weapons selfsufficiency. In 2016, Pakistan signed a deal with Myanmar for the sale of 16 JF-17 fighters, worth estimated \$400 million, including spare parts. Earlier in 2017, Turkey contracted to buy 52 Super Mushshak training aircraft¹⁴. Ankara later agreed to buy 1,000 PK-83 general purpose bombs. China has helped Pakistan improve its ability to produce advanced weapons, well beyond just small arms. Pakistan plans initially to concentrate on markets of countries with budget constraints, such as in Africa. However, due to financial mess, Pakistan is under International Monetary Fund pressure to limit its military spending. This also limits its capacity to provide loans to low-budget countries. Pakistan has ordered eight Chinese submarines, mainly because the quality of Chinese submarines had improved over time and the price was almost half that of European submarines.

Sino-Pak Air Exercises

PAF and PLAAF have participated in a series of exercises called Shaheen since 2011 to improve inter-operability to respond to 'mutual threats'. The missions have included simulated air combat, surface attack missions, air-refuelling and logistic support missions. Shaheen-I was held in Pakistan. Shaheen-II was held in September 2013 in Hotan in Western China. PAF had then sent Mirage III EA and F-7G (MiG-21 class) aircraft. PLAAF fielded J-10 multi-role fighters and J-7C. The more manoeuvrable J-10s acted as the aggressors. The three week-long Shaheen-III exercise was held in May 2014 at PAF Rafigi airbase. The exercises gave both the Air Forces opportunity to improve specific skills and to practice Dissimilar Air Combat Training (DACT). It also allowed to train under different threat environment and training philosophies. PLAAF was reportedly impressed by PAF's aggressive combat style and by the streamlined efficient training approach. These exercises were of special importance to PAF as it gave them exposure to fly against Chinese Sukhoi Su-27/Su-30MKK aircraft which are similar to the IAF frontline SU-30 MKI aircraft and to help them validate their tactics.

The most recent Shaheen VIII (Eagle VIII) was also held at Hotan in south-western Xinjiang in August 2019¹⁵, primarily to develop a mechanism for interoperability of both air forces. This was the first war-game after the Abrogation of Article 370. PAF participated with JF-17s while China fielded J-10 and J-11 fighters which are PLAAF's backbone. The J-10 is more or less a version" of the abandoned IAI Lavi fighter programme. The J-11 is a copied variant of the Russian Su-27 air superiority fighter.

Implications for India

Close ties between PLAAF and PAF force IAF to cater for a two front war. PLAAF with nearly 1700 combat aircraft (700 4th Gen plus) and aggressively modernizing, and nearly 450 aircraft of the People's Liberation Army Navy, and the soon to be inducted state-of-the art aircraft carriers, makes a great air power. PAF has 20 fighter squadrons. Current IAF: PAF ratio of 1.5:1 is a far cry from the once 3:1 dominance. The Force ratio edge of IAF over PAF is thus at an all-time low. With eight Chinese airbases in the Tibet Autonomous Region and many more in erstwhile Chengdu Military Region east of Myanmar, any collusion with PAF would encircle India and create significant air threat to counter. India thus needs to re-look at the force structure.Bottom of Form

IAF is currently down to 30 squadrons. Many Indian defence analysts believe that to cater for two-fronts, there is a need to eventually increase combat squadrons from hitherto targeted 42, to around 50 squadrons. IAF immediately requires advanced fighters, sophisticated support platforms and smart long-range weapons. The Defence R&D and Indian aircraft industry too would have to get their act right. IAF's long delayed acquisitions of 110 medium multi-role fighters; the development and production of the LCA and AMCA; the acquisition of more AEW&C and FRA force multipliers; acquiring long range air-to-air missiles; and build an arsenal of UCAVs need to unfold quickly. All this would require significant funding over the next three decades and defence budget must increase to at least 2.5 per cent of GDP from current 1.41 per cent. IAF needs to deploy more surface-to-air missiles on China border. There is a need for IAF to build up force levels quickly lest IAF gets left too far behind PLAAF and PAF bridges the gap.

The changed South Asian dynamic (with China rapidly expanding its footprint) necessitates various options for India to be considered on an urgent basis. For a lasting solution it is essential to break up the Pakistan-China nexus. India's muscle flexing, and the military response for terrorist provocations – air and land strikes – have driven Islamabad deeper into China's camp. Pakistan is strong enough to be a spoiler and, in cahoots with China, pose a substantial problem. Simultaneously, India needs prioritizing strategic and expeditionary military capabilities against China and for distant operations jointly with friendly states in the Indian Ocean Region and in Southeast Asia will secure India's extended security perimeter.

End Notes

¹ Manoj Joshi, Why India needs to think through its policy on Gilgit-Baltistan and POK, Observer Research Foundation, August 26, 2016, https://www.orfonline.org/research/why-india-needs-to-think-throughits-policy-on-gilgit-baltistan-and-pok/ (Accessed on January 30, 2020) ² Arzan Tarapore, Along the Karakoram Highway, lowy institute, the interpreter, August 02, 2016. https://www.lowyinstitute.org/the-interpreter/along-karakoram-highway-photo-essay-part-1 (Accessed on January 29, 2020)

³ Manu Pubby, China backs 'iron brother' Pakistan with primary weapons and complex exercises, Economic Times, March 15, 2019, https://m.economictimes.com/news/defence/china-backs-iron-brother-pakistan-with-primary-weapons-and-complex-exercises/amp_articleshow/68418192.cms?__twitter_impression=true, (Accessed on January 30, 2020)

⁴ Developing main battle tanks shifted to the East, Center for Strategic Assessment and Forecasts. December 17, 2015, http://csef.ru/en/oborona-i-bezopasnost/505/razrabotka-osnovnyh-boevyh-tankov-smeshhaetsya-na-vostok-6455 (Accessed on January 29, 2020)

⁵ Franz-Stefan Gady, China to Supply Pakistan With 8 New Stealth Attack Submarines by 2028, The Diplomat, August 30, 2016, https://thediplomat.com/2016/08/china-to-supply-pakistan-with-8-newstealth-attack-submarines-by-2028/ (Accessed on January 30, 2020)

⁶ Bidanda Chengappa, How the IAF Compares with the PAF, Business Line, Match 01, 2019, https://www.thehindubusinessline.com/opinion/how-the-iaf-compares-withthe-paf/article26411688.ece# (Accessed on January 30, 2020)

⁷ JF-17 Aircraft, Pakistan Aeronautical Complex, https://www.pac.org.pk/jf-17 (Accessed on January 29, 2020)

⁸ Press Trust of India, Pak to arm new JF-17 fighters with Chinese BVR missiles, Business Standard, January 21, 2013, https://www.business-standard.com/article/economy-policy/pak-to-arm-new-jf-17-fighters-with-chinese-bvr-missiles-110111800184_1.html (Accessed on January 29, 2020)

⁹ Putin clears sale of RD-93 fighter jet engines by China to Pakistan, Domain-b.com, April 27, 2007, https://www.domainb.com/aero/20070427_putin.htm (Accessed on January 29, 2020)

¹⁰ Franz-Stefan Gady, Has Pakistan's JF-17 'Thunder' Block II Fighter Jet Engaged in its First Dogfight? The Diplomat, February 28, 2019, https://thediplomat.com/2019/02/has-pakistans-jf-17-thunder-block-ii-fighterjet-engaged-in-its-first-dogfight/ (Accessed on January 30, 2020)

¹¹ Franz-Stefan Gady, China Overhauls Pakistan Air Force JF-17 Fighter Jet, The Diplomat, May 22, 2019, https://thediplomat.com/2019/05/china-

overhauls-pakistan-air-force-jf-17-fighter-jet/ (Accessed on January 30, 2020)

¹² Sebastien Roblin, Meet the JF-17 Block III Fighter: The Jet China is Helping Pakistan Build to Fight India, The National interest, August 10, 2019, https://nationalinterest.org/blog/buzz/meet-jf-17-block-iii-fighter-jetchina-helping-pakistan-build-fight-india-72751 (Accessed on January 30, 2020)

¹³ Franz-Stefan Gady, Pakistan Air Force to Receive Final Batch of JF-17 Block II Fighter Jets in June, The Diplomat, May 15,2019 https://thediplomat.com/2019/05/pakistan-air-force-to-receive-final-batch-ofjf-17-block-ii-fighter-jets-in-june/ (Accessed on January 30, 2020)

¹⁴ Franz-Stefan Gady, Pakistan to Sell 52 Military Aircraft to Turkey, The Diplomat, May 12, 2017 https://thediplomat.com/2017/05/pakistan-to-sell-52-military-aircraft-to-turkey/ (Accessed on January 30, 2020)

¹⁵ Pakistan, China engage in joint air force exercise 300 km north of Leh: All you need to know about Shaheen VIII military exercise, First Post, August 27, 2019. https://www.firstpost.com/india/pakistan-china-engage-in-joint-air-force-exercise-300-km-north-of-leh-all-you-need-to-know-about-shaheen-viii-military-exercise-7232121.html (Accessed on January 30, 2020)

[®]Air Marshal Anil Chopra, PVSM, AVSM, VM, VSM (Retd) is a former Air Officer-in-Charge Personnel. He also served as a member of Armed Forces Tribunal after retirement from Service.

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Civil-Military Relations in India – Introspection and Reform

Commander Ranendra Singh Sawan[®]

"Politicians enjoy power without any responsibility, bureaucrats wield power without any accountability, and the military assumes responsibility without any direction."

K Subrahmanyam¹

Abstract

This year's winning essay examines civil-military relations (CMR) in a historical perspective, leading up to its present status. The essay also identifies crucial areas of civil-military dissonance – both from a military as well as civilian perspective, while critically examining the measures proposed for reformation of higher defence management and strengthening CMR. It prescribes reforms in CMR could be most effectively implemented by a 'Top-Down Approach'. However, the author proposes a more pragmatic 'Lateral or Indirect Approach'. It also suggests means of strengthening CMR further in the interest of the nation.

Introduction

 ${f A}$ study of history of Civil-Military Relations (CMR) in independent

India reveals two distinct issues – the first is a conscious and deliberate decision by our national leaders to isolate the armed forces from political influence and interference, and the second is a systematic and gradual degradation of the status of the Indian Armed Forces vis-à-vis the bureaucracy. While the former aspect could be viewed positively because of its effect of keeping the armed forces apolitical, it also connotes an apprehension on the part of politicians about the military playing a larger role in policy making. The other aspect, of marginalisation and tight civilian control, emanates from political apathy and perhaps lies at the core of CMR debate in India.

The current discourse on CMR, therefore, represents a conflict between the civilian and military perspectives. The civilian perspective is that the existing system has worked well in the past and, therefore, there is no need to alter the *status quo*². The military, however, feels marginalised as far as the strategic decision making is concerned. Arun Prakash alludes to this 'huge perceptional gap' as a key feature of the current CMR. While the political and bureaucratic establishments see nothing amiss and have remained staunch upholders of the *status quo*; the military and the veterans see the with dissatisfaction at an increasingly asymmetric and deliberately contrived civil-military equation.³

This essay will examine the state of CMR that exist today, in light of its historical context, and suggest means of strengthening them further in the interest of the nation. While doing so, the essay will also attempt to identify critical areas of civil-military dissonance – both from the military as well as the civilian perspective. The essay also critically examines the measures that have been proposed for reformation of higher defence management and strengthening CMR. It advocates that while reform in CMR could be most effectively implemented by a 'Top-Down Approach', it is unlikely to be undertaken. Therefore, this essay proposes a 'Lateral or Indirect Approach' that appears to be more pragmatic.

Historical Context of CMR in Independent India

Historically, with only a few exceptions, India's political leaders have sought to insulate the military from politics. Bhimaya posits that India's political leaders always desired that the apolitical nature of the armed forces be preserved under due civilian control and her military leaders have accepted and propagated this principle.⁴ Anit Mukherjee echoes these views.⁵

In their research, both Kundu⁶ and Bhimaya⁷, while studying the militaries of India and Pakistan, have concluded that Indian politicians made no attempts to either politicise the Army or interfere in their professional work. According to PS Das, one of the members of the Arun Singh committee, "among all major democracies in the world the Indian military chiefs [army, navy and air force] are one of the most powerful, having both operational and staffing responsibilities".⁸

Former IAF Chief, Air Chief Marshal S Krishnaswamy has observed that since independence, it had been the practice for the government to discuss directly with the concerned Service Chiefs or at times with a Commander-in-Chief about a situation that they can absorb quickly and give direction.⁹ In 1965, the then Prime Minister, Lal Bahadur Shastri gave a free hand to the Service Chiefs in military operations.¹⁰ Indira Gandhi's decision to postpone military operations by nine months in 1971 and the more recent acceptance of the Army's position on Siachen by the Government also illustrate this assertion.¹¹

However, there have been exceptions to the general practice of accepting professional advice from military officers. For example, in 1951 the Chief of the Army Staff, General Cariappa, having delivered a lengthy warning to Nehru about Chinese military pretensions, was bluntly told that it was not his job "to tell the Prime Minister who is going to attack us where".¹² At the outbreak of the 1965 War, the then Chief of Naval Staff (CNS), Admiral BS Soman met Prime Minister Shastri and protested against an MoD order forbidding the Navy to initiate any offensive action against Pakistan at sea and restraining the Navy's operations to south of Porbandar. He argued that it would adversely affect the morale of the Service. However, the Prime Minister refused to rescind the order and upon further urging by the CNS, he said "You have no choice".¹³

Arun Prakash, tracing the historical evolution of CMR in India from Lord Kitchener to Kargil Review, has identified the establishing of 'bureaucratic control' over the military as a root cause of presentday civil-military discord.¹⁴ Even in recent years, the CMR debate has largely been focused on the inter-se equation between the armed forces and the MoD. The underlying argument is that since the politician does not always involve himself in policymaking, 'civil authority' is represented by a duality or even trinity consisting of a combination of the politician, bureaucrat and scientist.¹⁵ As a consequence, the present relationship between the civilian establishment and the military is characterised by the distortion of the concept of 'civilian supremacy' to 'bureaucratic control'. This view is supported by Dhruv Katoch, who avers that as per established tenets and global practices, the civilian principal (in CMR) remains the political leadership and legislative oversight and not the bureaucracy.16

Many authors have also written about the mutual mistrust and suspicion between the military and the bureaucracy. The events leading to the resignation by General KS Thimayya in Aug 1959, and subsequent rescindment of the same by Pandit Nehru; appointment of Lt Gen BM Kaul as the Corps Commander against the advice of General Thimayya; sacking of Admiral Vishnu Bhagwat in 1998; and the controversy about the Army Chief's date of birth in 2011, are a few instances which demonstrate the widening chasm between the military and politico-bureaucratic establishment. More recently, the controversial report of troop movements in January 2012 "spooking Raisina Hill"¹⁷ highlights the perceived mistrust between the political establishment and the military. Commenting on the issue, Manoj Joshi wrote, "The game is a simple one. The scaring is done by the intelligence-bureaucracy combine, and those to be scared are the politicians. This has worked well in the past".¹⁸

CMR after the Kargil Conflict

The Kargil war was a watershed event in India's military history. A severe indictment of India's higher defence management is found in the recommendations of the Kargil Review Committee (KRC) which stated that, "There has been little change over the past 52 years despite the 1962 debacle, the 1965 stalemate and the 1971 victory".¹⁹ The KRC Report also observed that India is perhaps the only major democracy where the Armed Forces Headquarters are outside the apex governmental structure.²⁰

Post Kargil, the government did implement some half-hearted measures towards reformation of higher defence management. However, most of these reforms were cosmetic in nature, as evinced from the existing 'integrated' headquarters of MoD and the Headquarters Integrated Defence Staff. Almost every commentator on the subject has suggested that the recommendations of the KRC and subsequent committees on defence reforms be implemented.²¹ Successive parliamentary committees have also reiterated this issue.²² Admittedly, in some measure, the slow pace of defence reforms is attributable to inter-Service turf rivalry. However, the larger share of blame rests squarely with the politico-bureaucratic establishment, for reasons already identified earlier in this essay.

According to some experts, there has been an erosion of administrative effectiveness of the Service Chiefs²³ due to their relationship with the Defence Secretary and other secretaries of the departments of the MoD, who take decisions with a critical impact on the combat readiness of the armed forces without much domain knowledge on military matters. The accountability for failures and shortcomings in military operations is also a contentious issue. As Admiral DK Joshi told a TV channel, "Where there is authority, there is no accountability; and where there is responsibility, there is no authority".²⁴ The Admiral had resigned on 26 February 2014 assuming moral responsibility for repeated accidents in the Navy. The root cause, he stated, was the dysfunctional and inefficient operating environment wherein the Navy did not have the power to replace submarine batteries or to offload refits and repairs of its ships and submarines.²⁵

The larger, and equally important, issue is the non-involvement of the military in the higher decision making processes pertaining to national security. There is no defined role for the Service Chiefs in the Constitution, any Act of the Parliament or in any government rule²⁶ and there is a lack of institutionalised higher channels of communication with the government.²⁷ Arun Prakash quotes George Tanham who, while commenting on the "tight civilian control of the military, stated, "India has pursued this policy to a point where the military have almost no input in the formulation of higher defence policy and national strategy".²⁸ Deepak Kapoor has mentioned that the Service Chiefs are rarely involved in higher decision making process.²⁹ Raj Shukla recommends eliminating cronyism – a near total domination of the security processes and apex positions in the national security structures by the Indian Administrative Service and the Indian Foreign Service.³⁰

The Civilian Narrative

While the civilian establishment, in general, agrees to the need for reform, their views are not as strong.³¹ Former Defence Secretary, Shekhar Dutt, writes that *'assertion'*, which is an intrinsic military characteristic, is alien to the democratic construct³² and is thus the reason for dissatisfaction of the armed forces with the existing structures. Dutt also provides a different view of the term 'civilian supremacy' and states that it is about the ability to function within the existing resource constraint and deliver through an internal prioritisation, rebalancing and re-strategisation – an arbiter of sorts among the Services.³³

On the issue of professional knowledge and expertise, Dutt argues that it is the knowledge of administrative processes and experience that matters³⁴, adding that the military cannot compensate for the value of civilian bureaucracy as an interface with the political

leadership.³⁵ On the issue of Government Business Rules, he curtly writes that instead of quoting from the *rules of business* there is a need to identify what national defence has to deliver.³⁶

NN Vohra strongly rejects the notion that politicians are averse to dealing with military matters. Quoting his association with eight *Raksha Mantris*, he avers that they remained most seriously concerned about national security management issues while being overburdened with a horde of crisis situations on varied fronts.³⁷ However, NS Brar counters this view and writes that "the Hon'ble Defence Minister recently expressed the view that the country had lost respect for the armed forces, or the armed forces relevance had declined as there had not been any war since 1971" and that "a worthy politician had recently derided the death of a soldier by opining that *they are paid to die*".³⁸

Measures to Strengthen CMR

Much has been written about the measures required to improve CMR in India. Clearly, as far as the military and civilian perspectives are concerned, the deliverables of 'strong CMR' would be:-

Table 1 : Comparison of 'Deliverables' for a Healthy CMR from the Military and Civilian Perspectives

Deliverables of CMR Military Perspective

Greater participation of the military in national security decision-making process.

Restoration of superior status of armed forces vis-à-vis the MoD bureaucracy, which actually supports the former. Acceptance of 'Political' but not 'Bureaucratic' control

Greater autonomy for the armed forces in terms of defence policy decisions, procurements and service matters.

Deliverables of CMR Civilian Perspective

Civilian oversight of national security decision-making process.

Maintain status quo.

Civilian oversight in defence policy and finance.

It is evident from Table 1 above that the military and civilian 'deliverables' of a healthy CMR are intricately inter-linked in a zerosum scenario. While the armed forces seek to break free from bureaucratic control, the bureaucracy would not like to concede the *status quo*. Unsurprisingly, therefore, all narratives on bridging the civil-military gap and strengthening CMR broadly focus on a 'Top Down' approach to resolve this stalemate. These suggest administrative and organisational changes, enabling legislations and rules, and indirect measures.

Administrative and Organisational Changes. Without delving into details of the recommendations brought forth by various committees and task forces on defence reforms, undoubtedly the first and most obvious step is to implement these recommendations in letter and spirit. Many experts believe that the creation of the post of Chief of Defence Staff (CDS) would go a long way in improving CMR.³⁹

Some experts have proposed revitalisation of the forums and channels of communication between the senior echelons of the military and the Government⁴⁰, which is an important and workable step, if implemented in true spirit. Creation of a specialist cadre among the IAS for the MoD has also been suggested by some experts. While this is desirable, it is unlikely to gain traction among the bureaucracy, given their existing HR policies. Alternatively, it has also been suggested to increase the allocation of vacancies in courses of military instructions for such cadre officers, linked to career prospects. However, this step would only be effective if the officers so trained would continue to serve in the MoD. Cross-posting of Service officers in the MoD, the Prime Minister's Office (PMO) and the National Security Council (NSC) was suggested in the KRC reforms and has been backed by some experts.

Enabling Legislations and Government Rules. It has been rightly suggested that India's CMR problems can *only be addressed* through sweeping constitutional and legislative measures that would bring the armed forces directly within the apex decision making structure. In this context, an Armed Forces Act which specifies the roles, responsibilities and relationship between the MoD and its constituent departments with the Service HQs has been proposed.⁴¹ However, the fact that even the administrative reforms suggested by various empowered committees are yet to be implemented is indicative of the lack of appetite for legislative reforms.

Indirect or Lateral Approach. These are measures that the armed forces would need to initiate, since the politico-bureaucratic

establishment has historically not demonstrated much inclination to alter the *status quo*. The underlying principle in this approach is 'Objective Control of the Military'. These measures would not, by themselves, facilitate an improvement in CMR directly. They would, however, create an environment that would perhaps enable bridging the gap between the civilian apparatus and the military.

Fostering Public Debate on CMR. The armed forces must endeavour to encourage public debate on CMR in India. This would require collaboration with think-tanks and engaging the media. Unless there is public awareness and concern about the existing state of CMR in the country, it will not be possible to attract the attention of the political leadership to this important issue. The armed forces could also sponsor academic research in this field, focusing primarily on the impact of CMR on military effectiveness as evidenced from past operations, which could then lead to further discussions. Media must be leveraged; firstly, to reinforce the image of the armed forces; secondly, it can also create awareness and provide focus on the various issues plaguing healthy CMR. Autonomous institutes must also be encouraged to steer this debate. Two recent examples where public outrage and empathy forced the government to reconsider their decisions are withdrawal of the MoD note on the equivalence between the armed forces and the Armed Forces Headquarters Civil Services (AFHQ CS)⁴² and the more recent controversy over withdrawal of tax exemption on disability pension of veterans.⁴³

Nurturing 'Soldier-Statesmen'. Referring to the valid critique that military officers, simply, do not think, read and write enough, Raj Shukla proposes a radical overhaul of military's structures and processes to encourage the intellectual tradition that produces soldiers of stature that matches statesmen.⁴⁴ Dhruv Katoch agrees with this view and laments that despite having fought a number of wars since independence and a continual engagement in sub-conventional conflict, our military leadership remains tactical in thought orientation.⁴⁵ When senior military officers would begin to think and act like statesmen, they would be able to promote healthier CMR.

Apex Military Leadership. The military also shares significant responsibility in the current status of CMR. A historical analysis reveals that over the years, the military has conceded much ground

to the civilian establishment in terms of higher decision making. Examples of this are; asking for approvals where none were required; seeking bureaucratic arbitration in inter and intra-service disagreements; accommodating civilian incursion in purely military matters; seeking to establish equivalence with civilians where it neither exists nor is required; and acquiescing to civilian diktats to achieve short term gains.

Conclusion

It is apparent that India's current CMR framework is heavily skewed in favour of the civilian bureaucracy. Various analysts have quoted recent examples of manifestations of this discord such as; the MoD spokesperson's broad accusations against military officers on the misuse of *jawans* and government vehicles; of engaging in "endless parties"⁴⁶; anomalies in the Seventh Pay Commission; implementation of OROP⁴⁷; frequent tussles about rank-equations with civilian cadres; controversies related to opening of cantonments to the public; and politicisation of 'surgical strikes'⁴⁸.

A study of the 1962 conflict, as also of the 1965 and 1971 wars, clearly brings out the imperative necessity and urgency of educating the people about the basics of war and familiarising them with military matters, if a democratic state is to be safe and strong.⁴⁹ There is clearly a need for 'educating the people' and then for the CMR discourse to be openly discussed and critiqued.

While this essay acknowledges the need for radical (constitutional and legislative) changes to address the CMR problem in India, it argues that it may not be prudent to rely solely on the politico-bureaucratic establishment to drive this change since they do not share the perceptions of the armed forces. It is paradoxical that although the focus of CMR reforms lies on the civilian side, they are unwilling to embrace reforms. At the same time, given the constitutional framework under which India's armed forces function, this change can only come from the civilian side. Therefore, this essay makes a case for regaining lost ground through internal mechanisms, much in the way it has been lost over the past decades. The need is, therefore, for the military to introspect and create an environment for change and drive the change that the armed forces desire.

Endnotes

¹A. Mukherjee, *'The Absent Dialogue'*, IDSA Seminar Issue, Seminar, Issue No. 599, July 2009, available at www.idsa.in/event/CivilMilitary RelationsandMilitaryEffectivenessinIndia accessed on 06 August 2019.

² V. Misra (ed.), Core Concerns in Indian Defence and the Imperatives for Reforms, IDSA/ Pentagon Press, New Delhi 2015, p. 28

³ A. Prakash, *Better Civil-Military Relations Needed for Improved Security of the Indian State,* South Asia Monitor, 22 July 2018 available at http://www.indiandefencereview.com/spotlights/better-civil-military-relations-needed-for-improved-security-of-indian-state/ accessed on 04 August 2019.

⁴ K.M. Bhimaya, *Civil Military Relations: A Comparative Study of India and Pakistan,* RAND Graduate School, Santa Monica 1997, p. 80

⁵ Mukherjee, *op. cit.*, p. 44

⁶ A. Kundu, *Civil Military Relations in British and Independent India,* 1918-1962 and *Coup Prediction Theory,* University of London School of Economics and Political Science, Proquest LLC, 1995, pp. 205-213 available at http://etheses.lse.ac.uk/1411/1/U084466.pdf accessed on 14 July 2019.

⁷ Bhimaya, op. cit., pp. 50-72

⁸ Mukherjee, *op. cit.,* p. 47

⁹ V. Misra (ed.), Core Concerns in Indian Defence and the Imperatives for Reforms, IDSA/ Pentagon Press, New Delhi 2015, pp. 41-42

¹⁰ Bhimaya, *op. cit.,* p. 83

¹¹ Rahul K Bhonsle, Civil-Military Relations: The Indian Case, PILDAT Background Paper, Islamabad 2011, p. 15

¹² Quoted in C B Khanduri, *Field Marshal K M Cariappa: His Life and Times* (New Delhi, 1995), p. 260

¹³ G.M. Hiranandani, *Transition to Triumph*, Integrated Headquarters Ministry of Defence (Navy), New Delhi: 1999, pp. 43-44

¹⁴ Prakash, *op. cit.,* pp. 24-27 (The Kitchener-Curzon dispute over the appointment of the military member of the Viceroy's Council was an early example of Civil Military discord)

¹⁵ *ibid.*

¹⁶ D. Katoch, *Fissures in Civil-Military Relations: What Needs to be Done*, 02 November 2015, available at https://salute.co.in/fissures-in-civil-militaryrelations-what-needs-to-be-done/ accessed on 04 August 2019.

¹⁷ *The January Night Raisina Hill was Spooked,* The Indian Express, New Delhi, 04 April 2012.

¹⁸*He saw coup coming: Army chief terms 'spooking of Raisina Hill' report in a leading newspaper 'absolutely stupid',* Mail Online, 05 April 2012, available at www.dailymail.co.uk/indiahome/indianews/article-2125813 accessed on 06 August 2019.

¹⁹ *The Kargil Review Committee Report,* Sage Publications India Pvt Ltd, New Delhi 2000, p. 252

²⁰ *ibid.,* p. 258

²¹ See V. Misra (ed.), *Core Concerns in Indian Defence and the Imperatives for Reforms,* ed Vinod Misra, IDSA/ Pentagon Press, New Delhi 2015, *et passim.*

²² Standing Committee on Defence, Twenty Second Report 2006-2007), Lok Sabha Secretariat, July 2007.

²³ Prakash, *op. cit.*, p. 32

²⁴ The Times of India (online ed), *Quit due to dysfunctional environment in Navy, admiral Joshi says,* 15 October 2014, available at https://timesofindia.indiatimes.com/india/Quit-due-to-dysfunctional-environment-in-Navy-Admiral-Joshi-says/articleshow/44808803.cms accessed on 04 August 2019.

²⁵ *ibid.*

²⁶ Prakash, *op. cit.,* p. 35

²⁷ Prakash, *op. cit.*, p. 22

²⁸ Prakash, *op. cit.*, p. 23

²⁹ V. Misra (ed.), *Core Concerns in Indian Defence and the Imperatives for Reforms,* IDSA/ Pentagon Press, New Delhi 2015, pp. 51-54)

³⁰ Raj Shukla, Civil Military Relations in India, Manekshaw Paper No 36, Centre of Land Warfare Studies and KW Publishers, New Delhi, 2012, p.29.

³¹ See the 22nd Report of the Standing Committee on Defence 2006-2007. Also see the issues raised by Shri NN Vohra, Governor J&K, in USI National Security Lecture 2013 (http://www.idsa.in/resources/speech/CivilMilitaryRelations_NNVohra). Also see, Shekhar Dutt, *The Conundrum of Indian Defence and Civil-Military Relationship,* Core Concerns in Indian Defence and the Imperatives for Reforms, ed. Vinod Misra, IDSA/ Pentagon Press, New Delhi 2015, pp. 10-19

³² Shekhar Dutt, *The Conundrum of Indian Defence and Civil-Military Relationship,* Core Concerns in Indian Defence and the Imperatives for Reforms, ed Vinod Misra, IDSA/ Pentagon Press, New Delhi 2015, p. 10.

³³ ibid.

³⁴ ibid.

³⁵ ibid.

³⁶ ibid.

³⁷ ibid.

³⁸ N.S. Brar, *Politics and the Military,* IDSA comment, 24 August 2015, accessed at https://idsa.in/idsacomments/Politicsand theMilitary_nsbrar_240815 on 07 August 2019.

³⁹ A. Prakash and D. Kapoor in *Core Concerns in Indian Defence and the Imperatives for Reforms,* ed Vinod Misra, IDSA/Pentagon Press, New Delhi 2015, et passim.

⁴⁰ Kapoor, *op. cit.* pp. 70-71.

⁴¹ Prakash, *op. cit.*, p. 35.

⁴² The Times of India, *Defence Ministry withdraws note on status equivalence*, 05 January 2018, accessed at https://timesofindia.indiatimes. com/india/defence-ministry-withdraws-controversial-note-on-status-equivalence/articleshow/62384338.cms on 06 August 2019.

⁴³ The Economic Times, *Will look into tax on disability pension: Rajnath Singh,* 28 June 2019, available at https://economictimes.indiatimes.com/news/politics-and-nation/will-look-into-issue-of-tax-on-disability-pension-rajnath-

singh/articleshow/69984433.cms?from=mdr accessed on 06 August 2019.

⁴⁴ Shukla, *op. cit.,* p. 26.

⁴⁵ Katoch, op. cit.

⁴⁶ D.S. Hooda, Need to Review civil-Military Relations, Opinion published online at https://www.news18.com/news/opinion/need-to-review-civilmilitary-relations-writes-lt-gen-ds-hooda-after-row-over-defencespokespersons-tweet-1924035.html accessed on 05 August 2019.

⁴⁷ Cowshish, op. cit.

⁴⁸ Prakash, op. cit.

⁴⁹ S.N. Prasad, P.B. Sinha and A.A. Athale, *History of the Conflict with China 1962* (New Delhi: History Division, Ministry of Defence 1992), p xxiv.

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Commander Ranendra Singh Sawan was commissioned into the Indian Navy on 01 July 1996. He is presently posted as Directing Staff at the Defence Services Staff College, Wellington, Nilgiris. He is also pursuing PhD from the University of Mumbai. This is the edited version of the first prize winning entry of the USI Gen SL Menezes Memorial Essay Competition 2019.

Stability in the Northeast: Imperative for Implementation of Act East Policy

Brigadier Narender Kumar, SM, VSM (Retd)®

Abstract

Conflict resolution and communication connectivity are key to stability in the North-east for implementation of Act East Policy of India. The developing nexus between drug and weapon cartels, insurgents and (Inter-Services roque intelligence agencies Intelligence (ISI) of Pakistan and Chinese Intelligence agencies) will be a greater challenge to the state to bring peace and development in the region. In fact, there is an endeavour to reorganise and realign the anti-talk factions so as to maintain instability in the Northeast. The objective is to revive, resuscitate and energise the insurgent groups by coordinating and organising them under umbrella organisations to avoid inter-group clashes and competition. The objectives are clear to keep India engaged within the Northeast and keep it out of Myanmar to deny land connectivity with the ASEAN and South East Asian nations. The instability in the Northeast is now slowly shifting in the hands of external players and the larger strategic objective is to choke development and economic, political and cultural linkages with ASEAN and South East Asia.

Introduction

igwedge ore than 90 per cent of the area of the Northeast Region

(NER) is bordered by Bangladesh, Bhutan, Myanmar, Tibet Autonomous Region (TAR) and Nepal. Northeast is a strategic springboard and strength for India, however, if this strength is not leveraged it can also become a vulnerability. East India Company was lured to the North East India by the natural resources and the geography-coal, tea, oil and access to Myanmar and even to Tibet. Assam had 1st oil well in Asia in 1889. The North Eastern states of India account for approximately 8 per cent of the country's geographical area with just about 4 per cent of the national population. 70 per cent population in the Northeast lives in Brahmaputra Valley and the balance 30 per cent in the rest of the six states. The region has over 160 scheduled tribes and over 400 other tribal and sub-tribal communities. The NER is a land bridge to ASEAN and South East Asia, it lies in the flight path of the Asian Highway and an alternative modern silk route.¹ The NER gives India access to oil and a resource-rich region of South Asia and it also provides access to markets of bordering countries. Professor Pranab Das in his report, "North-East, 'The Power House of India': Prospect and Problems" estimated that North Eastern states including Sikkim have the potential of 84,000 MW of hydro power, which is about 43 per cent of the total hydro power generation capacity in the country. The hydrocarbon reserves in Nagaland may increase India's onshore oil and natural gas production potential by 75 per cent.² Nagaland itself has 600 million tons of oil. Similarly Meghalaya has close to 576 million tons of coal.3 The NER indeed is a resource bowl with reserves of uranium, coal, chromite, lignite, and potential deposits of Platinum Group of Elements (PGE), quartzite deposits, granite, limestone and renewable energy. The North East is rain surplus; the surface water resource of the region is close to 652.3 Billion Cubic meters that is approximately 34 per cent of country's total water wealth.4

Geographical and Economic Fault-lines

The NER should be exploited as a platform to expand political and strategic boundaries of India up to Myanmar, Laos, Thailand, Indonesia and Vietnam through land, cultural connectivity and Mekong cooperation. India should have become a development partner with the Eastern neighbours instead of China. In spite of being resource rich region of India, the question is, why this region is still underdeveloped and mired in multiple insurgencies and secessionist movements? There are certainly internal and external factors but what is more important is that India failed to bridge geographical, political and economic fault-lines. Most significant is connectivity. Even after 72 years of independence, three out of seven state capitals are yet to be connected by railways and the region continues to suffer from inadequate connectivity and remains a borderland in the perception of national polity and executive. Whereas, geographical, economic and political fault-lines can be bridged by developing communication highways, education and making people stakeholders in holistic development of the region. What is essential at this stage is to remove NER from the cognitive distance of national psyche and engage with the people at multiple levels. Ironically, sluggish and status quo mindset of political hierarchy in Delhi, within NER and bureaucracy has allowed the region to remain frozen in time and space. If the Government of India (GOI) continues to see NER through the prism of outdated and fixated mindset of the inflexible bureaucracy, India will find it more difficult to develop it as a springboard for Act East Policy of India.

One cannot ignore that Siliguri Corridor remains a fragile and vulnerable link with the NER. In fact, rail, road and fibre communication of India with NER passes through this narrow stretch of land that is barely 21 kilometres wide. China, Bangladesh and even Nepal look at Siliguri Corridor as a geographical frontier that is an impediment in their economic and strategic calculus. Siliguri Corridor separates Nepal from Bangladesh and China with Bangladesh through Nepal. Nepal requires access through Siliguri Corridor to export electricity to Bangladesh and similarly, Bangladesh needs access for trade and transit through Siliguri Corridor to Nepal. Bhutan too requires access to Bangladesh for two way trade and export of electricity that is needed by Bangladesh. Siliguri Corridor is emerging as a geographic pivot for even regional connectivity. On the other side, the radicals, insurgents and even the arms and drug traffickers see Siliguri Corridor as a bottleneck for their illegal activities. India should look at this narrow stretch with greater focus to prevent choking / blocking of this strategic link by Jihadis, and proxies, who could find support from China, Bangladesh and the Maoist from Nepal.

Insurgency and Secessionist Movements

One of the Naga tribal leaders told the author few years back, "The past does not make us privileged, the present does not inspire us and future doesn't give us hope".

According to the Ministry of Home Affairs, North-eastern states have seen an 85 per cent drop in violent activities in the last 17 years. However, this peace cannot be termed as enduring since Naga Peace Accord continues to remain inconclusive, Manipur is still restive, no talks with the Meitei insurgent groups and ULFA faction of Paresh Baruah continues to be active. The Naga National People's Group (NNPG) is keen to wind up the accord with or without National Socialist Council of Nagaland (NSCN) (IM), however, an accord without NSCN (IM) will be of little consequence, since they are the largest and strongest rebel group with influence in Nagaland, Manipur, Arunachal and Assam.

The major worry for the security forces should be reorganisation and realigning of anti-talk groups of the Northeast. Insurgent groups such as Revolutionary People's Front (RPF), Coordination Committee (CorCom) of Manipur and conglomerate of many insurgent groups mainly United National Liberation Front of Western South East Asia (UNLFW) (consisting of Paresh Baruah faction of United Liberation Front of Assam (ULFA), anti-talks faction of National Democratic Front of Bodoland Sonajit group (NDFB), People's Democratic Council of Karbi-Longri (PDCK), People's Liberation Army (PLA) of Manipur and Kamatapur Liberation Organisation, besides the NSCN-K) endeavour to reorganise and reignite insurgency movement in the NER with the proxy support of Chinese intelligence agencies and ISI of Pakistan. Another worry is likely intervention of ISI of Pakistan through Jihadists in the Northeast. ISI cannot create pro Pakistan sentiments in Bangladesh but has been working to create anti India sentiments and arranging a meeting place between Jamaat-e-Islami and Students' Islamic Movement of India (SIMI). ISI of Pakistan is working overtime to establish its network across entire East India through Jammat, political parties and indigenous insurgent groups.

Strategy of Encirclement

China needs Access to the Indian Ocean. David Lampton, Director of China Studies at the Johns Hopkins Paul H. Nitze School of Advanced International Studies and Chairman of the Asia Foundation, argues that, "(Beijing) makes friends with every regime that has energy in the ground".⁵ China is in Myanmar for access to Bay of Bengal, oil and gas and lucrative markets of South East Asia and as a result, it wants to keep India engaged internally, so that it

can keep India out of Myanmar. Veteran journalist-writer Bertil Lintner said, "In the old colonial days, the great game east was between Russia, Afghanistan and the British colonialists in India. Post-Independence, the action has moved to China, Myanmar and India. China is still looking to increase its net of operations in the Indian Ocean".⁶ China is looking to exploit Myanmar's 3.2 billion barrels of oil and 18 trillion cubic feet (tcf) of natural gas reserves.⁷ China is also wanting to exploit Myanmar's hydro-electric power potential that is estimated to be 1,00,000 MW. Therefore, China would do everything possible to contain India along the Indo-Myanmar border so that it can prevent India from encroaching upon China's strategic, economic and political space in Myanmar.

China using Proxies in NER. Lintner further said that China's role in the North-eastern India is not to create instability but "to maintain instability"⁸ because it wants to keep India out of Myanmar. One cannot overrule the fact that China intends to intensify its proxy war against India in the Northeast through the separatist groups. Phungting Shimrang, the former chief and senior member of the NSCN-IM, has reportedly gone to Yunan province in China with two of his trusted comrades. There are reports that 100 to 150 cadres of NSCN (IM) have ex-filtrated and now reached China. Shimrang had said that even if a settlement was not reached that time, the movement would not wear out. "Even if only 30 to 100 people are left, we will start again".⁹ It is reported that United National Liberation Front of South West Asia (UNLFW), a united front of nine insurgent groups, is covertly operating under the guidance of Chinese intelligence agencies to fight against Government of India. The fact that Paresh Barua and Shimrang reported to be in Yunnan, will be leveraged by China to reignite instability even if the Naga peace accord materialises. The intent will be to keep the Northeast India in turmoil so that China can interfere with India's conventional military posture, should there be a military standoff between the Chinese People's Liberation Army (PLA) and the Indian Army. An Intelligence Bureau (IB) official says that Chinese activity has seen a two-fold increase in the past year. "Ever since India has decided to talk peace with various NE groups in a bid to bring them to the mainstream, the Chinese have been on overdrive mode to help insurgent groups in this part of the country," the officer notes.¹⁰ Chinese regime's 3Ws strategy of psychological, legal and media warfare¹¹ has exhibited a growing interest in waging an asymmetrical form of warfare in areas that are deemed to constitute its 'core interests'¹² and Northeast India is in close proximity to its core interest of strategic linkages with Myanmar, TAR and access to Indian Ocean through Bay of Bengal.

ISI still a Spoiler of Peace. Even today, Pakistan feels that this region should not be allowed to remain stable and that is the region ISI never left even after 1971 and continues to maintain its presence directly or through proxies. Zulfikar Ali Bhutto, former Prime Minister of Pakistan, wrote in his book 'The Myth of Independence', "Our controversy with India is not on the problem of Kashmir only; there is the problem of Assam. In Assam, there are some Muslim majority districts which should have been given to Pakistan (at the time of the partition, these districts were wrongly included in India)".¹³ The proxy war by Pakistan against India was not only triggered in Jammu and Kashmir but also in the Northeast. Naga and Meitei insurgency received impetus from Pakistan since early 50s. Phizo escaped to East Pakistan in 1957 and sought Pakistan's recognition of Nagaland and help in raising the issue of its independence in the United Nations (UN). Phizo asked Pakistan to recognise Nagaland as separate country. Pakistan not only supported Naga rebels but also played major part in fuelling Mizo and Meitei insurgency. It was on the behest of ISI that Paresh Barua had allegedly got non Assamese Hindus massacred in Assam through Assam Tiger Force (ATF).¹⁴

Pakistan may have been evicted from the Northeast, but ISI never left Bangladesh. Repatriated Bengali officers from Pakistan Army still have old connection with Pakistan and second the linkages of Jammat funded by Saudi Arabia with their counter parts in Pakistan. ISI facilitated meeting point for Jammat and radical Islamists in Bangladesh to enhance the agenda of creation of space for Wahhabi intolerant Islam and use this influence to create anti India sentiments in Bangladesh. Focus of ISI and Jammat is that if they cannot create a favourable pro Pakistan perception among the people then, at least, they should prevent creation of pro India sentiments among the people. The result of this proxy support by Pakistan ISI is that it has firmly supported Jamaat-e-Islami in Bangladesh. Idea of having space in Bangladesh is to fuel instability in the Northeast and West Bengal.

Bangladesh a Peril for Instability. Sheikh Muzib-ur-Rahman, former President of Bangladesh, had similar sentiments towards
Assam and he said, "The population of East Bengal (Bangladesh) is increasing at alarming speed. Their inhabitants face acute shortage of land. The Bengalis need land, which can be given by Assam. Assam abounds in good forests and beautiful scenes of nature. If some inhabitants of Bangladesh migrate to Assam and settle there permanently, they will be very happy. Actually Assam should have been included in East-Pakistan".¹⁵ The desire to colonise and occupy parts of Assam is still an agenda for radical Muslims in Bangladesh. However, they forget that even Hindu dominated parts of Sylhet were unfairly merged with East Pakistan. The Chittagong Hill Tracts had tribal population of approximately 98 per cent and was set to be merged with India. However, it came as a shock to the tribal people that Chittagong was not included in India. As a result, even after the proclamation of boundary, the Chittagong Hill Tracts People's Association (CHTPA) hoisted the Indian flag. The Pakistan Army crushed the protest. Majority of them continue to remain refugees even now in Mizoram. Another cause of worry is that Jammat has revived in Bangladesh and is fast spreading across the rural areas. This has given impetus to the rise of Jihadists, mainly Hizb ut-Tahrir (HuT), Jamaat-ul-Mujahideen-Bangladesh (JMB) and Ansarullah Bangla Team (ABT). These terror organisations have ideological linkages with Al-Qaeda and Islamic State. In 2012, the HuT with the help of Major Zia-ul-Hug, a disgruntled Bangladesh Army officer, attempted a failed coup. Major Zia managed to escape and subsequently became the de-facto chief of the ABT. This new militant outfit has been recruiting young Bangladeshis for arms training and organising specific attacks on secular rationalists and liberal intellectuals.¹⁶ The ABT is emerging as a major threat because of its popularity among the youth and attraction towards Al Qaeda. The outfit is politically affiliated to the Islami Chhatra Shibir-the student wing of Bangladesh's largest Islamist party, the Jamaat-e-Islami. Interestingly, the outfit prefers more educated and elite recruits.¹⁷ According to Dr Christine Fair, "In fact, as both the Islamic State and Al Qaeda in South Asia have locked their sights on South Asia, Bangladesh deserves special attention".¹⁸ The role of Director General Forces Intelligence (DGFI) at times give suspicion that their hands are not clean when it comes to dealing with the insurgents from the Northeast. In fact, DGFI has hobnobbed with ULFA and All Tripura Tiger Force (ATTF) in the past. In spite of the support Bangladesh government of the day has extended to India to deal with the insurgency in Assam, the peril of corridor from Bangladesh continues to remain an issue for Indian security agencies.

Myanmar the Fragile Borderland. Bangladesh and Myanmar have emerged as major routes for arms trafficking into NER. The major channels in Myanmar are the Karen National Union (KNU) and the Kachin Independence Army (KIA). These two ethnic insurgent groups have acted as the interlocking chain for the illegal weapons flow from Yunnan in China via Myanmar to Northeast India.¹⁹ Myanmar may not be actively supporting the insurgency in the Northeast but, due to lack of control over undeveloped border areas, is acting as safe havens for Indian Insurgent Groups. Some of these groups are supported by Chinese intelligence agencies through KIA and KNU. Another group that is actively supporting Indian insurgents with arms and training is the United Wa State Army (UWSA).

Narcotic Trade

India is becoming a destination of drugs and narcotics from the Golden Triangle. From high-grade heroin to low-grade brown sugar, synthetic party drugs like 'World is Yours' and 'Yaba', the source is the infamous Golden Triangle of Thailand, Myanmar and Laos, known locally as Sop Ruak²⁰, now find India a lucrative market. Similarly, there is also a reverse flow of opium and heroin from NER to Myanmar. A security official associated with counter-insurgency operations in NER said, "We have information that the village of Joupi (close to Myanmar) has turned into a poppy cultivation ground. Heroin from these farms is being smuggled into Myanmar".²¹ Narcotics, weapons and gold smuggling is assisted by Free Move Regime that exist between India and Myanmar, where people can travel up to 16 km without visa or passport and are even allowed to carry head loads for barter trade. India and Bangladesh are the destination of narcotics from Myanmar. There are two main routes, Champhai through Mizoram and Manipur which is contiguous to Sagaing Division of Myanmar. This assumes significance because narcotic is one of the main resource of terror / insurgent funding.

Drug trafficking from Nepal through Siliguri Corridor is emerging as a new challenge to the security forces. *Hashish* and marijuana/*ganja* are the two derivatives of cannabis that have been customarily smuggled from Nepal into India.²² Good network of roads as well as unchecked and badly protected borders have assisted large smuggling of drugs. The road and rail connection between Assam and Nepal via Siliguri in West Bengal has been used for migration and smuggling activities.²³

As long as drug and narcotic trade remains a source of funding, insurgency in the Northeast will continue to simmer due to nexus of drug cartels, rogue intelligence agencies and insurgents.

Weapons Trafficking

There are three agencies that are instrumental in weapon trafficking to the insurgents in the Northeast and Left Wing Extremists namely, NSCN (IM), Paresh Barua and Chinese Norinco Ordinance Company. Weapons are manufactured by Chinese company and transported up to Indian borders by Paresh Barua, either directly or with the help of KNU and KIA, and finally distributed by NSCN (IM) and even ULFA (I). Paresh Barua is more of a warlord now, a mastermind in the trafficking of weapons.²⁴ US senator Larry Pressler had told Indian media persons in Kolkata during a visit that China was the world's major source of small arms proliferation that were "fuelling conflicts from Morocco to Malaysia". National Investigation Agency (NIA) officials say that Shimray has confessed to an attempt to bring in 1,100 AK-series rifles, machine guns and rocket launchers valued at \$2 m in the first consignment - and more later, if the route was found to be safe.²⁵ Indian intelligence says that Shimray's attempt to use the Cox's Bazar route indicates that India's Northeastern rebels still have strong connections in Bangladesh, especially in the Chittagong-Cox's Bazar area.²⁶ Drugs and weapons cumulatively are the factors that give impetus to insurgency and as long as the insurgents continue to get the access to weapons, instability in NER will remain.

The Real Challenge

Act East Policy is not novel in its character. India was trying to connect with the East Asian neighbours for long. In fact, the first Prime Minister of India, Pandit Nehru, while addressing over 200 delegates from 30 Asian nations and a handful of observer countries reminded his audience that, "India is the natural centre and focal point of the many forces at work in Asia". He further said, "India was the meeting point of Western and Northern and Eastern and South-East Asia" and "streams of culture" flowed to India and from India to the rest of Asia, influencing "vast numbers of people".²⁷

Subsequently, Prime Minister Narasimha Rao unveiled 'Look East' Policy in early 1990s for greater engagement with ASEAN and South East Asian countries. The current government brought the focus back to deeper engagement with its regional neighbours in the East with a new initiative under 'Act East' Policy.

The cornerstone of success of Act East Policy rests on India's ability to stabilise North-east, establish land, sea and air connectivity with ASEAN nations and South East Asia. Stability in the Northeast cannot be brought unless the regional neighbours are also made stakeholders in peace dividends. India will have to also take stringent measures to deal with arms and drug traffickers who are backed by a few insurgent groups within the Northeast and in Myanmar. Though China would attempt to derail India's efforts to establish peace, however, what is important is to work with Bangladesh, Myanmar and even with Nepal. This would also involve balancing China in Myanmar and ASEAN, whereas China is already working to ensure that India is restricted and contained within its own frontier. China is using political, economic and its proxies as well to maintain instability in the Northeast.

India can only put into effect 'Act East Policy' if it is able to stabilise the NER, bring insurgents and anti-talk factions to the negotiation table and establish physical connectivity with Myanmar and further to ASEAN nations. The bottom-line is that India requires a multi-pronged approach to deal with China, its proxies, insurgents, drug and weapon trafficking cartels and rogue agencies operating from within neighbouring countries. One factor that remains constant is China that has linkages with insurgents, weapon traffickers and rogue agencies. Thus, China is emerging as a major disruptive force in implementation of India's Act East Policy. Non-state actors and China would be more than eager to create vulnerabilities along the Siliguri Corridor through Jihadists and even through politically disaffected sections of society. China may even use Maoists of Nepal since Siliguri Corridor also acts as an obstruction for direct access to Bangladesh.

Endnotes

¹ Narender Kumar, North East Region: The Alaska of India, *Indian Defence Review*, Mar 21, 2015.

² Kumar Sambhav Shrivastava, Battle over oil, coal & forests, Down to Earth, September 18, 2015.

³ Ibid.

⁴ Pranab Kr. Das, North –East, 'The Power House of India': Prospects and Problems, IOSR Journal Of Humanities And Social Science (IOSR-JHSS), Volume 18, Issue 3 (Nov. - Dec. 2013), PP 36-48.

⁵ David M. Lampton, The Three Faces of Chinese Power: Might, Money, and Minds, University of California Press, P 246.

⁶ 'China wants to maintain instability in northeast India' Deccan Herald, August 26, 2012.

⁷ Zawtika Project, Gulf of Martaban, Myanmar (Burma), Accessed from https://www.offshore-technology.com/projects/zawtika-gulf-martaban-myanmar-burma/ on February 22, 2020.

⁸ 'China wants to maintain instability in northeast India' Deccan Herald, August 26, 2012.

⁹ Namrata Biji Ahuja, NSCN(IM) seeks support from China as India hardens stand on Naga deal, The Week, November 22, 2019.

¹⁰ Vicky, Revealed: How China facilitates illegal arms trade in N-E states, Accessed from https://www.oneindia.com/india/revealed-how-chinafacilitates-illegal-arms-trade-in-ne-states-2314227.html

¹¹ Walton, Timothy A., 'Brief on China's Three Warfares', Delex Special Report 3, January 18, 2012, available at http://delex.com/pub/dsr/Three%20Warfares.pdf, accessed on 15 June 2013

¹² Most analyses of 3Ws have been carried out by analysts from the United States and Taiwan. Though not laid down as official strategy anywhere in Chinese official literature, Western analysts surmise that the People's Liberation Army (PLA) has a low-level asymmetric plan overlaying its official military strategy.

¹³ Pradeep Kumar Rai, Insurgency in North-East India: Cross-Border Connection, Biannual Publication of Centre For Defence Studies Research & Development, Vol 1, No 1, January 2009, p 170.

¹⁴ ISI's Links with Northeast Insurgent groups, South Asia terrorism Portal, Accessed from

https://www.satp.org/satporgtp/countries/india/document/papers/Pakistan_re port/Anex_G.htm on February 22, 2020.

15 Rai, N 12.

¹⁶ Rai N 12.

¹⁷ Rai N 12.

¹⁸ C Christine Fair and Seth Oldmixon, 'Think Again: Islamism and Militancy in Bangladesh', The National Interest, 13 August 2015.

¹⁹ Wasbir Hussain, Insurgency in Northeast India: The Chinese Link, Institute of Peace and Conflict Studies, February 02, 2015

²⁰ Prabin Kalita, Guns earlier, now gold smuggled from Myanmar is worrying India, The Economic Times, June 29, 2019

²¹ Ibid.

²² "Nepal," UNGASS Goals on Control of Precursor-South Asia, at http://www.unodc.org/pdf/india/publications/ungass_Goals/20_annexureivco untry report-nepal.pdf (Accessed on July 19, 2011).

²³ Y. Mhalo Kithan, Drug Trafficking In Northeast India: A Case Study Of Nagaland, accessed from http://dspace.lpu.in:8080/jspui/bitstream/123456789/2774/1/11503626_4_28 _2017%2011_59_58 %20AM_mhalo%20 dissertation%20with%20title.pdf April 2017.

²⁴ Subir Bhaumik, Smuggling of China-made weapons in focus, Al Jazeera, Feb 04, 2014.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Rohan Mukherjee, East by Southeast: Three challenges for India's 'Act East' policy, Business Standard, January 14, 2020.

Brigadier Narender Kumar, SM, VSM (Retd) is an Infantry Officer retired after 33 years of Service. He has authored two books, on "Challenges in the Indian Ocean Region and Response Options" and "Rise of China: A Military Challenge to India". He is currently a Distinguished Fellow at USI, New Delhi.

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Race for Space: The Battle of the Ultimate High Ground

Lieutenant Colonel Amandeep Singh[®]

Abstract

Outer space is considered to be final frontier of mankind and the ultimate high ground for war fighters. Outer space, as a domain for the Next Generation Warfare (NGW), has gained substantial prominence in the foresight of militaries over the last two decades. The biggest challenge is to integrate space assets into defence architecture in a seamless fashion.

Role of outer space in national defence and security is significant and expansion of space capabilities is a crucial component of successful military operations. The outer space turf is explored in varied integrated diverse capabilities in offensive and defensive activities.

Outer space, as NGW, leverages sophisticated technology to manipulate space and time. Keeping in view the advancement in the field of Satellites and Outer Space, employing space and time to optimal military advantage is the need of the hour. Outer Space has clearly emerged as the ultimate high ground and is now a crucial element in Command, Control, Communications, Computers, Information, Intelligence, Surveillance and Reconnaissance (C4I2SR) for all three Services. The ability to harness space power will be critical to victory on the future battlefield.

Background

Once seen as the exclusive realm of superpowers, outer space

is becoming affordable for an increasing range of actors. However, like the cyber domain, outer space, too, is becoming more crowded, contested and competitive. Driven by national ambition, geostrategic tensions and growing economic prospects, space proficiencies are developing at an astounding rate. This is a truly exciting time to be in the space sector but the implications of the new space race may have far reaching consequences.

Outer space strengthens nation's way of life in peacetime and provides critical war fighting abilities during conflict. Space capabilities, therefore, are becoming essential for national development, economic wellbeing, commerce and everyday life, besides assuming a crucial component of successful military operations. Moreover, in the future, whoever has the capability to control space will likewise possess the capability to exert control on the surface of the earth. In fact, space is promising as a military and economic Centre of Gravity (CoG) for information reliance, society, business and military forces. In short, life on earth is becoming inextricably linked to space.

Introduction

Outer space is considered to be the final frontier of mankind and the ultimate high ground for war fighters. Outer space, as a domain for the NGW, has gained substantial prominence in the foresight of militaries over the last two decades, being an area of intense focus to sustain strategic lead and to counter the possibility of a 'surprise attack' from space. As things stand, the biggest challenge is to integrate space assets into the defence architecture in a seamless fashion and to prepare for the space war, if pushed to exercise the option.

Importance of space in national techno-economic, social commercial and military strategic life has promptly emerged during the past two decades. India, itself, has a strong space programme which is primarily focused and headed for scientific and developmental goals. This, in itself, enhances exposure for our country to any aggressive and antagonistic action that might seek to harm, degrade or deny space potential so meticulously built up over decades at great cost against great odds. India's dependence on space for vital economic purposes has been growing rapidly during the past decade or so.

NGW

Role of outer space in national defence and security is significant and, thus, expansion of space capabilities is a crucial component of successful military operations. The outer space turf is explored in varied integrated capabilities in offensive and defensive activities like communications, navigation, precise positioning, early warning, electronic warfare, target analysis, threat assessment, situational awareness, Battle Damage Assessment (BDA), intelligence, surveillance, reconnaissance, coverage over denied areas, combat assessments, mission planning, terrestrial and space environment monitoring.

All conventional and traditional military missions are gradually relying more and more on support from outer space, thereby strengthening the theory that space systems affect every nuance of military operations including effective integration of battlefield.

Outer space, as NGW, leverages sophisticated technology to manipulate space and time. Keeping in view the advancement in the field of Satellites and outer space, employing space and time to optimal military advantage is the need of the hour. Enemy can be deprived of the information needed to position his assets and carry out an attack or effectively respond to an attack.

Centre of Gravity (CoG)

Global trends point that space is more and more becoming an economic CoG, the loss or degradation of which would cripple commerce, finance and numerous other private and public activities. Various multifarious activities deriving direct or indirect economic and commercial benefits related to outer space are efficient communication technology, positioning and navigation, voice, video, data (email / internet), space based industries, space tourism, resource mining, public-private partnership in International Space Station cargo service, environmental explorations, expansion of human experience, human space transportation and habitation.

Space exploration stimulates both tangible and intangible benefits for humanity. Tangible benefits include innovation related applications and financial gains resulting from investments in these programmes. In addition, outer space exploration leads to advances in science and technology and promotes workforce development and industrial capabilities, leading to an overall stimulation of industries, all of which contribute significantly to the economic progress of space faring nations.

Space exploration also results in intangible benefits such as enriching of culture, inspiring citizens and building mutual understanding as a result of international cooperation among space faring nations.

Convergence of National Interests

Use of space will become increasingly vital for national interest for India. Space is the 21st century's high ground impacting on everyday lives of human beings and playing a crucial role in human development activities. Its role in the national defence and security is equally crucial.

As we move forward in 21st Century, it is certain that outer space will become another medium of warfare besides assuming the important role of protecting the country's commercial assets. Developments in space capabilities and resources are clear evidence that this phenomenon is no longer limited to a handful of developed industrialised countries. The United States would undoubtedly remain the leading space power for many decades to come. We need to acquire capabilities similar to that of the United States, or for that matter, other industrial states. But if China is seen as a point of reference in Asia, one finds that it is rapidly emerging as a space power and its capabilities may also be placed at the disposal of other countries for strategic and commercial reasons.

Military Significance of Satellites

Satellites are the focus of military space activities and are widely used to provide support for military or security related activities. They are also increasingly used to provide direct support for military operations. According to United Nations Office for Outer Space Affairs (UNOOSA), till end 2019, 8378 objects have been launched in Outer Space, out of which there are 4994 still in orbit with nine countries having indigenous space launch infrastructure and capability. Satellites are increasingly 'dual-use', i.e. can be used for both military and non-military purposes. The risk of a space Pearl Harbour is growing every day. Yet, this war would not last for years rather it would be over the day it starts. Without our satellites, we would have a hard time regrouping and fighting back. We may not even know who had attacked us, only that we will be deaf, dumb, blind and disorientated.

Role of outer space in national defence and security is decisive, making space capabilities essential for success of military operations. All conventional military missions for land, sea and air are progressively relying on support from outer space based platforms and satellites. The military uses of space continue to expand as the arrival of newer technologies affords greater scope for exploitation. Reconnaissance, surveillance, warning, communications, weather and, most recently, navigation satellites were designed and deployed to serve national security needs. Significant military applications, through exploitation of outer space, are enumerated below:-

(a) **Tactical Battle Area (TBA).** Provide operational and tactical coverage over the entire depth of the TBA.

(b) **Observe, Orient, Decide, Act (OODA) Loop.** Enables a military commander to execute observation, orientation, decision and action phases of the process in an optimised manner.

(c) **C4I2SR Systems.** Allow fusion of data from multiple sources to be able to produce a comprehensive intelligence picture dealing with all aspects of information.

(d) **Space Reconnaissance Systems (SRS).** Space warfare will be an attack on space based reconnaissance systems coupled with attempts to protect these platforms from destruction.

(e) **Engagement of Targets.** Space based systems are becoming new CoG for the enlarged battle space.

(f) **Anti Satellite (ASAT) Missiles.** These missiles are designed to destroy satellites.

Security Imperatives

Space based advantages for national security and defence imperatives are the need of the hour. Military derivatives of civilian programmes are increasingly becoming obvious because of dual use technology. Deliberation on space doctrine on national security is imperative because space is no longer an esoteric medium and military relevance of this domain is becoming increasingly germane to victory in war since it can harness synergies that function as significant force multiplier.

To derive full advantage, adaptation of existing national space apparatus can be the starting point and threshold for specificities. The defence applications achieved by other space powers can provide footprints to follow and lessons learned from the experience of space pioneers can provide a road map to progress. However, the first step in achieving a viable military space capability is to articulate new direction for space policy and to introduce this concept in military doctrines with detailed modalities.

Revolution in Military Affairs (RMA) in Space

Today, technology is an essential component of operation of weapons, tactics and even higher level domains of human activity, such as strategy and decision making. These increasingly rely on speed and near real time situational awareness. Precision guided bombs, cruise missiles and missile defences all depend on satellite generated information. The modern, digitally enabled, armed forces are able to react quickly, project power across great distances and conduct highly lethal conventional operations with precision and a high degree of situational awareness.

Even as India continues with policy of non weaponisation and peaceful uses of outer space, the growing trend towards weaponisation in its neighbourhood and in the larger global context are beginning to cast influence on India's orientation as well. Making a distinction between India's civil and military space needs has been borne out of necessity rather than choice. It is now equally necessary for India to delineate its space programme into civilian and military components with clear cut institutional architecture and better financial allocation ensuring its progressive growth. The delineation of the space programme will also serve to promote greater transparency, which would further India's role and standing in the international system.

C4I2SR Systems

Intelligence plays the most prominent role in decision making process of any nation or organisation. Increasingly large volumes of information need to be processed to filter out meaningful intelligence. The aim should be to obtain data from multiple sources to produce comprehensive intelligence picture dealing with all aspects of information. During the past few years, due to development of situational awareness technologies, the associated C4I2SR systems are increasingly becoming space based.

Space Based Defence

In addition to defensive measures, space warfare requires development of aggressive means to destroy or counter space warfare capabilities of other countries. The major categorisation of aggressive means is:-

(a) **ASAT Weapons.** ASAT weapons are developed to counter enemy military satellites, and protect own satellites.

(b) **Direct Strike Weapons (DSWs).** DSWs enable attacking selected targets with accuracy for high probability to kill, with low collateral damage.

(c) **Directed Energy Weapons (DEWs).** DEWs can be broadly defined as systems that produce a beam of concentrated electromagnetic energy, or atomic or subatomic particles, which are used to incapacitate, injure and kill people, or to incapacitate, degrade, damage and destroy objects.

(d) **Particle Beam Weapons (PBWs).** PBWs are actually miniaturised particle accelerators consisting charged particles of electrons, positrons, protons or ionized atoms, used for military purposes for destroying targets. They possess advantages over other anti-missile devices including laser weapons. In order to destroy a target, a particle beam weapon is supported with high energy, strong current and moves at very fast velocity.

(e) **Orbital Kinetic Energy Weapons.** The space based orbital kinetic energy weapon system includes a satellite having control system configured to maintain an orbit in outer space around the earth and to re-orientate the satellite on a desired trajectory corresponding to an earth based target. The projectile strikes the earth based target delivering its kinetic energy.

(f) **High Altitude Nuclear Detonations.** To create atmospheric shock wave, through nuclear explosion, to divert asteroids on a collision course with earth. The effects would be radiating heat and vaporising parts of asteroids surface facing the explosion.

Conclusion

Intelligence is of great importance, but good quality intelligence can often be hard to come by. Outer space has emerged as a new medium and there is an urgent need to enhance awareness regarding specific space issues. Outer space also serves as a major catalyst for socio-economic development and techno-economic competitiveness. Outer space capabilities are indispensable for aspirations of a progressive country. The future success of ground forces will be critically dependent upon the effective utilisation of space assets and capabilities across the spectrum of conflict. The advent of space-based systems has added a fourth dimension to modern warfare and it is imperative that the exploitation of space is done concurrently at appropriate levels, to achieve the desired operational capabilities in a compressed time frame.

Space discoveries have been attempted at the moon, being the closest cosmic body, with *Chandrayan 2* Mission. It appears that the moon will provide us the test bed to discover technologies required for deep space missions. Also, with upcoming *'Mission Ganganyaan'*, with Indian Air Force crewed space mission in the Low Earth Orbit, a gargantuan thrust would be provided to capability of expanding human knowledge whilst understanding the discoveries in the Outer Space domain.

Outer Space has clearly emerged as the ultimate high ground and is now a crucial element in C4I2SR for all three Services. The ability to harness space power will be critical to victory on the future battlefield, especially as information dominance becomes more pervasive in the ensuing evolution of Network Centric Warfare.

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Clieutenant Colonel Amandeep Singh was commissioned in Intelligence Corps in June 2006. He has undergone Satellite Imagery Interpretation Course and is an experienced Image Analyst with domain and vertical specialisation in Outer Space Assets, Space Based Surveillance and takes keen interest in exploitation of Outer Space.

Water War – Implications for India

Commander Hitender[@]

"As I travel around the world, people think the only place where there is potential conflict over water is the Middle East, but they are completely wrong. We have the problem all over the world."

- Kofi Annan, Former UN Secretary General

Abstract

Appositely labelled as 'Blue Gold' by famous authors Maude Barlow and Tony Clarke, water is slowly becoming more valuable than oil. If the current water consumption and availability trends are to be believed. water is bound to become increasingly salient in geopolitical discourse. For India, water issues with neighbouring countries, like China, Pakistan, Nepal and Bangladesh, hold high strategic significance and have the potential to become catalysts for a future conflict. China is an upstream riparian to some of the major rivers flowing into India from Tibet. A sizable length of these rivers are located in Chinese territory and melt water from the Tibetan plateau contributes around 35 to 40 per cent of the total flow in these rivers. With more and more industrialisation, China's water appetite is likely to surge further and water will get embroiled in the larger geopolitics. With the recent developments on our western borders and sustained covert support to militancy by Pakistan, even the Indus Water Treaty (IWT) is increasingly faced with challenges it wasn't designed to deal with.

Water, as an instrument and tool of bargain and tradeoff, will assume predominance in the next few years. India, therefore, needs to accord due importance to water diplomacy with her neighbours in order to maintain a strong hold over the water taps of Indian heartland. Since water is fundamental to human life and to the natural environment, there is also a need for methodical planning towards effective water management and prevention of any skirmishes.

The article examines India's water relations with neighbouring countries, analyses the undertones of 'Water War' and suggests response strategies.

Background

 ${f A}$ mongst all the natural resources available on earth, water is

the most vital for existence of life. If there was no water, there would be no life on earth. The availability, and quality, of water has always been of key importance to the mankind. It determines not only where people live but also their quality of life. The ancient Egyptian civilisation depended entirely on the Nile; the Romans expanded boundaries of engineering to use gravity and brought water closer to their cities. The earliest recorded water fight is a dispute around 2400 BC over the use of irrigation canals in the ancient Mesopotamian cities of Umma and Lagash between the Tigris and Euphrates rivers. In the recent times, water infrastructure was used as a weapon of war by the Islamic State which released floodwaters from dams captured along the Tigris and Euphrates rivers to punish downstream states and to slow the advance of opposing military forces.¹

Water as a natural resource is synonymous with abundance but the irony is that this synonymy with abundance promoted waste.² Even though it is considered renewable, water resources are facing serious threats from human activities. These include pollution, urban growth, deforestation and climate change. With the surging population across the globe, the ground water sources are depleting faster than they can be replenished. To make matters worse, inconsistent rainfall patterns are a matter of great concern. Water scarcity today affects more than half of the people on earth and by 2025 more than two-thirds of the global population will be struggling with water-stressed conditions.

"When the well is dry, we learn the worth of water."

- Benjamin Franklin

India's Water Availability

India is one of the most populous countries in the world, which supports about 18 per cent of world's population. With a significant geographical spread, India has historically managed its water resources reasonably well. While the northern plains are copiously supplied by rivers flowing from the bountiful Himalayas, the rest of the country is replenished by the raging monsoons. However, in past few years, booming economy, population growth, inconsistent monsoon patterns, rapid urbanisation and ever increasing pollution have put enormous strain on India's water resources. Already categorised as a water-stressed country, India has a per capita water availability of 1541 cubic metres. Studies show that the projected per capita water availability will become 1401 cubic metres and 1191 cubic metres by 2025 and 2050 respectively and eventually India will become a 'water-scarce' country.³ The demand for water continues to grow while collection, storage, regeneration and distribution have become over stressed. Without an efficient water management system, India is likely to get plunged into a water crisis. This would not only affect water security but also food security which can have larger socio-political implications.4

The Arab Israeli Water Conflict

"The next war in the Middle East will be fought over water, not politics."

– Boutros Ghali, Former UN Secretary General

Jordan River System. The Jordan River originates in Jordan and flows downstream to form the border with Israel. Yarmouk River originates in Syria and also forms some part of the border between Jordan and Israel before joining the Sea of Galilee.



Jordan River System

Background. With a topographical advantage of being the upper riparian states, Syria and Lebanon had the first rights but failed to make good use of the available water. Israel, Jordan and the West Bank-Gaza being the lower riparian were coerced to either accept the leftovers or act forcibly to lay hands on the desired quantity and

quality of water. While Israel, with its formidable clout, acquired most of its wants, Jordan and the West Bank-Gaza with little, or feeble influence, adjusted to what was available. This water discord has been a part of the broader Arab-Israeli conflict.

Developments Leading to War. The first Arab-Israel war was fought in 1948 between the newly declared Israeli state and a military coalition of Arab states. Following the war, all co-riparian to the Jordan River system started water-development plans in their respective countries. Whilst Jordan announced plans to divert the Yarmouk River through construction of canals, Israel began the construction of the National Water Carrier to transport the water from Sea of Galilee to southern parts of Israel.⁵ These unilateral developments caused skirmishes amongst the co-riparian, which led to mediation by the United States of America (USA). Despite long negotiations to reach an agreement, the process failed in 1955.6 Although Israel was willing to negotiate, the major drawback was that Arab countries did not recognise Israel in 1955 and feared that the plan could be seen as an implicit recognition of Israel as a country. Following the failure of the negotiation process, all countries accelerated their infrastructure development to harness water which escalated the tensions. Finally, Israel attacked Syria's water projects that contributed as a spark for the six-day war in 1967. This water conflict continues to be a tousled affair even today and enmeshes Israel, Jordan, Lebanon and Syria into frequent war like situations.

Water Relations with Pakistan

Genesis. The partition of British India in 1947 led to the formation of two independent countries – India and Pakistan. Since the division was on political and demographic lines, it shredded a cohesive network of rivers and watercourses into a frayed system of tributaries. The geography of partition was such that the irrigation system, conceived originally as a whole by the British, was divided between India and Pakistan without considering the irrigated boundaries. While the source rivers of the Indus basin were apportioned to India, the well-developed irrigation system of canals and waterways ended up in Pakistan.⁷

Geography. The Indus River originates in the foothills of Mt Kailash in Tibet and then flows north-westwards through Ladakh and

Gilgit-Baltistan, just south of the Karakoram Range. It gradually bends southwards and descends into the Punjab plains along the entire length of Pakistan to merge into the Arabian Sea. It has five principal tributaries namely, Jhelum, Chenab, Ravi, Sutlej and Beas. The river system provides key water resources for both India and Pakistan and feeds the *breadbasket* of the northern plains in both countries which accounts for most of the agricultural production.



Rivers of the Indus Water System

Backdrop of IWT. The IWT was signed, on 19 September 1960, as a water-distribution treaty between India and Pakistan to use the water available in the Indus River system. According to this agreement, control over the water flowing in three eastern rivers of India — the Beas, the Ravi and the Sutlej, with mean annual flow of 33 million acre-feet (MAF), was given to India, while control over the water flowing in three western rivers of India — the Indus, the Chenab and the Jhelum, with mean annual flow of 80 MAF, was given to Pakistan. These allocations made to India were meagre to meet its irrigation water requirements, whereas the treaty permitted

enough water to irrigate 80 per cent of the cultivated land in the Indus River basin of Pakistan.⁸

Flash Points

IWT has endured various wars and hostilities between the two countries and is largely considered a success. However, in the recent times, in view of sustained covert support to militancy by Pakistan and other geo-political developments, the treaty is increasingly faced with challenges it wasn't designed to deal with. In 2003 and 2016, Jammu and Kashmir (J&K) assembly demanded complete abrogation of the treaty claiming that it trampled upon the rights of the people of J&K. A more serious threat to the water agreement came in September 2016, after the terrorist attack on an Indian Army camp, when Prime Minister Narendra Modi stated that, "blood and water cannot flow together" and vowed to review the treaty.9 In the aftermath of the Pulwama attack in February 2019, India reminded Pakistan that water flowing into Pakistan from India can be diverted. This was followed by a statement from Syed Jamat Ali Shah, Pakistan's Water Commissioner, who avowed that such a move would be "tantamount to waging a water war" and invite a strong reaction from Pakistan.¹⁰ Hence, a conflict revolving around abrogation of water treaty is highly likely between India and Pakistan.

Way Ahead

Symbol of Goodwill. The preamble of the IWT asserts that it was entered "in a spirit of goodwill and friendship". Since neither goodwill nor friendship exists at the moment, critics argue that India has no obligation to continue with the treaty.¹¹ However, the treaty should not be a soft target for punitive action. Both countries should accept water as a fundamental human right and discuss joint solutions for water sharing. They must be forthcoming in announcing planned hydropower projects well in time to avoid any mistrust. While India has been generous and has avoided any interference in Pakistan's infrastructure development, Pakistan has vociferously objected to any legitimate development on the Indian side. She has maintained the rhetoric that any infrastructure development and capability building will allow India to strangulate Pakistan by stopping its flow of water in the event of a geo-political crisis. Pakistan must understand that it is losing additional benefits by objecting to run-of-the-river dams in upstream J&K state since this water would ultimately reach Pakistan for use and avoid dam building requirements in its own territory.

Infrastructure Development. Pakistan has been exploiting the aquifers in the occupied territories of Kashmir for decades now. The treaty does not have any clause on management of this huge reserve of groundwater, especially in Pakistan-Occupied-Kashmir. India must build up infrastructure in its own territory to tap these aquifers as well as arrest the unutilised water of its share within the clause of bilateral IWT. The pending work on Shahpurkandi Dam Project on Ravi River, Ujh Dam Project on Ujh River in J&K and Ravi-Beas link in Punjab must be expedited to feed water to the 'food bowls' of India.

The China Factor. China is an upstream riparian to some of the major rivers flowing into India from Tibet, as well as, a self-proclaimed "all-weather friend", to Pakistan. A sizable length of these rivers are located in Chinese territory and melt water from the Tibetan plateau contributes around 35 to 40 per cent of the total flow in these rivers. By keeping to the IWT, India could leverage its position as a responsible upstream riparian when it engages with China over water issue. Currently, India only has a data sharing agreement with China and it will definitely be at a loss if China proposes to obstruct or divert the flow of water in the Indus basin - a possible scenario - should India similarly obstruct Pakistan's access to water.

International Impact. Walking away from the IWT might result in India facing flak from the global community during a time when states are coming together and cooperating to improve the status of water security. Therefore, it is definitely in India's best interest to continue the IWT and avoid its termination.¹²

Strategic Leverage. India must further her strategic partnership with Afghanistan and continue the aid towards development of hydropower tapping capabilities on Kabul River which is an important tributary of the Indus basin and contributes vastly to Pakistan's share. The recently finished Salma Dam (Afghan-India Friendship Dam) built by India on Hari River should be followed by construction of the proposed Shahtoot Dam on Kabul River. This will afford significant strategic leverage in the event of a double act by China and Pakistan utilising water as a warfare tool. Water Relations with China

"The battles of yesterday' were fought over land, 'those of today' are over energy, but the battles of tomorrow may be over water, most likely between China and India."

- Dr Brahma Chellaney

Genesis. China and India are the most heavily populated and parched countries in the world, which share several trans-boundary rivers like the Indus, Brahmaputra, Kosi and Ghaghara River. For all these rivers, China happens to be the upper riparian state. Amongst these shared rivers, most tensions exist along the Brahmaputra River. While the Indus River water sharing has already been discussed earlier, this analysis is restricted to Brahmaputra River.

With its origin near Manasarovar Lake of Tibet, Brahmaputra flows across the Himalayas into Arunachal Pradesh, Assam and subsequently to Bangladesh before merging with the Ganges and emptying into the Bay of Bengal. The river is of great importance to both India and China. In China, it is considered the birthplace of Tibetan civilisation and plays a critical role in Tibet's agricultural and energy sectors. For India, it accounts for nearly 30 per cent of the freshwater resources and about 40 per cent of total hydropower potential of the country.¹³ Further, for state of Arunachal Pradesh hydel-energy is what oil is to the Gulf countries. The state, therefore, stands out as India's greatest powerhouse and in view of the emerging national water shortages, its best future water source.¹⁴



Flash Points

Control and conquest of nature has been a defining feature of the Chinese communist elite. In the post 1949 period, almost half of the world's total big dams have been constructed in China.¹⁵ Since the completion of Zangmu dam by China (the largest hydropower dam on Brahmaputra River), many security observers have warned of 'water wars' between India and China. In his paper 'Water Wars in the Middle Kingdom' which was published by the International Affairs Review in 2014, Matthew French stated that "China has turned to the Tibetan Plateau as an answer to its internal water security problems which risks enflaming neighbouring countries. Her damming efforts in the region may trigger a deadly water race to control the rivers". The much debated on-going project of South-North water diversion scheme on Tsangpo River (named downstream as Brahmaputra) is also likely to severely debilitate the water supply and hydropower capability in Northeast India and Bangladesh. In addition, China's unwillingness to sign any binding agreement with downstream countries and lack of any transparent mechanisms in information sharing over trans-boundary rivers is also evidence that China is insisting on the absolute sovereignty of water principle.¹⁶ In the absence of a water treaty, China depriving India of water during lean seasons becomes a possibility. According to Chandan Mahanta, who heads the Centre for Environment at the Indian Institute of Technology, Guwahati, the Chinese hydropower projects could convert Brahmaputra into a seasonal river implying water scarcity in India. Another risk is the release of flood waters during the monsoon season, which could inundate the already flooded Brahmaputra river basin in Assam.¹⁷ As dreaded by various scholars and diplomats. a silent Water War with China is finally becoming a reality and India should be ready to face it.

Way Ahead

Water relations with China cannot be viewed in isolation. The resultant contours that it will give to the foreign policy of the two nations also need to be factored. Chinese intentions are clearly evident in her *"salami slicing"* approach in all the geo-strategic affairs. Her continuous assertion over Arunachal Pradesh as its territory absolves it of the obligation to share water over the prospective massive damming of River Brahmaputra. As China's water appetite

surges, similar territorial disputes are likely to gather steam and water is likely to get embroiled in the larger geopolitics. India's challenge will, therefore, be to raise these issues in a manner that China is forced to engage India. Unlike the lower riparian states of the Mekong River, India cannot afford to cringe down under the strategic clout of China. China's water diplomacy must be offset by a strong counter-strategy from India.

India must complete the essential infrastructure developments in North-eastern states within the laid down time frames. Water issues should increasingly form an agenda in the bilateral talks between India and China. India can also counter China's covert water war by innovative means, including underscoring of Hong Kong, Xinjiang, Taiwan or Tibet issue, to derive some leverage. However, given the economic and military rise of China in the past decade, this action also needs to be timed and pitched prudently. While the options available are restricted, timely implementation is critical lest China exploited its upper riparian status to control the water taps of Indian heartland.

Water Relations with Bangladesh

Genesis. Plenteous water flowing through munificent rivers marks both the physiography and cultural identity of Bangladesh. These rivers are the principal arteries of fresh water, food, fish and commercial transportation in Bangladesh. As stated by a publication issued by the Bangladesh Water Development Board, about 405 rivers flow through the country to form the *Ganges-Brahmaputra-Meghna* (GBM) mega-basin which is the second largest hydraulic region in the world. Within this basin, 54 rivers cross the border between upstream India and downstream Bangladesh. Only one however, is subject to a bilateral agreement between the two countries: the Ganges River.¹⁸



Source: http://www.bdembassyuae.org/bd-geo.html

River Systems of Bangladesh

Major Issues of Discord

The issues of water discord between India and Bangladesh are enumerated below:-

(a) The Ganges Water Treaty (GWT). While the long standing conflict over sharing the lean season flows of the *Ganga* was contentedly resolved in 1996 by the GWT, the issue of water

diversion at Farakka Barrage still lingers on. The Farakka Barrage was built by India in 1975 to divert water from the Ganges River to the Bhagirathi-Hoogly river system. The agreement was based on the flow average between 1949 and 1988; however, the real flow at Farakka in the 1990s was much lower than that. The Bangladeshi political factions, therefore, allege that India is drawing excess water from Ganges at Farakka and the amount allocated to Bangladesh is unjust. India, in turn, complains that the water allocated to Bangladesh leaves it with less water than stated and what is necessary for the functioning of the Kolkata Port and National Thermal Power Corporation in Farakka. Farakka barrage has also been criticised for excessive siltation in Ganga thereby triggering floods in Bihar. The signing of the GWT has definitely helped in improving the overall bilateral relations between the two countries but an understanding on the issue of water diversion at Farakka needs to be arrived at.¹⁹

(b) Teesta River Water Sharing Conflict. Teesta River is an important tributary of the Ganges River, with 83 per cent of the catchment area in India and the remaining 17 per cent in Bangladesh. Negotiations on water sharing of Teesta have been on since 1983; however, no agreement has been reached on the issue till date. A mutually agreeable deal was close to be inked in June 2015 but was stalled due to objection by the Chief Minister of West Bengal stating that the planned agreement would render West Bengal dry. The issue remains a vexed problem and has loomed large over India-Bangladesh relations for over a decade. It has been a sore point in all the deliberations and bilateral talks. There are many imponderables in sharing the Teesta waters on a basis that is satisfactory to both Bangladesh and India. In the past two decades, run-of-theriver project dams on Teesta, upstream in Sikkim, have experienced a substantial reduction in water flow owing to periodic landslides, siltation, etc. Unless an integrated view of Teesta basin management is adopted, the water and power needs of Sikkim and Bengal cannot be attended to in juxtaposition to the needs of Bangladesh.²⁰ Therefore, an easy resolution may not be feasible under the prevailing hydrological conditions.

(c) The China Factor. China's long distance transfer of waters from Brahmaputra, and extensive damming in Tibet, has adversely affected the hydrology of the Indian rivers. The equitable sharing of water quantities based on old figures is no more feasible today. Therefore, Bangladesh needs to be sensitised about the disturbed water supply-demand chain that exists within India as middle / lower riparian.

Way Ahead

Under the current political leadership in India and Bangladesh, the signing of the Land Boundary Agreement in 2015 proved that anything is possible with political will. This example presents a significant hope for an agreement to be reached over the Teesta waters also. It will not only improve bilateral ties but also have a positive influence on further efforts to enhance co-operation at Farakka.²¹ In order to expedite an agreement, joint studies, particularly by the Joint Rivers Commission, for bridging differences and resolving misconceptions must be vigorously progressed. The central government must get the state government of West Bengal on board and arrive at a solution which protects the interest of all stake holders. A final agreement should be based on the recommendations of technical experts followed by a political compromise, if required.

Water Relations with Nepal

Background. The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of special relations that exist between India and Nepal. Cooperation in water resources from common rivers is one of the most important areas of bilateral relations. Nepal possesses huge fresh water resources and a large number of rivers originating in Nepal feed the perennial river systems of India in terms of ecology and hydropower potential. Various water sharing agreements signed between the two nations include the Mahakali Agreement (1920), Koshi Agreement (1954), Gandak Agreement (1959) and the Mahakali Treaty (1996). These agreements have been beneficial to both the nations. However, negligence in implementation from both sides, excessive infrastructure developments along the embankments causing floods and mistrust on water sharing issues have long muddled the waters.

Major Issues of Discord

The issues of water discord between these two nations are as below:-

(a) Mahakali Treaty. Amongst all the above agreements, the Mahakali Treaty, signed in 1996, is the most ambitious yet debated deal. Mr KP Sharma Oli, the current Prime Minister of Nepal, was also the coordinator of the team for studying the treaty. The major benefits of the treaty are flood control and irrigation of agricultural land in India and Nepal. The United Nations Environment Programme in 2007 also appreciated the treaty and went on record to state, "The signing of the Mahakali Treaty has indeed provided India and Nepal with an opportunity for meaningful cooperation to benefit millions of people in the two countries whose livelihood depends on the waters of the Mahakali River". However, there is discernment in certain quarters in Nepal that the treaty lacks clear provisions on what constitutes Nepal's water rights. The treaty is formally active but the progress in its implementation has been tardy. The Pancheshwor Multipurpose Project was the centre of attraction of this treaty; however, even the Detail Project Report (DPR) of this project has not been finalised till now.

(b) Kosi Agreement. India and Nepal signed the Kosi Agreement in 1954 to regulate the flow of Kosi River towards enhancement of hydel-power generation, irrigation water and to ensure flood management. A barrage straddling the India Nepal border was constructed for this purpose and embankments were raised on either side of the river. There have been various disputes over this agreement fuelled by floods in the Kosi region. In April 2008, there was a devastating flood in the Kosi Basin which displaced 50 thousand people in Nepal and around 30 lakh in India.²² Both sides blamed each other for failure to prevent such a massive disaster. The floods were caused by a breach of the eastern embankment at Kusaha village in Nepal, resulting in the worst damage in the past 60 years of recorded flood history in India and Nepal.23 There have been at least seven such recorded breaches since 1961 and the river is better known as "Sorrow of Bihar". Practically, the disaster could have been averted with reasonable foresight and better coordination between the two countries.

Way Ahead

The water sharing issues with Nepal might seem to be less significant but they hold phenomenal strategic importance for India. Being a cordial and friendly nation with great geo-political importance, India needs to accord due importance to water ties with Nepal. The emergent speculation and mistrust between the two neighbours needs to be offset with confidence building measures during bilateral talks like the annual Nepal-India Joint Commission meetings. Concurrently, a joint technical committee of experts from India and Nepal should carry out a revised cost benefit analysis of the projects to review the water sharing agreements and set up proper accountability and compliance mechanisms.²⁴ The authorities should also examine the roads and bridges built recently on both sides to check their impact on the drainage capability of rivers. High level visits, by ministers and Indian delegates, to Nepal at frequent intervals to re-affirm faith in each other will go a long way in fostering the bonhomie between the two nations.

Conclusion

History has proven that a multitude of factors usually converge and bring countries at the brink of war. When politics and water mix and cooperation transfigures to conflict, freshwater becomes an issue of national security and a tool of violence. For India, water issues with Pakistan and China will be far more political and strategic, and will continue to hold high potential to become catalysts for conflict. Water as an instrument and tool of bargain, and trade-off, will assume predominance with these countries since the political stakes are very high. With Nepal and Bangladesh, however, there is far more scope to overcome and break political deadlocks through sensible water sharing arrangements and resource development.²⁵ It is, therefore, recommended that absence of a conflict should not be equated to peace and effective risk-reduction strategies must be adopted with all neighbouring states over water sharing. Since water is fundamental to human life and to the natural environment, there is a need for methodical planning towards effective water management and prevention of any future skirmishes. The former United Nations Secretary General Kofi Annan had rightly said, "The world's water resources are our lifeline for survival and sustainable development. Together, we must manage them better and ensure their sustainable use for generations to come".

Endnotes

¹ "Water is a Source of Growing Tension and Violence in the East", an article by Peter Gleick and Charles Iceland of World Resources Institute on 27 August 2018. https://www.wri.org/blog/2018/08/water-source-growingtension-and-violence-middle-east. Accessed on 21 August 2019.

² Dr Narendra Kumar Tripathi, The Journal of the United Service Institution of India, CS-3 m-5/2009, New Delhi, 2009, p.7

³ River Basin Report and Water Assessment Data 2015, Water Resources Information System (WRIS), Ministry of Jal Shakti, Government of India.

⁴ Tripathi, op cit, p.9

⁵ 'Jordan Basin', Regional Report by Food and Agriculture Organisation of the United Nations, 2009. http://www.fao.org. Accessed on 13 July 2019.

⁶ "Negotiated Resolution of the Jordan-Israel Water Conflict", Research article on International Negotiation by Haddadin on 01 January 2000. Vol 5, Issue 2. https://doi.org/10.1163/15718060020848767. Accessed on 20 July 2019.

⁷ "Indus Water Related Development in the Basin", A Report by Food and Agriculture Organisation of the United Nations in 2016. http://www.fao.org/nr/water/aquastat/countries_regions/profile_segments/ind us-IrrDr_eng.stm. Accessed on 20 July 2019.

⁸ "Indo-Pak and Hydro Politics", editorial by Saadat Bilal Khaki on 26 July 2018. https://www.greaterkashmir.com/news/opinion/indo-pak-and-hydro-politics. Accessed on 28 July 2019.

 "Water Crisis Brews between India and Pakistan as Rivers Run Dry", by Faseeh Mangi, Chris Kay and Archana Chaudhary on 26 January 2019. https://economictimes.indiatimes.com/articleshow/
67700195.cms.
Accessed on 03 August 2019.

¹⁰ "Now It's Water War between Pakistan-India", by Aamir Latif and Shuriah Niazi on 13 March 2019. (https://www.aa.com.tr/en/asia-pacific/now-its-water-war-between-pakistan-india/1416519. Accessed on 21 July 2019.

¹¹ "India Needs to Keep the Indus Water Treaty Intact", an article by Observer Research Foundation, by Sayanangshu Modak on 22 Mar 2019. https://www.orfonline.org/research/india-needs-to-keep-the-indus-waters-treaty-intact-49211. Accessed on 04 August 2019.

¹² Ibid.

¹³ "Ganga-Brahmaputra-Meghna Basin", Regional Water Report by Food and Agriculture Organisation of the United Nations 2011. http://www.fao.org. Accessed on 11 August 2019.

¹⁴ B G Verghese, India's Northeast Resurgent: Ethnicity, Insurgency, Governance, Development, (New Delhi: Konark Publishers Pvt Ltd, 1996), p.239 ¹⁵ The Journal of the United Service Institution of India, CS-3 m-5/2009, pp.23-25

¹⁶ Hongzhou Zhang, 'WIREs Water'. Published by Wiley Periodicals, Inc. Volume III, 26 April 2016.

¹⁷ "China's Hydro Ambitions and the Brahmaputra", a research report by Shreya Bhattacharya, Non Traditional Security Centre of Institute for Defence Studies and Analyses (IDSA), New Delhi on 23 July 2018. https://idsa.in/backgrounder/china-hydro-ambitions-and-the-brahmaputrasbhattacharya-230718. Accessed on 11 August 2019.

¹⁸ R Singh, 'Trans-boundary Water Politics and Conflicts in South Asia: Towards Water for Peace', Centre for Democracy and Social Action, New Delhi, 2008.

¹⁹ "India, Bangladesh and the Farakka Barrage", research paper by Madeleine Lovelle, Analyst, Global Food and Water Crises Research Program on 10 May 2016. http://www.futuredirections.org.au/publication/india-bangladesh-farakkabarrage. Accessed on 21 August 2019.

²⁰ "The Many Imponderables in Sharing the Teesta Waters", by Gautam Sen on 18 April 2017. https://idsa.in/idsacomments/imponderables-in-sharingteesta-waters_gsen_180417. Accessed on 20 August 2019.

²¹ Lovelle, op.cit.

²² "Revisiting the Kosi Agreement: Lessons for Indo-Nepal Water Diplomacy", Institute for Defence Studies and Analyses, New Delhi, 2008. http://www.idsa.in/idsastrategiccomments/RevisitingtheKosiAgreement_ Medha%20Bisht. Accessed on 19 August 2019.

²³ "Water Issues between Nepal, India & Bangladesh", a Report by Institute of Peace & Conflict Studies, by Pia Malhotra, New Delhi, July 2010.

²⁴ "Koshi Victims May Have No Option except Courts", by Shawahiq Siddiqui in Understanding Asia's Water Crisis on 12 January 2019. https://www.thethirdpole.net/en/2019/01/12/koshi-victims-may-have-nooption-except-courts. Accessed on 11 August 2019.

²⁵ "Water Security for India: The External Dynamics", Task Force Report by Institute of Defence Studies and Analyses, 2010. https://idsa.in/book/WaterSecurityforIndia. Accessed on 21 August 2019.

Journal of the United Service Institution of India, Vol. CL, No. 619, January-March 2020.

Commander Hitender was commissioned into the Indian Navy on 01 July 2006. He is presently undergoing the 75th Platinum Jubilee Staff Course at the Defence Services Staff College, Wellington, Nilgiris. This is the edited version of the article which won the first prize for USI Gold Medal Essay Competition (Group A) 2019.

Social Media: New Dimensions of Warfare

Lieutenant Colonel Akshat Upadhyay[®]

Abstract

This essay examines the features of social media platforms (SMPs) and their weaponisation by state and non-state actors alike. The author argues using a host of examples that the age of total war has diminished, if not obliterated completely. A state where every citizen is simultaneously a combatant and a target, a citizen's war, has been the norm ever since the end of the Cold War. Use of SMPs has exacerbated various fault lines within societies. This has been adequately exploited by actors in Low Intensity Conflict Operations (LICO). Examples such as Hong Kong and Inter-Services Public Relations (ISPR) during the Balakot crisis come to mind. Finally, the author suggests structural, organisational and doctrinal changes by analysing various doctrines, joint and service-specific, to ensure that the Indian Armed Forces are better prepared to take advantage of this extremely potent tool, and use it not only for defence but offensive action too.

Introduction

 ${f S}$ ocial media, an umbrella term, is defined as any web or mobile

based platform that enables an individual or agency to communicate interactively and enables exchange of user generated content. Enabling cheap, accessible and instant communication worldwide, social media has revolutionised the way people interact with each other. It is based on Web 2.0 which emphasises user generated content over state/ corporation based broadcast modes. The variety of content afforded and integration with number of smart devices implies that the same platform can be used to influence people devoid of any geographical inhibitions. This influence, when weaponised by nation states and non-state actors alike may render conventional warfare impracticable.

Shifting Paradigm of Warfare

War is a means to achieve a state's political objectives through the utilisation of military force. From Napoleon till the end of the Second World War, warfare was state-centric and 'total' i.e. involving the entire society. However, the advent of nuclear weapons and rapid decolonisation across Asia and Africa have made 'total' war less probable now. Massive societal, cultural, political and economic faultlines within the newly created countries have led to the rejuvenation of terrorism as a favoured method of conflict. We are now witnessing a 'war amongst people'¹, a war where civilians are the targets, objectives, and predominantly the opposing force. Social media, which comprises users, social media platforms (SMPs) and related infrastructure, by placing content creation, analysis and delivery into the hands of users along with providing a common platform for idea and ideologies, has brought warfare participation down to the level of ordinary citizens.

Attributes of Social Media

The Good. The main attributes of social media are accessibility (extremely low barriers of entry), speed (maximum impact, minimum time), anonymity (manipulation, fake news), high volume of data exchange (noise versus genuine content), and flat structure (common platform for minorities, radicals and extremists alike). An innovative use of social media has been the use of open source intelligence (OSINT) to uncover state complicity in terrorist acts. Activists mobilised people for Arab Spring and the current protests in Hong Kong using SMPs.²

The Bad. Use of social media exposes vulnerabilities of users (manipulation of news feed of 700,000 users - emotional contagion³), provides an unregulated environment (8chan and Christchurch and El Paso shootings), and enables rapidity of spreading panic (child kidnapping messages on WhatsApp and subsequent lynching of innocent people).

And the Ugly. Islamic State (IS) and Al Qaeda (AQ) have exploited SMPs for spreading their extremist ideologies⁴, recruiting members, intimating the progress of their battles⁵ and franchising their expertise

down to individuals. SMPs have been supplemented by sensor based devices along with applications (apps) which merge physical, emotional and cognitive attributes of users to create what some analysts refer to as 'surveillance capitalism', mining of big data for generating revenues.⁶ Combined with the emotional contagion effect, data from SMPs have been used by companies like Cambridge Analytica for influencing the results of the United States (US) presidential and many other elections and United Kingdom's Brexit campaign.⁷

Weaponisation of Social Media

Non-Viability of Warfare Generations. There have been attempts to categorise warfare into generations with defining characteristics, however, most ideas and technologies of these 'generations' bleed into one another rather than staying impermeable. This simply implies that despite conventional battles or inter-state rivalries being considered passé, they operate alongside SMPs and terrorism to give rise to complicated battlefield scenarios where information dominance will lead to an overwhelming edge. In most scenarios, the adversary aims to affect change in population's attitudes towards their host government to exacerbate existing faultlines and weaken the state from within, thereby precluding the need for major military confrontation. SMPs which are designed to collect and monetise massive data about their users are the best platforms to conduct these operations.

Russian Information Operations (IO) Efforts. Russia ran an extensive campaign to influence election results in the US. In an exhaustive study, where a total of 10.4 million tweets, 1100 YouTube videos, 116,000 Instagram posts, and 61,500 unique Facebook posts published by Russian Internet Research Agency (IRA) from 2015 through 2017 were analysed⁸, a tenuous link was established between the Russian efforts and outcome of the election results. Also, Facebook's head of security in 2017 specifically pointed out the 'Unpublished Page Post Ads' feature that allowed for very specific targeting of audiences.⁹ These ads were used to generate hostility towards certain ethnic groups and run a negative campaign against some candidates. Russia also used social media extensively to undermine the credibility of the Ukrainian government using hoaxes, fake news and integrating its mass media network with social media attacks.¹⁰
Pakistan IO during Balakot Crisis. Pakistan's Director General of Inter Services Public Relations (DG-ISPR) has used social media extensively as a weapon both against adversaries and citizens alike.¹¹

The Balakot incident showcased attempts by ISPR to wage hybrid war (conventional and unconventional capabilities applied together) against India. Misinformation on the location of Balakot, number of terrorists killed in Indian airstrikes, number of captured Indian pilots and Pakistani downed pilots saturated SMPs, mostly in the form of bots and fake accounts. Attempts were also made to create/reinforce political divisions within India during the Balakot episode. Most of them were removed later by Facebook and Twitter. Edited videos of the captured pilot were circulated by ISPR to discredit the Indian government. ISPR also coordinated a number of columns by reputed Pakistani expatriates, floated and retweeted heavily, which put the focus on Pakistan's apparent magnanimous gesture of returning the pilot and painting the Indian state as aggressive.

Use of Social Media by Non State Actors. This article assumes a broad view of non-state actors, not limiting them to violent groups only. The major aims for non-state actors are recruitment, propagation of message and illegally overthrowing existing structures of governance. Cambridge Analytica, a 'big data' firm, boasted of 'supporting' around 100 electoral campaigns across five continents using SMPs.¹² IS live tweeted its war against the Iraq Army during its capture of Mosul in 2014.13 Initially predominant on Twitter and Facebook, IS used a number of innovations to ensure that it captured global attention. It used trend hijacking / hashtag hijacking during Football World Cup, embedding beheading videos on trending World Cup hashtags on Twitter¹⁴, used cross-sectional linking of SMP links and influenced a number of Westerners to join the Caliphate using a number of online 'influencers'. Once social media giants started shutting down IS accounts, it switched to 'adaptive cognitive networks', a technique wherein a number of inactive accounts are used as reserves, in case of main accounts being shut down or suspended. The reserve accounts are then repopulated with almost the same number of followers using retweets and messages. This is known as the 'DEER' approach i.e. Dissemination, Deletion (thwarted), Evolution, Expansion and Replenishment.¹⁵ IS, AQ and other terrorist groups have now shifted to lesser known but heavily encrypted and unregulated platforms such as justpaste.it, dump.to, Telegram, Signal etc., the so-called 'black boxes' of IS propaganda. AQ even published a Do-it-Yourself (DIY) guide to making a bomb using ingredients from a home kitchen, in its English language magazine, Inspire.¹⁶ Protestors across the world use SMPs to mobilise and challenge state authority in countries as diverse as India, China, US and Brazil.

Social Media and Low Intensity Conflict Operations (LICO)

With such diverse implementation, social media has proved to be a game changer in LICO, which are a series of conflicts in a long drawn 'people's war'. Here the most important actor is the ordinary citizen as he is the target, audience and the adversary. The war is for the hearts and minds and perception management trumps kinetic operations.

Use of Social Media by Non State Actors in LICO. Social media's use in LICO is devastating. It is used by non-state actors to conduct propaganda operations, using photos and videos shared on SMPs to create / reinforce negative perceptions of security forces, state authorities and institutions. It is also used to mobilise and plan operations, crowdsource funds for operations and most importantly, recruit members to the cause. In case of Jammu and Kashmir (J&K), *nasheeds* (religious songs) are used in videos of killed terrorists and floated on social media to influence the population while WhatsApp and other platforms are used to quickly congregate at an encounter site and block the operations of armed forces.

Use of Social Media by States in LICO. States can resort to either strategic communication (SC) or IO when dealing with adversaries in LICO. SC implies using pan government resources and processes and engaging key audiences to advance national interests using coordinated information, themes, actions in sync with other elements of national power. Here the term 'key audiences' refers to friendly, neutral and adversarial audience. The focus is exclusively on the cognitive domain. IO focuses on the physical, informational and cognitive domains of adversarial human and automated decision making. SC and IO make heavy use of social media but for different purposes. SC is used to send coordinated messages to the intended audience where one of the media is social media and intention is to

engage and understand. IO is more offensive, where social media is used both, for countering propaganda and saturating the information space with noise in times of war / conflict. SC and IO can be applied in LICO simultaneously but have to be done by different actors, so as to maintain credibility of the messages.

Components of SC and IO. SC comprises enabling capacities such as public affairs (PA), psychological operations (PsyOps) and military diplomacy (MD).¹⁷ It aims to balance physical actions with aspects of IO to focus on the cognitive aspect of key audiences. SC is conducted at the highest level i.e. the department handling foreign affairs. Military operations support SC. IO, on the other hand, consists of three major components: cyber infrastructure, electromagnetic spectrum operations and PsyOps. It is inherently a military operation that targets the physical, technical and cognitive domains of the adversary's human and automated decision making processes i.e. the users and their networks. The aim is to influence, disrupt, corrupt or usurp. Capabilities used are in the open as well as covert domain. Social media forms part of PsyOps.

Indian Army and Social Media

Manipulation of Security Forces and Families. Security forces, particularly their families, are at heightened risks of being manipulated through social media. This manipulation broadly takes either of the two forms: divulging of classified information; coercing individuals to undertake operations within their host country.

Leakage of Classified Information. SMPs collect massive amounts of personal data on their users by continuously analysing what they post, time spent, their likes, comments, etc. This data is sold off to various commercial entities for use in targeted ads. SMPs are also merging with bio-sensor and audio enabled devices, such as smart assistants and fitness bands, to generate and collect additional data about their users. Sometimes this data is inadvertently leaked, as in the case of Strava, a jogging app, which revealed the location of American secret military bases in the public domain. A number of times companies employ artificial intelligence (AI) or humans to 'listen' to conversations of their users. All these are security hazards. Conversations involving locations and movement of formations can be easily captured by such devices. **Undertaking Operations against Host Country.** Honey traps and entrapments are common methods through which state and nonstate actors try to coerce and manipulate security forces, and their families, into conducting espionage or worse, sabotage. A number of themes, such as 'Referendum 2020', are being used to target specific demographics within the armed forces to sow discord. Targeting capabilities afforded by SMPs, primarily for commercial companies, can easily be exploited to push theme specific agendas. Chinese agents prowl job search SMPs, such as LinkedIn, to lure members of armed forces by pretending to be academicians or prospective employers. Prolonged usage of social media is leading to major disciplinary issues within the armed forces themselves.¹⁸

Social Media Hygiene. The best way for security forces, and their families, to keep themselves safe from inimical actors on SMPs is to follow a good social media and cyber hygiene. Basics such as not logging on to unprotected WiFi networks, disabling geotagging on mobiles, double checking the various permissions given to apps, periodically checking on the members of various groups within SMPs, switching off mobile data when not in use, should be followed. Every major and minor unit must appoint / train an individual within the unit, a 'social media advisor' who must perform informal checks on the mobile devices of families for loopholes and also advise them on the way forward.

Doctrinal and Structural Changes Required in Armed Forces

Understanding Armed Forces Doctrines. The latest 'Indian Army Land Warfare Doctrine 2018'¹⁹ and the 'Joint Doctrine for Indian Armed Forces (JDIAF) 2017'²⁰ remain the only public resource available for analysing the intent, capability and capacity of armed forces to use social media as part of next generation warfare. India does not publish any defence white paper, neither has a concrete National Security Strategy (NSS) document yet. Though both JDIAF 2017 and Land Warfare Doctrine refer to social media, the focus is on a very narrow and conventional understanding, essentially as a platform for hosting violent content or for public relations (PR). The Land Warfare Doctrine lists utilising social media as part of PsyOps for 'Public Information (PI) and Perception Management (PM)', a term which has become obsolete. Similarly, JDIAF refers to use of social media as part of 'internal threats and challenges' for 'radicalisation of youth in some states'.²¹ Both the doctrines, with their exclusive

emphasis on traditional definitions and understanding of social media as inherently negative, still propound a territorial approach towards warfare.

Targeting the Cognitive Domain. Indian armed forces' offensive focus is effectively on the physical and to a degree, technical aspect of cyber warfare. The third, that is cognitive, still remains peripheral to operational plans. Cyber operations, as envisaged for war, are essentially for cyber network defence, exploitation and attack, focusing on the electromagnetic spectrum (EMS) and physical systems. Their effects are generally instant and can be verified by involved agencies. Cognitive changes, whenever affected, are difficult to gauge and require constant and long term monitoring. Their effects are also not very evident directly on the objects against which operations are conducted. Changes may be visible in the medium of on and offline communications. Minute variations in tone of messages on SMPs or garnering likes on subjects previously left untouched may indicate a cognitive shift. It must be stated that merely a cognitive shift is not the terminus. Due to the unpredictable nature of human thought process, this shift may just be the opposite of what is aimed at. So, cognitive shifts need to be monitored by specialists in armed forces who can detect these changes and design their themes or narratives continuously to intervene and apply midcourse corrections.

Doctrinal Changes Required. Doctrinal changes that need to be incorporated involve; *firstly* recognition of the increasing use of social media as force multiplier for forces; secondly use of influence operations to manage attitudes and behaviours of target population using social media; thirdly incorporation of all aspects of social media encryption Open-source intelligence (OSINT), such as and communication in operational plans of the formations; and *fourthly* use social media as part of strategic communication on the strategic and theatre level. Within the three Services, Additional Directorate General of Public Information (ADGPI) is mandated to carry out social media monitoring to dispel misinformation about the army. The Defence Intelligence Agency (DIA) also carries out social media monitoring but is under HQ Integrated Defence Staff (IDS). None of them is mandated to use social media as an offensive tool of IO.

Structural Changes Required. The tasks currently envisaged for Defence Cyber Agency (DCA) are EMS operations and cyber

operations, two of three components of IO. However, there needs to be a third vertical that focuses on social media operations. The 'how' and 'why' will flow either from the NSS or Raksha Mantri's Directives. The social media vertical must include three subsections: content creation, monitoring, and research and analysis. The content creation team will design broad themes and narratives as per the prevailing situation and strategic directives received from the government. The content monitoring team will apply social media analysis (SMA) tools to scan the various relevant SMPs for 'flashpoints' - any likely piece of information such as a comment, picture, video or news item, which has the potential to go 'viral' and is malafide in its intent. The research and analysis team will look for unregulated SMPs or message boards, scour the 'Deep' and 'Dark' web and create analysis reports, using relevant historical and cultural contexts, to feedback the other two teams. They will also act as advisors for the IO formations at the command level and below.

Cyber Command. DCA, which may later be reconfigured as Cyber Command (CYCOM) with creation of integrated theatre commands, will formulate region / fault line specific social media directives and disseminate them to the theatre commands' IO directorates, to pass them on further to the field formations. The three Services will also maintain their respective PI directorates which, in conjunction with CYCOM, will act as part of SC of Ministry of External Affairs (MEA). All field formations will have integrated social media cells to convert the broad directives received from CYCOM into specific themes, monitor local pages on SMPs and input the information to their commander to enable him to create effective battle plans. This format will be more effective in the theatre command or Integrated Battle Group (IBG) concept as both are geographically tailored for particular terrains and adversaries and cognitive aspect of IO requires longevity and sustainability of the themes and narrative to make the target population more palatable to our operations.

Coordination with Various State Organs. Social Media Intervention Teams (SMITs) must be created at CYCOM / DCA and theatre command levels that respond to 'wildcard' events by either coordinating with SMPs to shut down accounts or intervene to prevent a hashtag from trending. Liaison with local law enforcement agencies (LEAs) in case of spotting extremist content and internet infrastructure providers may be resorted to by CYCOM. CYCOM may

also establish an Artificial Intelligence (AI) / Machine Learning (ML) cell, in conjunction with Defence Research and Development Organisation (DRDO), to liaise with industry and academic experts on how to integrate AI / ML with social media 'Big Data' analysis. This will enable it to pick up threats and opportunities for exploitation much faster. CYCOM, through the National Cyber Security Coordinator (NCSC), can coordinate with National Investigative Agency (NIA), Intelligence Bureau (IB), Research & Analysis Wing (R&AW), Ministry of Home Affairs (MHA), Ministry of Defence (MoD), MEA and the signal intelligence (SIGINT) directorate of the DIA.

Conclusion

Social media, through its user generated content and instant communication, has changed the way warfare is being / will be waged. More innovations in terms of 'deepfake' videos²², website morphing will test the credibility of the state as a whole, more so the armed forces, to find and fix the enemy. No more can any country declare 'we have won the war' so convincingly. It is imperative that the armed forces be trained and educated in the use of social media as an enabler, and also be aware of its use by vicious actors to create conditions of war or worse, fight a war without us even realising that it has begun.

Endnotes

¹ Smith, R. (2005). *The Utility of Force.* 2nd ed. New Delhi: PENGUIN BOOKS, pp.2-15.

² Wolfsfeld, G., Segev, E. and Sheafer, T. (2013). Social Media and the Arab Spring: Politics Comes First. *The International Journal of Press/Politics,* [online] 18(2), pp.115-137. Available at: http://ijpp.sagepub.com [Accessed 17 Aug. 2019].

³ Sellinger, E. and Hartzog, W. (2015). Facebook's emotional contagion study and the ethical problem of co-opted iden-tity in mediated environments where users lack control. *Research Ethics,* [online] 12(1). Available at:

https://journals.sagepub.com/doi/full/10.1177/1747016115579531 [Accessed 18 Aug. 2019].

⁴ Upadhyay, A. (2017). Anatomy of Lone Wolf Terrorism: Special Emphasis on Countering Violent Extremism. 1st ed. NEW DELHI: KW Publishers.

⁵ Brooking, E. and Singer, P. (2016). War Goes Viral. *The Atlantic*, [online] (November 2016). Available at: https://www.theatlantic.com/magazine/archive/2016/11/war-goes-viral/501125/ [Accessed 18 Aug. 2019].

⁶ Vaidhyanathan, S. (2018). Antisocial Media: How Facebook Disconnects Us and Undermines Democracy. 1st ed. Ox-ford University Press.

⁷ The Great Hack. (2019). [film] Directed by K. Amer and J. Noujaim. Netflix.

⁸ Thompson, N., Lapowsky, I. and Barrett, B. (2018). How Russian Trolls Used Meme Warfare to Divide America. [online] WIRED. Available at: https://www.wired.com/story/russia-ira-propaganda-senate-report/ [Accessed 24 Aug. 2019].

⁹ Vaidhyanathan, S. (2018). Antisocial Media: How Facebook Disconnects Us and Undermines Democracy. 1st ed. Ox-ford University Press.

¹⁰ Lange-Ionatamishvili, E. and Svetoka, S. (2015). Strategic Communications and Social Media in the Russia Ukraine conflict. Riga: NATO Cooperative Cyber Defence Centre of Excellence.

¹¹ Upadhyay, A. (2019). Decimating Democracy in 140 characters or less: Pakistan Army's Subjugation of State Institu-tions through Twitter. *Strategic Analysis,* [online] 43(2), pp.101-113. Available at: https://www.tandfonline.com/doi/full/10.1080/09700161.2019.1600823 [Accessed 20 Aug. 2019].

¹² BBC News. (2018). *The global reach of Cambridge Analytica*. [online] Available at: https://www.bbc.com/news/world-43476762 [Accessed 24 Aug. 2019].

¹³ Brooking, E. and Singer, P. (2016). War Goes Viral. *The Atlantic,* [online] (November 2016). Available at: https://www.theatlantic.com/magazine/archive/2016/11/war-goesviral/501125/ [Accessed 18 Aug. 2019].

¹⁴ Upadhyay, A. (2017). Anatomy of Lone Wolf Terrorism: Special Emphasis on Countering Violent Extremism. 1st ed. NEW DELHI: KW Publishers.

¹⁵ Network of Terror: How Daesh Uses Adaptive Social Networks to Spread its Message. (2015). 1st ed. [ebook] Riga: NATO Strategic Communication Centre of Excellence, pp.1-24. Available at: https://www.ceeol.com/search/gray-literature-detail?id=661319 [Accessed 24 Aug. 2019].

¹⁶ Sarat-Saint Peter, H. (2019). "Make a Bomb in the Kitchen of Your Mom": Jihadist Tactical Technical Communication and the Everyday Practice of Cooking. *Technical Communication Quarterly,* [online] 26(1), pp.76-91. Available at:

https://www.tandfonline.com/doi/abs/10.1080/10572252.2016.1275862 [Accessed 24 Aug. 2019].

¹⁷ Department of Defense (2006). QDR Execution Roadmap for Strategic Communication. Washington DC: Department of Defense.

¹⁸ Singh, R. (2017). *Kashmir: Army jawan kills Major who reprimanded him for using cellphone on duty.* [online] Hindu-stan Times. Available at: https://www.hindustantimes.com/india-news/indian-army-jawan-shoots-dead-major-after-officer-reprimands-him-for-using-cellphone-on-duty-in-kashmir/story [Accessed 25 Aug. 2019].

¹⁹ Indian Army (2018). Indian Army Land Warfare Doctrine 2018. New Delhi: Indian Army.

²⁰ HQ Integrated Defence Staff (2017). *Joint Doctrine Indian Armed Forces.* New Delhi: Bharat Shakti.

²¹ ibid.

²² Chivers, T. (2019). *What do we do about deepfake video?*. [online] the Guardian. Available at:

https://www.theguardian.com/technology/2019/jun/23/what-do-we-do-aboutdeepfake-video-ai-facebook [Accessed 25 Aug. 2019].

[®]Lieutenant Colonel Akshat Upadhyay got commissioned in Army Air Defence. He is a prolific writer and has written a number of papers and articles for national and international journals, magazines and newspapers. He is author of the book 'Coercive Diplomacy against Pakistan'. This is the edited version of the article which won the first prize for USI Gold Medal Essay Competition (Group B) 2019.

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The Crown Colony That Never Was

Colonel Shailender Arya®

Abstract

As India was inching towards freedom, the idea of a Crown Colony for the hills of North East (NE) India germinated in the minds of the departing colonial rulers. This article outlines the secret proposal of a British-administrated Crown Colonv and the circumstances prevailing in the remote borderlands of India at that point. This Crown Colony would have included all tribal areas of NE India as well as the contagious tribal areas of Burma. As such, most of the tribal areas of the NE, mainly the hills of the province of Assam, were classified as 'Excluded' or 'Partially Excluded Areas' and the British administrators, having developed an admiration for the tribal people due to their long association, were reluctant to put them under far-away Delhi. Therefore, a Crown Colony, like Singapore, Hong Kong, Aden or Gibraltar, on the eastern periphery of India, consisting of tribal areas from Indian and Burma, ruled by benign and triballoving British administrators, was achievable. The idea aained considerable traction in the British bureaucracy, from Delhi to Whitehall, and some support among the tribal people. The plan finally did not succeed but was a near miss. It would have significantly changed the map of India and Burma, and challenged the very idea of a diverse India. The article is a narration of this Crown Colony that never was.

Introduction

here is an old Oriental expression denoting the peripheral areas

having their own way; *The mountains are high and the emperor is far.* NE India in British era was one such periphery where the connection between the ruler and the subjects was tenuous, enticing them with possibility of a separate nation. The ravages of the Second

World War and tides of anti-colonialism had changed the fortunes of the British Empire, on whom, once upon a time, the sunset did not occur. As India, the 'Jewel in the Crown', was inching towards freedom, the idea of a Crown Colony for the hills of North East India germinated in the minds of the colonial rulers. It was to be a unique colony; populated by war-like tribes of India and Burma who were 'slowly civilising' and converting to Christianity, ruled by benign triballoving British administrators in bush-shirts and hats; a misty, forested and isolated Shangri La, away from the heat, poverty and opinionated crowds of the vast Indian plains. The idea was initially kept secret but soon it gained popularity and a degree of acceptance - both among the tribals as well in the British bureaucracy. The way maps were being redrawn across the world, anything was possible. Singapore, Bermuda, Aden and Gibraltar were already British crown colonies, and so was the 'fragrant harbour' Hong Kong. Circumstances narrowly prevented the creation of another entity on the Indian subcontinent.

Love for Natives

Typically, the crown colonies were dependent territories under the administration of United Kingdom (UK) that were controlled by the British Government. In such territories, residents did not elect members of the British parliament. Instead, a governor who directly controlled the executive, and was appointed by the Crown, usually administered the colony. In practice, this meant the UK government, acting on behalf of the monarch. In British opinion, the hill tracts of NE India were an ideal location for such a Crown Colony. The region was isolated, there were no significant trade links, the tribes scarcely shared any of their customs and traditions with mainland India, they were largely animist or Christians, and had minimal political consciousness.

The British administrators, many having spent years in the misty hills, knew the tribals well. They did not interfere in the local traditions and customary practices, and left the village chiefs to decide upon the tribal affairs. The typical British administrator adored the tribals. Often they shared a bond - accepting exotic presents, sharing ricebeer, adjudicating over inter-tribal disputes that the headmen could not resolve, and exploring the area – drawing sketches, observing tribal customs and noting their observations in diaries. Some tribes had fought fiercely with the British, but over the time, the two sides had come to view each other with mutual respect.

A British official commented on the *Nagas* circa 1840, "These tribes not only defend themselves with obstinate resolution, but attack their enemies with the most daring courage. They possess fortitude of mind superior to the sense of danger or the fear of death".¹ The admiration was evident. There are also traces of certain paternalism, wishing to protect their wards from the corrosive corruptions of the modern world. Resultantly, the British administrators were reluctant to let the tribes be under a far-away Delhi in an independent India. The admiration for the tribals persisted across the boundary in Burma. In Brigadier Bernard Fergusson's memoir of World War II in Burma, he writes, *"I can do no more than commend that gallant race of Kachins to my countrymen, who are mostly unaware of its heroics and unsupported war against the Japanese. To carry on their own, independent way of life, they will need our protection like the other splendid race the Karens".²*

The Idea Germinates

Throughout the colonial period, the NE was treated differently from the rest of India. Writers like Kyoko Inoue have observed that separation and isolation formed the core of the British policy. With the Eastern Bengal Frontier Regulation of 1873, a Line System was introduced on the pretext of protecting the minority indigenous groups in the hill areas of Assam. Similarly, in 1935, the hill areas were demarcated and divided into 'Excluded Areas' and 'Partially Excluded Areas'.

The initial idea was of a separate province for the tribals populating the hills. The British thinking was that since most of the Assam hill districts were still very backward and placed in 'excluded' and 'partially excluded' areas, the hill people would not be able to catch up with the national mainstream if they were left to stay with India. They were of the opinion that these backward areas of Assam could be merged into a separate administration outside India and Burma so that they would become politically advanced within a short time under their extended regime. The British mooted these plans to perpetuate their rule as well as to protect the educationally and economically backward tribals from sudden assimilation by the more advanced Indians. The originator of the idea for a separate NE Province or Agency was Nevill Edward Parry, earlier the Deputy Commissioner of the Garo Hills (1924-1928) and later the Superintendent of the Lushai Hills. In a memorandum to the Indian Statuary Commission (commonly known as Simon Commission) in 1930, Parry envisaged that the hills should be included in the proposed scheme with the object of safeguarding their future existence because they still remained backward. He opined that the tribals were not fit to govern themselves. Though some form of education existed among the tribals, it was superficial and unstable. They had no knowledge of abstract political ideas and were pursuing things without any understanding. He further pointed out that industrially the hills like the Lushai District had no future.³

Another proponent of a separate administration was Dr John Henry Hutton, an anthropologist and the Deputy Commissioner of the Naga Hills, who outlined the idea in a memorandum to the Indian Statuary Commission. Hutton argued that the hill people were racially, historically, culturally and linguistically different from the people of the plains of Assam, while their administration was on wholly different lines. Hutton and Perry suggested to the Commission, the formation of a North Eastern Frontier Province to comprise of as many of the backward tracks of Assam and Burma as would be conveniently included in it.⁴

The Idea Gains Ground

The idea of a separate province by Hutton and Perry gradually mutated into the concept of a Crown Colony. Broadly, the plan was to constitute a 'North Eastern Frontier Protectorate' to include Khasi and Jaintia Hills, the other Hill Areas of Assam including the Naga and Lushai Hills, Manipur and Trans-Frontier Tracts up to Burma. According to David R. Syiemlieh in his book, 'On the Edge of Empire: Four British Plans for North East India, 1941-1947', this secret plan was discussed at the highest levels of the colonial administration. The tribal areas of Burma were to form part of it.⁵ Actually, instead of one, there were four separate but loosely connected plans, of Reid, Clow, Mills and Adams, all from the Indian Civil Service (ICS).⁶ All had served in various capacities in the region. These four protagonists were Sir Robert Neil Reid, Governor of Assam (1937-1942), his successor Sir Andrew Gourlay Clow (1942-1947), James

Philip Mills, Advisor to the Government of Assam for Tribal Areas and States, and his successor Philip F Adams.

The plans were deliberate and voluminous. These British officials put their mind in studying the conditions of inhabitants of hill areas in an organised manner. Every possible reaction from officialdom, political and social strata was answered in a coherent manner. The theme of all four notes was to preserve the culture, language and traditions of the tribals and allow them to look after their needs by self-administration of their villages.⁷ The first formal proposal for a Crown Colony was mooted in 1941. Robert Reid, the then Governor of Assam, in November 1941 wrote a confidential note titled, 'A Note on the Future of the Present Excluded, Partially Excluded and Tribal Areas of Assam'.⁸ Governor Reid drew heavily from the ideas of Hutton and Parry while formulating the proposal. Reid believed that the boundary between India and Burma, which only in 1935 was separated from an Indian administration, was "artificial as it is imperceptible".⁹

Robert Reid revived Hutton's idea of a NE Province embracing the entire hill fringe from the Lushai Hills and Lakher land in the south in a crescent shape round to the hills of present day Arunachal Pradesh. He included in this administration the Chittagong Hill Tracts, the area occupied by the Nagas and Chins of Burma and the Shan states. The 25 Khasi states, Manipur and the un-administrated territory were also considered for inclusion. Reid estimated that the population of the Agency, excluding areas of Burma, would be 2.5 million. Most importantly, Reid visualised that the form of polity would be on the self-governing lines. It was feasible since, "Elders or Chiefs with their advisors settle the vast majority of disputes, villages have their own funds and village roads and bridges are kept by communal unpaid labour".¹⁰

Separation from India was inherent in the plan. The plan noted that the amount of control would undoubtedly have to be "very considerable for a time, but it is essential that it should come from Whitehall and not from India to which the hill tracts are entirely alien".¹¹ The Agency would draw finance from Imperial sources for which there were precedents. An expanded Burma Frontier Service would man the province.¹² The Burma connection was strong and the British plan was to create a common Crown Colony incorporating the hill tribes of neighbouring Burma. By then, in a classic case of divide and rule, they favoured the hill tribes in Burma with local autonomy, and recruited Karens, Shans, Kachins, and other ethnics into the local army and the police, even as they exerted direct and repressive control over the numerically dominant Burman in the plains.

The confidential note by Governor Reid reached the Viceroy, Lord Linlithgow and LS Amery, the Secretary of State for India. Leo Amery was so impressed with the plan that he gave a copy to Professor Reginald Coupland who used it in his third and final volume on the constitutional problem in India.¹³ Reginald Coupland but quite inaccurately, credited sometimes. thus is with masterminding the Crown Colony Scheme as the 'Coupland Plan'. The plan of Governor Reid was followed by that of his successor Andrew G Clow in 1942, who updated the plan with the latest political developments. His advisor, Philp P Adams, who was the Secretary to Government of Assam also followed suit, albeit with his own vision added.

James P Mills, who was an ethnographer and an ICS officer, in his plan quoted the example of Basutoland, Bechuanaland and Swaziland in Africa to protect the inhabitants against exploitation and in furthering their progress. After the plan was discussed in the Whitehall, there were slight differences of opinion. In particular, from 1943 to 1946, the discussion mainly centred on the question of amalgamation of the Burma and the Assam tribal areas into one entity - the Crown Colony. Representatives of the Burma administration viewed that distinct tribes should generally not be divided between the two administrations.

Support and Turmoil

The plan had considerable support among the British but due to its secrecy and delayed disclosure, it could only garner intermittent tribal support. The idea of a direct link with Britain appealed to many tribal leaders, particularly from the Khasi and Jaintia Hills, and Lushai Hills. A clergyman, Reverend L Gatphoh, representing the Jaintia Hills hoped that his hills would come into the Protectorate.¹⁴ Another key supporter from the Khasi-Jaintia Hills was Macdonald Kongar. In the opinion of a number of hill leaders, the 'White devil' will be somewhat better to rule over them than the 'Brown devil'.¹⁵ Meanwhile, the Naga Hills were slipping into turmoil.

The Nagas have remained the most politically conscious tribal group, forming clubs, political organisations and insurgent groups. The Second World War witnessed heavy militarisation of the area and proliferation of weapons. Nagas also made weapons from the scattered parts of the crashed planes. Kohima was in ruins, and smouldering. However, the Nagas earned the gratitude of the British for support in the war as also for increasingly being a Christian community. While the Crown Colony idea was being discussed, the Deputy Commissioner of the Naga Hills District, Sir Charles Ridley Pawsey, established the Naga Hills District Tribal Council (NHDTC) in April 1945 as a forum of the various Naga groups in the district. This body replaced an earlier organisation called Naga Club. The Naga Club had met in Kohima in early 1945 and asked to remain under the British Crown with their own Legislative Council.

The Crown Colony idea gained ground and there were hopes raised of Naga Hills and Lushai Hills becoming crown colonies, like Singapore, once the British departed. This stoked the fire for secession. While Crown Colony proposal was inching ahead, in February 1946, the NHDTC was reorganised as a political organisation called Naga National Council (NNC). NNC's objective was to work out the terms of relationship with the Government of India after the British withdrawal, with maximum autonomy for the Nagas. The proposal of Crown Colony, meanwhile, collapsed just before the Indian independence. This prompted Angami Zhapu Phizo to seize the agenda of NNC towards secession and the Naga Hills plunged into a long insurgency.

British Opinion Differs

By the middle of 1946, the plan was tottering. In Shillong, Andrew Clow replaced Reid as the Governor of Assam. He was to be the last British governor, later replaced by Sir Muhammad Saleh Akbar Hydari. In 1945, Governor Clow published a *'Memorandum on the Future Government of Assam Tribal People'*. He demolished the proposals by his predecessor and made it clear that the time was not ripe for such a proposal.¹⁶ The wording was strong, "It seems most unlikely that a British Government which is prepared to set India and Burma on a self-governing footing should now undertake the administrative and financial responsibility for a patchwork of sparsely populated hills lying where these hills do. Indian opinion would be equally strongly opposed to the constitution of a foreign territory with

its natural borders'. Governor Clow was right about the Indian opinion. The proposal for a Crown Colony alarmed Jawaharlal Nehru and Assam Premier Gopinath Bordoloi, and they fought back.

Further deliberations took place, particularly in light of the growing independence movement in Burma. Reginald Dorman-Smith, an ex-Colonel and the second Governor of Burma from May 1941 to August 1946, was in office when the Japanese invaded Burma and expelled him to Shimla for few years. Despite the advice of his officers who were pushing for Crown Colony, he noted that with discussion beginning for Burma's independence, he could see "nothing, but trouble ahead in Burma if we attempt to pursue the separate Agency Scheme and I would like this matter now to be considered closed'.17 Finally, a bureaucratic noting concluded the issue. In a 'Minute on Backward Track' dated 06 May 1946, the Secretary of State for India recorded, "At the present stage of proceedings agreement had been reached by the Secretary of State and the Vicerov of the impracticability of transferring responsibility for the Backward Tracks from the Provinces to any outside authority whether that should be a British High Commissioner or a United Nation's Mandate".18

It Never Was

The plan did not materialise due to a few slips and unexpected opposition. **Firstly**, unlike the idea of Pakistan that was in making for many years, this plan came suddenly. It could not be implemented because it came up for discussion in the closing years of the British rule. The British realised that it was ill timed and conceived too late to shape up a protectorate of their own.¹⁹

Secondly, many leaders of the NE believed in the idea of India, and some leaders like Reverend JJM Nichols Roy from the Khasi and Jaintia Hills had been convinced by Pandit Nehru to opt for India. Reverend Nichols sent a Memorandum to the British Parliamentary delegation on 29 January 1946 in which he openly expressed his disagreement with the proposed Crown Colony. Among his reasons for disagreement were the many oppressive and unjust rules of the British officers, especially the administrative styles of the Political Officers in the Khasi and Jaintia Hills. He categorically stated that the Protectorate would not be economically viable, apart from arguing, "The hill people of Assam should get their own share of independence and they should be connected to the province of Assam". $^{\scriptscriptstyle 20}$

Thirdly, in the Lushai Hills (later Mizoram), the opposition to the proposal came from a powerful organisation called the Mizo Union formed by the emerging middle class. The Mizo Union had always been, from its very inception, against the existence of chiefship and wanted to see its departure. A Crown Colony would only mean the perpetuation of chiefship.²¹ The *Mizos* while voicing their disapproval of the plan favoured autonomous status for the Lushai Hills within the Province of Assam.²² In the Garo Hills (now in Meghalaya), few *Garos* wrote to the British Parliamentary delegation in February 1946 saying that they had heard rumours that a plan was considering to exclude the Garo Hills from Assam and India, and opposed the plan.²³

Fourthly, in the Naga Hills, the NNC was convinced to join India with the promise of granting enormous autonomy. NNC passed a resolution, in June 1946 at Wokha, demanding autonomy within Assam and opposing the Crown Colony. Gopinath Bordoloi visited the Naga Hills district in November 1946 and Sir Andrew Clow, the Governor of Assam, early in 1947. Both advised the Nagas that their future lay with India and with Assam. Sir Akbar Hydari, the next Governor of Assam, visited the Naga Hills and the result was the nine-point Hydari Agreement which recognised the traditional rights, land and natural resources of the Nagas.

Lastly, it was politics. The coming of Clement Attlee in Great Britain changed things as his Labour government was committed to India's freedom, without any London-ruled enclaves. Similar thing happened for Burma. Had the Tory leader Winston Churchill won the 1945 elections, the hill people might have become independent principalities of their own, as a reward for defending the British Empire against the Burmans who had become Japanese sympathisers. However, the Labour Party candidate Clement Attlee won the elections and decided to give all of Burma independence as a single unit.²⁴

Conclusion

The Crown Colony in the NE India was a near miss. Once it did not materialise, many colonial administrators were disappointed. ARH

Macdonald, Superintendent of the Lushai Hills (now Mizoram), wrote in March 1947, apparently with a heavy heart and philosophical tone,

My advice to the Lushais, since the very beginning of Lushai politics at the end of the War, has been until very recently not to trouble themselves yet about the problem of their future relationship to the rest of India; nobody can possibly foretell what India will be like even two years from now, or even whether there will be an India in the unitary political sense. I would not encourage my small daughter to commit herself to vows of lifelong spinsterhood; but I would regard it as an even worse crime to betroth her in infancy to a boy who was himself still undeveloped.²⁵

The 'divide-and-rule' was deeply ingrained in the British. It was even evident in their withdrawal from India in form of creation of Pakistan. A Crown Colony in the NE was very much a possibility - a small nation sharing borders with India, Bhutan, Bangladesh, Tibet and Myanmar. It would have been financially unviable, fractured on tribal lines, and poorly administered once the British administrators left for greener pastures. Just imagine Naga, Mizo, Kuki, Meitei, Garo, Kachin and Chin insurgencies raging in small land-locked country. A relapse into India and Burma was eventually possible, albeit with much turmoil and a setback to the idea of a plural India. Thankfully, the borders remained where they were. All Crown Colonies were renamed as British Dependent Territories in 1981 and since 2002, Crown Colonies have been known officially as British Overseas Territories. India just missed having one British Overseas Territory on its eastern periphery.

Endnotes

¹ *Ramachandra Guha,* India After Gandhi: The History of the World's Largest Democracy, Picador, Pan Macmillan, London, 2007. p.261.

² Bernard Fergusson, The Wild Green Earth, Collins, London, 1946. p. 133.

³ *H. Thangtungnung,* Politics and Political Aspirations among the North East Tribes since 1947, September 20, 2014. http://zogam.com/articles/politics/2708-politics-and-political-aspirationsamong-the-north-east-tribes-since-1947.html

⁴ Memorandum of the Government of Assam to the Indian Statutory Commission, Vol XIV, 1930. pp.111-122.

⁵ *VB Ganeshan,* The Secret British Plan that Fell through, The Hindu, May 12, 2014.

⁶ *David R. Syiemlieh,* On the Edge of Empire: Four British Plans for North East India, 1941-1947, SAGE Publications India, 2014.

⁷ VB Ganeshan, Op. cit.

⁸ India Office Library and Record, London, L/P&S/12-3115A. A Note on the Future of the Present Excluded, Partially Excluded and Tribal Areas of Assam. The note is dated November 7, 1941.

⁹ A Note on the Future of the Present Excluded, Partially Excluded and Tribal Areas of Assam. India Office Library and Record, London, L/P&S/12-3115A. pp.14-15.

¹⁰ David R. Syiemleih, The Crown Colony Plan for the Hills of North East India: Concept to Collapse 1941-1946.p.243. http://dspace.nehu.ac.in/jspui/bitstream/1/5520/1/The%20crown%20%28DR %20Syiemlieh%29.pdf

¹¹ A Note on the Future of the Present Excluded, Partially Excluded and Tribal Areas of Assam. India Office Library and Record, London, L/P&S/12-3115A. p. 18.

¹² David R. Syiemleih, The Crown Colony Plan for the Hills of North East India. Loc. cit. p.244.

¹³ *R Coupland,* The Future of India, Oxford University Press, London, 1943, p.164.

¹⁴ *David R. Syiemlieh,* The Crown Colony – Protectorate for North East India: The Tribal Response, Proceedings of the North East History Association, 11th Session, Imphal, 1990. p.208.

¹⁵ *H. Thangtungnung,* Op.cit.

¹⁶ *Andrew Clow,* Memorandum on the Future Government of Assam Tribal People, Shillong, 1945. p.29

¹⁷ India Office Library and Record, London, M/4/2803, Dorman-Smith to Pethick Lawrence, August 13, 1945.

¹⁸ India Office Library and Record, London, P&J/6787, Minute on Backward Track, May 6, 1946.

¹⁹ VB Ganeshan, Op.cit.

²⁰ A Note by Rev. JJM Nichols-Roy, "Hill Districts of Assam: Their Future in the New Constitution of India", as provided in OL Snaitang (ed.), Memoirs of the Life and Political Writings of the Hon'ble Rev JJM Nichols-Roy, Vol 1, Shillong, 1997. pp.13-14.

²¹ H. Thangtungnung, Op.cit.

²² David R. Syiemlieh, The Crown Colony – Protectorate for North East India, Loc.cit.pp.208-209.

²³ *David R. Syiemlieh,* The Crown Colony – Protectorate for North East India. Loc.cit. p.208.

²⁴ Robert D Kaplan, Monsoon, Random House, New York, 2010. p.233.

²⁵ ARH Macdonald to PF Adams, Secretary to the Governor of Assam, March 23, 1947. Copy in Mss Eur F236/76, Oriental and India Office Collections.

Colonel Shailender Arya got commissioned in 44 Medium Regiment in December 1998. He served as Staff Officer with UN in Sudan. At present he is serving as a Directing Staff at the Defence Services Staff College, Wellington. He won USI Gold Medal Essay Competition (Group B) twice in the year 2006 and 2008. In the year 2007, he was runner up. In 2011, he was runner up in Group 'A' Competition.

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Short Reviews of Recent Books

Containing the China Onslaught : Role of the US, Japan, India and Other Democracies. By Pradip Baijal, (Gurugram: Quadrant Infotech India Pvt Ltd, 2019), Page 228, Price - Rs 695/-, ISBN : 9788194103509

"Containing the China Onslaught" by Pradip Baijal looks at the possible coordination of the role of democracies such as the United States, Japan, India, and Israel in countering China. The book is a collection of disparate chapters, with a set of appendices containing documents from the United States-China relationship, an extensive bibliography and a short Index. It is mainly about China's economic rise and the contours of the United States-China relationship.

The idea that democracies can offset the rise of communist China was first conceptualised in the 1950s. However, following the United States rapprochement with communist China in 1971, this approach was negated. The development of significant trade and investment linkages between the United States and China, as well as between Japan and China, and a \$90 billion trade turnover between India and China, have all contributed to the emergence of China as an economic power. This provides China with a significant bargaining chip to counter any alignment of these democracies in seeking to "contain" China.

In comparing the political and economic changes in China and India, the author emphasises the significance of technological development and China's "strong central political governance model" as the main reasons why China has overtaken India. He feels that the United States has shaped the international order by "creating a fair and level playing field" which "did not block the new technologies". This is in contrast with the German, Japanese and Indian approaches.

The author looks at the lessons drawn from the 1997 Asian financial crisis and concludes that unlike China, India did not learn from the crisis. He finds that after 2009, Indian institutions "were compromised to serve the interests of politicians and their corporate friends". Of course, this overlooks the investigations under President Xi Jinping over the past several years uncovering a similar nexus in China. In tracing the rise of China as an economic power, the author gives details of China's economic reform trajectory especially under Deng Xiaoping, influenced by advice given by foreign leaders like Lee Kwan Yew of Singapore, President Richard Nixon and Secretary of State Dr Kissinger of the United States. The result has been a "far more aggressive and efficient" China, whose growth has been condoned by the outside world despite the Tiananmen Square "massacre".

The author asserts that the ultimate objective of China's "hegemonic behaviour" is to exploit the resources of other countries and establish technological dominance over them. He looks at the possibility of the United States, Japan and India countering China's "predatory and imperialistic investments" in this context. The last three chapters examine whether China can displace the United States in global governance institutions like the IMF China's objective to control the global supply chain using digital technology and the role of the United States, Japan, India and "other" democracies to counter China's ambitions. Unfortunately, the book does not elaborate on how these democracies can do so.

Shri Asoke Mukerji, IFS (Retd)

Trumped: Emerging Powers in a Post-American World. By Sreeram Chaulia, (New Delhi; Bloomsbury) Page 237, Price- Rs. 799/-, ISBN: 978-93-891659-2-0

President Trump's recent visit to India has been described as "a visit like no other". The metaphor could be extended to say that Trump is a President like no other. As Sreeram Chaulia says in this thoroughly researched work, Trump is a "stormy petrel…an iconoclast who has thrown every known platitude and convention of American politics and foreign policy out of the window".

The thesis that Chaulia effectively posits is that Donald Trump has fast forwarded what was already underway after the 2008 financial crisis – the climbing down of the United States from its perch as guarantor of world peace and anchor of the liberal international order. There was a fatigue with distant international commitments, a growing disillusionment with globalisation and a general feeling that other countries were taking the US for a ride. Trump rode to power on this populist wave; in return he has promised to make America great again – by making trade fair and reciprocal, by cutting down immigration, by voluntarily giving up American power (and costs) in different regions of the world. In the fourth year of Trump's first term, this ball is still moving and Chaulia wisely gives no predictions as to where it will stop. It is indeed difficult to say, whether Trump is reelected or not, if the world will fully recover back to status quo ante – China's rise, Russia's resurgence and American fatigue in general may make a full reversal difficult.

The book has a second and more original thesis: Trump's disruption holds both, an opportunity as well as a danger for emerging powers, a category in which Chaulia includes India, Brazil, Nigeria and Turkey and devotes a chapter to each. On the one hand, American leadership in their respective regions has served its purpose in geo-political terms. Yet these powers have also been restive under American influence, and not always got a fair deal under the so-called liberal international order, whether it be in the Security Council, World Trade Organisation (WTO) or in the Bretton Woods institutions; globalisation, it has been argued, has actually increased inequalities among and within states. If Trump succeeds in his drive to bring America back to its shores and let the rest of the world take care of itself, these countries can build their own influence and regional linkages in their regions; the corollary being that they would also have to counter challenges, including Chinese influence, on their own. Sreeram Chaulia's commendable and well-documented effort would be a useful guide to policy makers in these countries to maximise the advantages and minimise the dangers of this opening that the Trump Presidency has offered, perhaps unintentionally. As far as India goes, the recent Afghanistan deal, and American withdrawal, may be the first test of this thesis.

Shri Navtej Sarna, IFS (Retd)

China's Strategic Behaviour. By Brig Sanjeev Chauhan, (Delhi: Pentagon Press LLP and USI of India, 2019), page,232, Price Rs. 995/-, ISBN:978-81-941634-8-0

China's evolution as world's second-largest economy in the world in 2011 is embedded in its indigenous philosophical and cultural concepts. West which myopically gauged China as a market framed their policies to derive economic benefits based on their strategic calculus founded in "means to ends" or "cause and effect" theories. It failed to read the flow of 'Shi' - a core idea that anchors Chinese

strategic thinking that relies on the inherent potential of the situation. Strategy according to Chinese is about finding, adjusting to and going along with the flow of a situation as it evolves. China under Xi Jinping has shaken off any pretence about benevolent cooperation as it seeks to realise the dreams of Sino-centric world order. Decoding the 'strategic situationism' from an Indian perspective therefore becomes important.

Book by Brig Sanjeev Chauhan provides a fresh breath to the stale narrative on China's Strategic behaviour. The book spanning six chapters makes us navigate along the historical belief system in the first chapter. According to the author this belief system is closely wedded to the Chinese classics. Mainstreaming them in the Chinese official discourse adds to their relevance in the current context as they form the source of policy prescriptions. Chapter 2 of the book titled "Staying China" traces the Chinese narrative to ignite nationalism and controlled revolution to bring about the rejuvenation by leaders that were challenged at intervening periods. In the Chapter 3 "Decoding China" he digs deep into the Chinese ideological trenches and tries to demystify the design of Chinese strategy through thinking, gaming, asymmetry and ambiguity. In Chapter 4 "Emboldening China" the author examines the current trends that sets it as a competitor to the US driven world order and explores how it has nuanced and calibrated its policies to chart its rise. Chapter 5 "Influential China" is about the way China has sharpened its knife to guide the future discourse without embroiling itself in a conflict. The chapter provides insight into the way China has gone about using sharp power to enhance its Comprehensive National Power (CNP), influence the nation-states and promote its strategic interests. Chapter 6 "Dialoguing China" looks at the future trajectory of China based on currently contextualised discourse. It examines five dominant internal and external dialogues that China is confronted with. According to the author managing them or battling with them will decide China's growth story.

Brig Sanjeev Chauhan has used his vast military experience to pen a comprehensive book on "China's Strategic Behaviour". It provides a new perspective to look at China's rise and the way it is likely to behave. China will remain a dominant player in world security dynamics and how China manages the dialogues will be a story that will be keenly watched by the world especially after the outbreak of Corona Virus and the rigours of regulation put in by the regime. Written in a very lucid language, book navigates along the strategic realm and is a must read for those who are in defence, diplomacy and business. "Dialoguing China" will remain relevant for times to come as the book throws open scenarios for planners and researchers to work on.

Brig Vivek Verma

"Securing India's Strategic Space with Valour Unlimited". Edited by Maj Gen Pushpendra Singh (Veteran), (New Delhi; KW Publishers Pvt Ltd), Page 166, Price Rs 680/-, ISBN: 978-93-89137-18-7

The veteran General Officer has composed an excellent book by incorporating articles of some equally prolific writers on military issues. Most of the chapters conform to the syllabi of post graduate courses in various Universities and National Defence College, New Delhi. The editor has forged a link between weak strategic planning done by those responsible for higher direction of war and high quality of valour displayed by the combatants and their leaders in the battle field starting from the battles of Khanwa to Rezang La and then to Siachen and Kargil.

Strategic planning at the highest level (which may include military commanders) and the valour displayed by men on ground in various battles are two significant factors for winning a war. But valour alone does not win a war. Wars are won by meticulous planning and preparation at all levels of the government machinery. There is an example of an Indian king who, with his equally chivalrous horse, could not win the battle on the basis of valour alone but lost owing to his poor strategic awareness.

Trend depicting disparaging role of bureaucracy in books written by military writers has been continued in this compilation, little realising that bureaucracy is a manifestation of democracy. The bureaucracy follows the rules of business and exercises a hold on the functioning of the government machinery. In the National Security Council too, the bureaucrats have a much larger representation than the Service Chiefs. In the domain of National Security, the role of the valourous is confined to executing the given task in a befitting manner. It is high time that our military writers exercise restraint while blaming bureaucracy.

On the whole the book "Securing India's Strategic Space with Valour Unlimited" makes interesting reading. The contributors being men of great expertise have shared their knowledge which could be useful for officers of junior and middle level.

Col Kul Bhushan Kaushal, (Retd)

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Pub Code M-1/2018**	Tibe of Book & Herne of Author "US National Security Strategy 2017 – A Critical Analysis" By LI Gen PK Singh, PVSM,AVSM (Field), Maj Gen BK Shamma, AVSM,SM** (Red) and Air Cride (Dr) AS Bahal,VM (Retd)	rice(Rs) 195	2018
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USI (Estd. 1870) OUR ACTIVITIES

Library and Reading Room

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

Correspondence Courses

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

USI Journal

The USI Journal is the oldest surviving defence journal in the country and in Asia, having first appeared in 1671. In an era when there is a feeling that free expression of views by Defence personnel is not looked upon kindly by the establishment, the Journal in fact provide just such a forum, without regard to seniority and length of service in the Armed Forces, subject of course, to propriety and quality of the written work.

Centre for Strategic Studies and Simulation The Erstwhile Centre for Research and its resources have been merged into the new Centre named as USI Centre for Strategic Studies and Simulation (USI-CS3) welf 01 January 2005. The Centre alms at conducting detailed and comprehensive enquiry, research and analyses of national and international security related issues, and gaming and simulation of strategic scenarios, to evolve options for wider discussion and consideration.

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Centre for Armed Forces Instances Research (CAFHR) The Centre was established on 01 Dec 2000 and encourages study and research into the history of the Indian Armed Forces with objectivity,

history of the indian Armed Forces with objectivity, covering different facets such as strategy, factics, logistics, organisation and socio-sconomic aspects and their implementation. Gold Medal Essay Competitions Every year the institution organises two gold medal essay competitions: one for officers below 14 years of service and the other open to all officers. These aspects the first one open to all officers. These essays, the first one of which was introduced in 1871, constitute a barometer of opinion on matters that affect national security in general and the defence forces

In particular. Lt Gan SL. Menezes Memorial Easey Competition This has been instituted from 2015 on a subject related to Armed Forces Historical Research. The Essay Competition is open to all across the globe. Lectures, Discussions and Seminars

A series of lectures, discussions and Seminars A series of lectures, discussions and seminars and topics of general interest to the Services, are organised for the benefit of local members in Dehi. MacGregor Medal This medal is awarded to Armed Forces personnel for valuable reconnsistance and extent to the setting the two here understand

nture activity they may have undertaken.

MEMBERSHIP

The following are eligible to become members of the Institution :

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