



**PROTECTING
INDIA'S HERITAGE.**



Courtesy: Department of Archaeology and Museums, Government of Maharashtra

It has been our duty to strengthen a country that has a strong history. And we have consistently done so for the past 6 decades using cutting edge technology and class of service. Needless to say our response has always been prompt. Through our dedication and support we've helped secure the heritage of billions in India with peaceful grounds and safer skies.

60 YEARS. 5 AIRCRAFT TYPES. 1 NATION.

www.rafale.co.in



TOOFANI | MYSTERE IV | ALIZE | JAGUAR | MIRAGE 2000

AIR POWER

Vol. 11 No. 2 • Summer 2016 • (April-June)

AIR POWER

Journal of Air Power and Space Studies

Vol. 11 No. 2 • Summer 2016
(April-June)



Contributors

- Admiral Arun Prakash • Air Marshal S C Mukul
- Air Vice Marshal Manmohan Bahadur
- Air Marshal Dhiraj Kukreja • Manisha Chaurasiya
- Group Captain Ashish Gupta • Dr Poonam Mann
- Chandra Rekha

CENTRE FOR AIR POWER STUDIES, NEW DELHI



EDITOR'S NOTE

Once again, the journal consists of well researched writings of both topical and classic nature; articles that should interest our readers.

Adm Arun Prakash is a highly respected naval aviator and a former Chief of the Naval Staff. We carry his article on 21st century naval aviation as the lead article in this issue of the journal. He is a recognised strategist and author and his writings make compelling reading. Even though our first aircraft carrier, the *INS Vikrant*, joined the fleet only in the early 1960s, the author encapsulates the growth of the Indian Navy, with particular reference to our naval aviation since we gained independence. The author also discusses the rise of naval aviation worldwide and the early history is fascinating. He sees into the future as well and discusses the essential tasks for Indian naval aviation in the years to come. His recommendation that we should formulate an air/sea battle doctrine will be favourably received by many. Such a doctrine is long overdue and should not be delayed any further.

Military leadership is an amorphous concept but good leadership has often succeeded in the face of seemingly overpowering odds whilst inept leadership could nullify superior strength and favourable dispositions. Whilst leadership training forms part of the syllabus in most military academies and the concept is often discussed amongst Service officers, **Air Mshl S C Mukul** has made a study of the subject and presents his views clearly and cogently. His article on the subject, often laced with his personal experiences, is eminently readable. He laments the lack of institutional training in the young officers' formative years and makes cogent recommendations. The advice of the author, always known for his professionalism, should be

seriously studied. The young should read and imbibe, and the not so young should read to understand what they should have done and recognise that it is never too late to adopt good advice.

It is never too early to plan for the future and foresight is an essential requirement in military planning. **Air Vice Mshl Bahadur** looks at what the Indian Air Force should look like in 2032, when it will be 100 years old, and what can be our realistic expectations. The author also examines the likely air capability of China and Pakistan 16 years hence. It is always instructive to see how the 'bean counts' stack up both qualitatively and quantitatively. As the timeframe is a mere 16 years, fairly good assessments can be made of capabilities and likely equipment holdings but their possible use and training issues is another story altogether. It is a given that far more important than the hardware is the probable planned use, and the training and consequent operational capability to make best use of available resources. The author also extrapolates the discussion to the likely situation in 2047, when independent India will be 100 years old. Refreshingly, throughout the article, the reader senses an air of optimism.

Terrorism in its many forms is a grave threat to the world. That is a truism that has universal acceptability. There are many who read an article on terrorism avidly in the hope that some silver lining will be discernible. With Al Qaeda on the decline, it is the Islamic State in Syria (ISIS) that has excited our imagination. **Air Mshl Kukreja** describes the growth of the ISIS and includes a brief historical account of the concept of the caliphate and the rise of the self-styled Caliph, Abu Bakr al Baghdadi. The *modus operandi* of the organisation and how it is financed is discussed and so is their ruthlessness that is intended to induce fear. Now with the recruitment of professionals, high calibre propaganda is being created that attracts many. The international community is yet to get its act together to seriously challenge the menace. Thus, even though the ISIS is losing some territory and less moneys are forthcoming, the menace is still very much alive.

As the putting together of this issue of the journal is in the final stages before it is sent to the press, the media is abuzz with the imminent admission of India into the Missile Technology Control Regime (MTCR) and a possible

acceptance of India as a member of the Nuclear Suppliers' Group (NSG). Hence, an article on India's nuclear exceptionalism is timely. The Indo-US nuclear deal and the subsequent waiver from the NSG permitted India to participate in nuclear commerce. India's responsible behaviour as a state with nuclear weapons and substantial in-house nuclear technology was recognised. Our non-proliferation credentials and continued commitment towards nuclear disarmament must have also helped tilt the scales in our favour. **Manisha Chaurasiya** gives a concise history of our nuclear story from the 1940s to help explain how the 'exceptionalism' came about.

Wikipedia defines 'zeitgeist' as "the dominant set of ideals and beliefs that motivate the actions of a society". In referring to cyber zeitgeist, **Gp Capt Ashish Gupta** has in mind the society of cyber warriors. Drawing inspiration from Kautilya, he discusses the history and evolution of intelligence gathering, counter-intelligence and security issues. The cyber domain is home to considerable information of value and is the target of cyber attacks, espionage and other inimical activities. The article is informative and readable, replete with interesting data and information. Cyber activities in China and the USA are used to help buttress his arguments. His essential argument is that the cyber domain, whilst very useful, also has a distinct flip side to it that must be countered and even exploited.

Acceptance of India as a full-fledged member of the Shanghai Cooperation Organisation (SCO) is on the cards. **Poonam Mann** looks at the history and functioning of the organisation, and discusses India's interest in joining the organisation and its attendant implications. She looks at the challenges as well, particularly if India wishes to play a significant role in the organisation in order to further its diplomatic and economic initiatives. She argues that although China is the significant player in the movement and its support of, and by, Pakistan is inevitable, full membership, even with Pakistan on board as well, is preferable to a mere observer status.

The last but very significant and topical article is about the evolution of Russia-China bilateral relations. After Crimea's accession to Russia, the resultant sanctions and the concomitant fall in the price of oil made the situation very difficult for Russia. Russia and China, once friends turned

foes turned friends, saw an opportunity to work together for mutual benefit. Russia needed greater engagement with other countries. The Russian and Chinese interests coalesced with the resultant sale of oil and military hardware to China. In a well-researched, scholarly article, **Chandra Rekha**, in separate sections, discusses the evolution of Russian and Chinese foreign policies over the years as well as the progression of their bilateral relations. She argues that there is some interdependence; they are not as distant as they were but there is no military pact. Again, the two countries are not really natural partners but are competitors. The author also looks at what the future could hold. Towards this end, she analyses a few scenarios that are both interesting and plausible.



Happy reading.

CONTENTS

Vol. 11 No. 2, Summer 2016 (April-June)

Editor's Note	v
1. THE UNFOLDING CONTOURS OF 21st CENTURY NAVAL AVIATION	1
<i>Arun Prakash</i>	
2. MILITARY LEADERSHIP TRAINING: UNDERSTANDING AND MASTERING PERSONAL LEADERSHIP	23
<i>S C Mukul</i>	
3. INDIAN AIR POWER: AMBITIONS TO SECURE AEROSPACE	41
<i>Manmohan Bahadur</i>	
4. ISIS: THE NEW TERROR	63
<i>Dhiraj Kukreja</i>	
5. THE RATIONALE FOR THE INDIAN NUCLEAR 'EXCEPTIONALISM'	85
<i>Manisha Chaurasiya</i>	
6. ESPIONAGE, INTELLIGENCE AND EXPLOITATION IN THE DIGITAL AGE: CONCURRENT MANIFESTATIONS OF THE CYBER ZEITGEIST	103
<i>Ashish Gupta</i>	

7. **INDIA'S MEMBERSHIP IN THE SHANGHAI
COOPERATION ORGANISATION: OPPORTUNITIES
AND CHALLENGES** 125
Poonam Mann
8. **EVOLUTION OF RUSSIA-CHINA BILATERAL RELATIONS** 145
Chandra Rekha

THE UNFOLDING CONTOURS OF 21ST CENTURY NAVAL AVIATION

ARUN PRAKASH

While a large Indian Army had been considered indispensable by the British for sustaining their far-flung empire, they did not brook the creation of a naval force which had the slightest chance of becoming a future rival to the Royal Navy. Pre-independence discussions about the proposed size and shape of free India's Navy had thrown up two viewpoints.

The departing British visualised the Indian Navy (IN) as a component of a Commonwealth task force meant to counter a possible Soviet advance into the Indian Ocean. The nationalist opinion, articulated by the visionary historian and diplomat KM Panikkar, demanded that India should break away from the Royal Navy and develop a strong, three-dimensional force to defend its maritime interests¹.

The recent experience of World War II having demonstrated the utility of aircraft carriers in multiple roles, a 15-year naval plan paper envisaged four aircraft carriers, four cruisers, 16 destroyers, 16 submarines and about 400 aircraft for the post-independence IN. Clearly unaffordable for an impecunious fledgling nation, with so many demands on its limited resources, a more pragmatic and spartan plan emerged, subsequently, with the support of Lord Mountbatten, which included a single light fleet aircraft

Admiral **Arun Prakash** is a former Chief of Naval Staff. An aviator by specialisation, he commanded a carrier-borne fighter squadron, a naval air station and the aircraft-carrier INS *Virat*. During the 1971 War, he flew Hunters with No. 20 Squadron, IAF.

1. K. M. Panikkar, *India and the Indian Ocean: An Essay on the Influence of Sea Power on Indian History* (London: George Allen & Unwin, 1945), p. 23.

I have attempted to trace the genesis and rise of naval aviation in other navies, before covering its logic, growth and future in the Indian context.

carrier with a balanced force of cruisers, destroyers and auxiliaries. The carrier (INS *Vikrant*) came 14 years after independence, but it formed the dream and the kernel around which the IN painstakingly built its now substantial air arm in seven decades.²

In this essay, I have attempted to trace the genesis and rise of naval aviation in other navies, before covering its logic, growth and future in the Indian context. For nearly a century, the component of naval aviation that has attracted both approval and controversy, not only within navies, but also in the sister Services and political circles, is the aircraft carrier. However, there are only 10 navies, worldwide, that operate such ships today. Naval aviation, thus, encompasses much more than carriers. Although it will be my endeavour to cover as many aspects as possible, the reader may well find the discourse being dominated by carriers.

THE RISE OF AIR POWER AT SEA

It was barely seven years after the Wright Brothers had ushered in the epoch of aviation, that an intrepid American named Eugene Ely pioneered ship-borne air operations. In November 1910, he undertook a breath-taking launch from a wooden platform fitted in the bows of a US Navy cruiser and, two months later, performed the equally difficult task of landing on the stern of another cruiser at anchor. Aviation was now ready to go to sea as an integral part of navies.

In April 1913, Britain constituted the Royal Flying Corps (RFC) with naval and military wings. A year later, naval aviation was recognised as a new branch of the Royal Navy and the Royal Naval Air Service (RNAS) came into being, with its own rank structure. With the onset of World War I, the RFC was despatched to France to provide support to the army, while the RNAS was deployed from ashore and afloat in maritime operations.³

2. RAdm Styindra Singh, *Blueprint to Bluewater* (New Delhi: Lancer International, 1992), pp. 35-45.

3. Adm AK Chatterji, *Naval Aviation: A World History* (New Delhi: Allied Publishers Pvt Ltd, 1985), pp. 11-20.

In that era, the fleet that spotted the enemy first had an advantage in the battle to follow. The ship-borne aircraft was, therefore, eagerly adopted as a “crow’s nest in the sky” for scouting and obtaining early warning of enemy dispositions. Like all innovations, the aircraft too faced much opposition from the traditionalists. Conservative admirals were firmly convinced that battleships—45,000-ton behemoths, bristling with guns, ranging from 0.5-inch to 14-inch calibre and protected by 12-inch thick armour-plating—were immune to all threats. In the face of such scepticism, the aircraft made a hesitant debut on the maritime scene – first in the scouting role, then, for gunnery observation, and, finally, for strike and fleet air defence.

Conservative admirals were firmly convinced that battleships—45,000-ton behemoths, bristling with guns, ranging from 0.5-inch to 14-inch calibre and protected by 12-inch thick armour-plating—were immune to all threats.

Soon, cruisers and battleships began to be equipped with one or two seaplanes as a standard fit. They would be launched from a jury ramp on the gun turret and recovered from the water board by the ship’s crane. Subsequently, warships began to be converted to the dedicated role of ‘seaplane-tenders’ and could support a number of such aircraft.

The end of World War I, however, saw a nasty blow struck at naval aviation. Preaching “unity of air power”, Brig-Gen Hugh Trenchard prevailed upon the British government to merge the RFC with the RNAS to form an independent force for conduct of air operations. Thus, on April 1, 1918, the Royal Air Force (RAF) came into being, with Lord Trenchard as the Chief of the Air Staff. Having handed over 2,900 aircraft, 127 naval air stations and 67,000 personnel to the RAF, the Royal Navy abolished the post of Fifth Sea Lord and naval aviation became a concern of the new Air Ministry.⁴

The limitations of seaplanes in aerial combat had led to the development of the true aircraft carrier, capable of operating fighters. Many existing hulls were converted to this role, on both sides of the Atlantic, by installing a

4. Ibid., pp. 21-26.

full length flat deck, but the first ship to be designed and built, *ab-initio*, as an aircraft carrier was the Imperial Japanese Navy's *Hosho*, in 1922, to be followed by the British ship *HMS Hermes*, in 1924.⁵

Despite a great deal of protests and lobbying, the Royal Navy was not to regain control of its air arm till just before the outbreak of World War II, in 1939. Two decades of control by the Air Ministry had, however, led to neglect of naval aviation and the Royal Navy lagged well behind the RAF as well as the American and Japanese Navies as far as aircraft development was concerned – having to fly biplanes right upto 1941 even as the Spitfire, the Zero and the Wildcat took to the skies.

ROLES OF AIR POWER AT SEA

The first week of December 1941, saw the unfolding of two historic air actions against maritime forces. On December 7, in a surprise attack on Pearl Harbour, waves of Japanese carrier-borne aircraft sank or damaged eight battleships of the US Pacific Fleet. Three days later, on December 10, Japanese shore-based bombers and torpedo-aircraft attacked and sank the Royal Navy's battleships *Repulse* and *Prince of Wales*, along with four destroyer escorts, off the coast of Malaya. Not only had the 'battleship myth' been shattered, but also the superiority of air power, against warships, established decisively at sea.⁶

Carrier-borne air power was instrumental in deciding the course of the war in all theatres of World War II. Whether it was hunting surface raiders like the *Bismarck* and *Graf Spee*, convoy escort duty in the Atlantic, power projection ashore in the Mediterranean or over-the-horizon combat against other carriers in the Pacific, their role is too well known to be recounted here. It resulted in the aircraft carrier displacing battleships and armoured cruisers from the centre-stage of maritime power.

Such was the clamour for air support at sea that the war saw even merchant ships being equipped with fighters which could undertake a rocket

5. *Ibid.*, p. 27.

6. https://en.wikipedia.org/wiki/Sinking_of_Prince_of_Wales_and_Repulse. Accessed on April 23, 2016.

assisted take-off from a small ramp in the bows.⁷ Temporarily, this proved a useful measure against German U-boats and patrol aircraft, but when the casualty rate in convoys shot up, small merchant ship hulls were modified with a flight deck which could accommodate 15-20 aircraft. These became the famous escort carriers fondly dubbed “Jeep” carriers.⁸

The end of World War II saw the US Navy with a massive fleet of 99 carriers and the Royal Navy with 40 such ships of assorted types. Such inventories were, however, unaffordable and began to be rapidly reduced after the Japanese surrender. The newly formed US Air Force (USAF) claimed worldwide reach with its strategic bombers; posing a serious threat to naval aviation. A period of inter-Service tension led to the cancellation of the carrier USS *United States* and four sister ships. This was accompanied by the resignation of the navy chief and other admirals.⁹

Desperately seeking a strategic function to assign to its carriers, the US Navy eventually found a niche for naval aviation in the national strategy. Two ship-borne bombers, the A-3 Sky-warrior and A-5 Vigilante (two of the heaviest carrier-borne aircraft ever) were assigned a nuclear attack role against Soviet land targets.¹⁰ This brought the carriers back on centre-stage, alongside the ballistic missile submarine force.

As the post-war polarisation threw up new East-West political tensions, it soon became obvious that there was going to be no diminution in either the importance of carriers or in the roles assigned to them. In the seven decades since the end of World War II, carriers have continued to play a vital role in projecting air power to exert a decisive influence on conflicts. The Korean War, the Suez crisis, the long Vietnam War, the 1971 Indo-Pakistan War and the Falklands Campaign are just some of the conflicts in which carriers made a significant contribution.

7. <http://ahoy.tk-jk.net/macslg/TheDevelopmentoftheCatapu.html> . Accessed on April 23, 2016.

8. https://en.wikipedia.org/wiki/Merchant_aircraft_carrier. Accessed on April 24, 2016.

9. M Hill Goodspeed, ed., *US Naval Aviation* (Pensacola, Florida: Naval Aviation Museum Foundation. 2001), p. 39.

10. <http://www.tailsthroughtime.com/2016/01/the-bomber-career-of-douglas-3.html>. Accessed April 26, 2016.

In a latter day context, the asymmetric conflicts in the Balkans, Kuwait, Iraq, Afghanistan, Libya and Syria have consistently shown that not just the US Navy, but also the British, French and Italians have used aircraft carriers as sovereign territory to project power and influence events far from home.

CONTINUING RELEVANCE OF THE CARRIER

It is said that when the US is faced with an international crisis, the first question the president asks the chairman, Joint Chiefs of Staff is: “Where are the carriers?” This story may be apocryphal, but the fact remains that the Pentagon and State Department consider aircraft carriers as “five acres of sovereign territory”, to be used for leveraging state policy. They are potent mobile bases which can be positioned off any shore, worldwide, in a matter of hours or days, to project naval air power – for reassuring friends, coercing adversaries or rendering humanitarian assistance to the stricken.

Carrier air wings are just one component – albeit the most high profile – of naval aviation. The others are land-based Maritime Reconnaissance (MR), Anti-Submarine Warfare (ASW) and Electronic Warfare (EW) forces, organic ship-based helicopters and Unmanned Aerial Vehicles (UAV). The roles to be discharged by naval aviation are defined by the contours of a nation’s maritime strategy; and may include providing air defence to the fleet, assisting in establishment of ‘sea control’, exercising ‘sea-denial’ and undertaking ‘power projection’ in the enemy littoral and across his shore.

The single most important factor that distinguishes naval aviation from air forces is the fact that naval aircraft form integral components of the maritime-matrix, and are, essentially, an extension of the fleet’s weapons and sensors. The key utility of aircraft to the fleet commander arises from three attributes: the ability to see (visually or electronically) much further than a ship; the ability to deliver ordnance well beyond the ship’s visual/radar horizon ability to be immediately available to the fleet on a 24x7 basis.¹¹

Only a handful of navies possess ships that meet the US definition of an ‘aircraft-carrier’; i.e. a ship displacing over 65,000 tons and able to carry an

11. *Naval War College Review*, vol 67, no.3, Summer 2014; Robert C Rubel, *Theory of Air Power* (2014), pp. 64-65.

air-wing of 60-70 fighters, strike aircraft, ASW helicopters and fixed-wing Airborne Early Warning (AEW) machines. Other navies own smaller, 'aviation-capable' ships that can operate Short Take-Off and Vertical Landing (STOVL) jets and helicopters.¹²

QUESTION MARK OVER CARRIERS

Worldwide, a majority of naval aviation assets are, therefore, land-based and the aircraft and helicopters are often employed to fulfill the twin roles of reconnaissance (also termed as 'scouting') and maritime strike. Armed with anti-ship missiles, the scout can locate, identify and attack the enemy, thus, functioning as an extension of the fleet's sensors and weapons. Japan, for example, owns no carriers but has established a maritime cordon of 1,000 nautical miles (nm) radius and deploys a force of 150 P-3 Orion and S-2 Tracker patrol aircraft to sanitise it.

Against this background, the traditional justification for aircraft carriers, that they provide tactical air power independent of land bases, where and when required by navies, is being increasingly questioned; especially in an era of diminishing defence budgets. The emergence of China's 'anti-Access and Area-Denial' (A2AD) strategy seemed to further bolster the case against carriers.

There was active debate about the justification for building any more of these expensive behemoths, accompanied by the proposition that land-based air power – naval or air force – could take over their roles at sea. However, Britain's hugely expensive programme to revive its fixed-wing ship-borne aviation; China's new-found enthusiasm for aircraft carriers; and the US 'air-sea battle' concept seem to have provided a pause in this debate. India, too, has embarked on an ambitious carrier building programme, with one ship due to be delivered in 2019 and another on the drawing board.

While the affluent Western powers may have their own strategic logic for maintaining carriers in their order of battle, a rising economic and maritime power like India needs to reflect carefully on this issue, and evolve a sound

12. Ibid., p. 68.

A kind of 'maritime awakening', seems to have occurred over the past decade-and-a-half to make India's decision-makers acknowledge the criticality of the oceanic environment, and the dire need to focus on maritime security.

rationale, within the ambit of its maritime strategy, for creating an aircraft carrier force.

Let me now shift this discourse to a different plane and establish the geo-strategic rationale that underpins the Indian Navy's growth, from which will flow the logic that demands a robust naval air arm.

A MARITIME INDIA?

India has been, since centuries, a maritime nation, in every sense; although a national affliction of 'sea blindness' has prevented us from acknowledging it. A kind of 'maritime

awakening', seems to have occurred over the past decade-and-a-half to make India's decision-makers acknowledge the criticality of the oceanic environment, and the dire need to focus on maritime security. The developments that have contributed to this realisation, perhaps, include the dramatic exposure of India's soft coastal underbelly in November 2008, the trauma of rampant piracy and the looming menace of the People's Liberation Army Navy (PLAN).

Above all, it was the powerful phenomenon of globalisation that, belatedly, brought home to Indian intelligentsia that this peninsular nation, isolated to landwards, is almost entirely dependent on the seas for its well-being and prosperity. International trade, the *sine qua non* of globalisation, is carried overwhelmingly by sea, as is energy, the lifeblood of growth and industry.¹³

A 7,500-km-long coastline, dotted with 200 major and minor ports, a huge Exclusive Economic Zone (EEZ), offshore islands, a merchant fleet, exceeding 10 million tons, and nearly 100,000 sea-farers, serving under many flags, place India amongst the world's major maritime nations.

13. Arun Prakash, *Varuna Vak* (New Delhi: National Maritime Foundation Policy Paper, 2011), p. 3.

EMERGING THREATS IN THE INDIAN OCEAN REGION (IOR)

India is, now, poised to be a significant player in world affairs, but its rise is coincident with that of neighbouring China, with the attendant hazards of such an occurrence. India would, therefore, need to shape its policies to forestall the domination of its neighbourhood by a hegemon and safeguard its core interests.

China's heavy dependence on the Indian Ocean sea lanes has led to its deep involvement in this region; virtually at India's doorstep. Its 'string of pearls' strategy was crafted for the acquisition of maritime footholds, along vulnerable Indian Ocean sea lanes; the first two being Gwadar and Djibouti. China has, now, gone a step further by evolving the 'one belt-one road' concept, to push an even more ambitious maritime agenda linking China's interests in the Indian and Pacific Oceans. India's anxiety over these developments was aggravated by the first-ever entry of Chinese submarines into the Indian Ocean in mid-2014.

China's significant maritime build-up includes nuclear and diesel submarines, amphibious shipping, surface escorts and naval aviation. Of special concern to India is China's growing force of nuclear-powered attack submarines (or SSNs), which can interdict shipping at long ranges. Once China's first aircraft-carrier, *Liaoning*, equipped with the J-15 Tiger Shark fighter attains operational status, the PLAN will be able to project maritime power right across the Pacific region. There is evidence that China's carrier construction programme may run into 3-4 ships. All this could herald a possible bid at domination of Indian Ocean Sea Lines of Communication (SLOCs).

Our western neighbour, Pakistan, has created a potent sea-denial capability with a few submarines equipped with Air-Independent Propulsion (AIP) that endows them with extended underwater endurance. It has also

China's significant maritime build-up includes nuclear and diesel submarines, amphibious shipping, surface escorts and naval aviation. Of special concern to India is China's growing force of nuclear-powered attack submarines (or SSNs), which can interdict shipping at long ranges.

created a substantial force of maritime reconnaissance aircraft and a mix of US and Chinese supplied warships; and all these platforms are armed with anti-ship missiles.

THE MARITIME CARD

Although India has an edge in conventional military strength over Pakistan, it is clear that in any bilateral conflict, China will come to the aid of its “all-weather ally” in more ways than one. While moral and material support will flow instantly from Beijing to Islamabad, it is the opening—threatened or actual—of a “second front” that troubles Indian military planners.

Prudence demands that for every Indo-Pakistan confrontational scenario, only a proportion of India’s land and air forces should be deployed on the western border; the rest remaining on alert for containment of any Chinese adventurism or diversionary ploy in the north or northeast. Under these circumstances, the best that India can hope to achieve militarily is a stalemate. It is in this situation of serious asymmetry, with respect to the Sino-Pak axis, that India needs to play the “maritime card” to checkmate both adversaries.

In Pakistan’s case, intense pressure can be brought to bear in support of Indian Army operations from the country’s seaward flank. Moreover, given a few weeks, Pakistan’s military machine as well as populace can also be starved of essential supplies and material. This would encompass the full spectrum of maritime warfare: from commodity denial and anti-submarine warfare to power projection across the littoral.

China, in its quest for securing strategic resources, has cast its net world-wide; from Australia to the Russian Far East and from West Africa to the heart of South America. These far flung economic interests make China dependent on extended SLOCs which criss-cross the Indian Ocean, and expose huge maritime vulnerabilities. India’s central location in the Indian Ocean, about half way between the Persian Gulf and the Malacca Strait, places it in a dominant position astride vital SLOCs. Thus, China’s exposed ‘jugular vein’ could be gainfully exploited by the IN to relieve pressure on land.¹⁴

14. Ibid., p. 19.

MARITIME GAME CHANGERS

In the foregoing context, a few aspects of IN force accretion plans, which will endow the nation with a number of powerful maritime options, bear mention here.

- The expected advent of the PLA Navy, especially its nuclear submarines, into the Indian Ocean has lent urgency to the Maritime Domain Awareness (MDA) task. The IN has evolved a multi-layered surveillance capability (more of this later) but the 'icing on the cake' is the recently launched GSAT-7 communication satellite, meant exclusively for IN use, which will facilitate the networking of sensor and weapon data across its vast footprint.
- The addition of the ex-Russian INS *Vikramaditya*, with its complement of MiG-29K fighters and Kamov-28/31 helicopters, will boost the navy's capability to exercise sea-control and to project power across the shore. Current plans envisage a second (and perhaps third) indigenously built carrier joining the fleet. Given the wealth of carrier operating experience available in the IN, these ships are capable of tilting the balance of power in our region.
- Operationalisation of India's first indigenously-built nuclear-powered ballistic missile submarine (SSBN) *Ariihant* will ensure that India has an invulnerable second strike capability, thus, enhancing the effectiveness and credibility of its nuclear deterrent *vis-a-vis* adversaries—China and Pakistan. As the Service responsible for safe and efficient conduct of SSBN operations, the IN will be the custodian of their nuclear-tipped ballistic missiles.
- The induction of the nuclear-powered attack submarine (SSN) INS *Chakra*, on a 10-year lease from Russia, has placed a powerful weapon of offence in the hands of the IN. Apart from the anti-shipping role, it can also undertake, with virtual impunity, tasks as varied as surveillance, special operations, intelligence gathering and land attack.

While the IN had always aspired for the status of a true blue water force at some future point of time, neither the politicians nor the bureaucracy shared

this vision. The phrase, 'blue water navy', incidentally, denotes a maritime force which has the capability of undertaking missions in waters distant from home, for extended period of time in pursuit of national interests. It implies the availability of large, well-armed warships, logistic support, and an integral aviation capability.

In accordance with its long-term perspective plan, the IN is in the process of steadily acquiring large, well-armed warships – mostly from Indian shipyards – and a logistic fleet that will provide support in distant waters is being created. In the next part of this essay, I will discuss the growth of India's naval air arm and briefly dwell on its different components.

FLEDGLING NAVAL AIR ARM

A Directorate of Naval Aviation, established in 1948, began preparations for the creation of an air arm by sending officers to the UK for training. While plans for acquiring an aircraft carrier were placed on the back-burner due to financial stringency, the formation of a Fleet Requirement Unit was approved and an order for ten Sealand twin-engined amphibians placed in 1951 to equip it. The first Sealand flew into Cochin on February 4, 1953, and this date marks the foundation of India's naval aviation arm. In May the same year, the navy's first air station, INS *Garuda*, was commissioned, also in Cochin.

To the squadron of ten Sealand amphibians, the IN soon added ten Fairey Firefly fighters, modified for target-towing, and three HT-2 trainers. In 1957, India purchased the unfinished hull of the light-fleet carrier HMS *Hercules* in the UK; to be renamed later as INS *Vikrant* after its commissioning in 1961. In order to prepare crew for flying the carrier-borne aircraft, the IN acquired three Vampire Mk 51 fighters and a Vampire Mk 55 trainer from Hindustan Aeronautics Limited (HAL), to form a Naval Jet Flight in Sullur.¹⁵

The choices of carrier-borne aircraft for a relatively small ship like the *Vikrant* were limited and required considerable deliberation. Eventually, the British built Armstrong-Whitworth Sea Hawk FGA Mk 6 was chosen for

15. Chatterji, n.3, pp. 103-110.

Vikrant's fighter squadron and the French Breguet Alize for its anti-submarine warfare squadron. The training of the air crew as well as maintenance personnel was undertaken in the UK and France. The carrier was initially allotted two Sikorsky S-55 helicopters on loan from the Indian Air Force (IAF) for search and rescue and these were later replaced by the French Alouettes III (later renamed Chetak).

Reliance on air power, integral to the fleet, and available round the clock, has been an article of faith with the IN, since the induction of the *Vikrant* 55 years ago, and the Indian Navy's tactics as well as strategy are built around the carrier task force concept. Similarly, all major warships, in service, or being built, carry one or more helicopters to enhance the ship's reach and capability. However, a significant proportion of naval aviation is shore-based; and I start with a description of its MR and ASW components.

MR AND AIR-BORNE ASW

India's extensive maritime interests and the emerging hazards of diverse nature in the vast Indian Ocean demand that a sharp vigil be maintained on activities on, and beneath, its waters.

During the 1971 War, the 5,000-km-long passage of the PNS *Ghazi* from Karachi to Vishakhapatnam and the sustained presence of the PNS *Hungor* off the west coast till she sank the frigate INS *Khukri* were both severe indictments of our maritime reconnaissance and air-borne ASW capabilities. This was one of the major factors underlying the government's decision to transfer control of the MR-ASW role from the IAF to the IN, after a prolonged debate, in 1975.

At this point, the navy was in the process of preparing to receive the Ilyushin-38 ASW aircraft which was to be acquired from the USSR. In an already difficult situation, the new decision required that the IN take over the Super Constellation squadron from the IAF even before the arrival of the Il-38. Finding pilots, observers and maintainers for this aircraft became a challenge, but by squeezing resources from other streams, the navy managed to create a new MR unit.

The Boeing P-8 (I) patrol and anti-submarine warfare aircraft has been commissioned and eventually a force of 35-40 such aircraft will be required to meet the demands of MDA.

Intense maritime activity in the Indian Ocean and the huge area that has to be kept under surveillance requires substantial MR-ASW capabilities. With the anticipated advent of Chinese nuclear submarines into the Indian Ocean, these capabilities assume strategic overtones. They are, therefore, embedded in the navy's network-centric operations model and closely linked with its MDA capabilities.

The IN has evolved a multi-layered surveillance capability with deployment of task-optimised aircraft, as well as UAVs for each layer. Currently, these tasks are undertaken by a mix of Tupolev-142, Illyushin-38, Dornier-228 aircraft and Heron and Searcher UAVs. A new squadron of eight Boeing P-8 (I) patrol and anti-submarine warfare aircraft has been commissioned and eventually a force of 35-40 such aircraft will be required to meet the demands of MDA.

The IN has been one of the pioneers in UAV operations at sea, and experience has shown that these systems are extremely efficient and cost-effective. Ship-borne and long-endurance UAVs will be able to bring about a transformation in the MDA scenario.

INDIA'S CARRIER AVIATION

The Indian Navy's steadfast adherence to the aircraft carrier as the centre-piece of its doctrine and strategy has paid rich dividends over the past half-century. One striking manifestation of this was the contrast between the manner in which the IN and PLAN, almost simultaneously, inducted new aircraft carriers into their fleets.

The past four years have seen the PLAN hesitantly feeling its way towards operationalising the *Liaoning* and its complement of J-15 Tiger Shark fighters. It is reported that the ship is being designated a "training carrier"¹⁶. The IN, on the other hand, having commissioned the INS *Vikramaditya* in 2012, in Russia, sailed her 10,000 miles to Karwar and, by 2014, had worked

16. https://en.wikipedia.org/wiki/Chinese_aircraft_carrier_Liaoning. Accessed on April 27, 2016.

up the ship and its squadrons of MiG-29K fighters and Kamov-31 ASW helicopters to fully operational status.¹⁷

What is debatable, however, is the logic and operational effectiveness of the IN placing reliance on a one, small aircraft carrier in the past. No doubt, it has been a Hobson's choice, forced upon the Service by severe economic constraints as well as strategic tunnel-vision at the national level, but the following limitations have loomed in the background:

- Both the INS *Vikrant* and INS *Viraat* were 'light fleet carriers'—the smallest in the carrier family. They have been restricted in speed and endurance, as well as the all-up weight and number of aircraft that could be launched and recovered from their decks.
- Due to these limitations, both ships could only carry sub-sonic aircraft of limited range and endurance during their operational life.
- The possible outcome of a Sea Hawk's encounter with an F-86 or a Sea Harrier's interception of an F-16 has always remained a source of concern for carrier captains and fleet commanders, over the years.

What is debatable, however, is the logic and operational effectiveness of the IN placing reliance on a one, small aircraft carrier in the past. No doubt, it has been a Hobson's choice, forced upon the Service by severe economic constraints as well as strategic tunnel-vision at the national level.

For these reasons, the deployment of its carrier, in the face of a superior shore-based hostile air force, has constituted a perpetual operational challenge for the Indian Navy.

With a larger carrier, capable of operating state-of-the-art fighters now in its inventory, the Indian Navy's operational options have become much broader. Our future task forces will be able to confidently undertake missions in the face of air opposition, especially if adequate fighters are available to provide round the clock tactical air support. However, one must bear in mind that new threats from land-based ballistic missiles may now confront the carrier task forces of the future, and suitable counter-measures will need to be evolved.

17. https://en.wikipedia.org/wiki/INS_Vikramaditya. Accessed on April 24, 2016.

FUTURE CARRIER OPTIONS

The choice of configuration, size and propulsion of a carrier has a direct linkage with the type of aircraft that will operate from it; and this constitutes a typical “chicken and egg” conundrum. Should one choose the aircraft first, or should the carrier design be frozen first? This was the problem that plagued the British Royal Navy’s carrier programme for over a decade, and led to many flip-flops, controversies and huge cost-escalation.

In India’s case, the configuration of the *Vikramaditya* was decided a decade ago and the first Indigenous Aircraft Carrier (or IAC-1) will follow suit. Both are STOBAR ships and will operate the MiG-29K and possibly the LCA-Navy during their lifetimes. STOBAR is an acronym for: Short Take-off (over a ski-jump) But Arrested Recovery into a set of wires. However, the design of the IAC-2 and follow-on ships remains open.

The IAC-2 will enter service, in the next decade, at a juncture where a balance-of-power struggle may be underway in this part of the world, with China and India as the main players. Should the PLA Navy decide to deploy the *Liaoning* or her successors in the Indian Ocean, the Indian Navy’s tactical aviation assets would assume crucial importance. Therefore, a well-considered decision has to be taken about aircraft selection, before the concept-design for IAC-2 is frozen.

Essentially, the ship could be equipped with one of three types of aircraft available, and each type will profoundly affect its design and operating philosophy in different ways.

- Conventional take-off and landing types like the F/A-18 Super Hornet and Rafale-M will require a steam catapult for launch and arrestor gear for recovery. This would mean a CATOBAR (Catapult Assisted Take-Off But Arrested Landing) carrier with a steam-driven catapult. An electro-magnetic version of the catapult, under development, has been offered by the USA.
- Types like the Su-33, MiG-29K and LCA-Navy will call for a ski-jump, instead of a catapult, in the forward part of the carrier, and arrestor wires at the stern. This would mean a STOBAR configuration for the carrier.
- The F-35B version of the Joint Strike Fighter (JSF) would be an extension of the Harrier family. Capable of vectored thrust, it will require only a

ski-jump to enhance take-off performance. The choice of the F-35B would result in the most simple and cheapest ship—a STOVL carrier. But the aircraft itself is likely to be expensive.

An additional important consideration arises from the fact that Air-borne Early Warning (AEW) remains a vital requirement for a carrier at sea, and while helicopters may provide a partial answer, comprehensive warning and control can be delivered only by fixed-wing AEW aircraft of the E2-C Hawkeye variety. However, such machines can be operated only from CATOBAR carriers.

One way of simplifying complex choices would be to decide whether to use a catapult or not; bearing in mind that their sole source is the USA. The choice of a catapult equipped ship will reduce the aircraft contenders to just the F/A-18 and Rafale-M. If there is to be no catapult, then the STOBAR or STOVL ship will have the option of operating one of the Russian fighters or the American F-35B JSF¹⁸.

SHIP-BORNE HELICOPTERS

The silent, modern diesel submarine, equipped with Air-Independent Propulsion (AIP) and armed with anti-ship missiles, can pose a potent threat to merchant shipping as well as naval surface forces. However, the really worrisome prospect for IN commanders is the impending advent of the PLAN's SSNs into our waters. Endowed with unlimited endurance, and speeds higher than most warships, these submarines can dominate vast ocean areas with their long-range torpedoes and even longer range anti-ship and land-attack missiles.

The modern warship, for all its stealth and weapon intensity, has become increasingly vulnerable to anti-ship missiles, launched by ships, submarines and aircraft, as also to torpedoes fired by submarines. Under these circumstances, the ship-borne helicopter provides not only a panacea against threats, but also extends the ship's detection capabilities in all dimensions. Equipped with 'dipping' sonars, expendable sonobuoys and an

18. Arun Prakash, "A Tale of Two Ships". *Vayu Aerospace International*, December 2012.

array of weapons, the ASW helicopter – either by itself or in combination with a ship or aircraft—is a formidable submarine hunter-killer.

With virtually every sizeable warship in our navy carrying one or more ASW helicopters, the IN rotary-wing fleet is set to grow substantially. Apart from ASW, the other roles that are traditionally assigned to helicopters include anti-ship strike, AEW, special operations, electronic intelligence, Search and Research (SAR) and casualty evacuation.

The IN rotary-wing fleet, apart from a large number of Chetaks, has over the years, comprised four different versions of the twin-engined Seaking, Kamov-25 and Kamov-28 ASW helicopters and the Kamov-31 AEW helicopter. Barring the last two, all the other helicopters are well past their prime and in urgent need of replacement. Given the customary, slow pace of acquisitions in the Ministry of Defence (MoD), this operational lacuna is likely to persist for some time.

Having undertaken a historical survey and provided a description of the current state of play in respect of India's naval air arm, I have still not discussed the vexed question that inevitably comes to mind in the context of aircraft carriers: their vulnerability to emerging threats—military, political and economic—and their future viability. In the concluding section of this essay, I will address some of these conundrums without attempting to provide definitive answers.

CARRIER CONUNDRUMS

For all its strengths and virtues, the carrier has never failed to evoke controversy and arouse passions—positive and negative. It continues to evoke strong criticism that it is an expensive anachronism and a relic of outdated World War II thinking, which offers little substantive advantage over lower-cost alternatives. Pointing to key threats like enhanced battlespace transparency, better anti-ship missiles, improved submarine capabilities, and the hazard from shore-based ballistic missiles, critics are again predicting that the carrier's days are numbered. Just as critics focus on the carrier's expense, size and vulnerability to run it down, loyalists cite size, reach and mobility as its strengths.

Many of the world's smaller navies, including the IN, which have remained loyal adherents of the carrier concept, although never owning more than a single (operational) carrier, face unique problems and have much to learn from each other's experiences. In an age of dwindling budgets, such navies face a sustained challenge, as much from internal critics as from politicians and the other Services, to continuously prove the operational utility of their sole carrier in a variety of scenarios.

Every new weapon system is inevitably followed by one or more counter-measures, and thereafter, by prophecies of its early demise. The carrier has—so far—managed to survive both, and to dominate the maritime scene, for close to a century. However, the question in everyone's mind is: how much more time does the carrier have, in terms of its relevance in the future battlespace, as well as its ability to withstand threats from emerging technology.

Although the spectre of the anti-ship cruise missile has haunted the carrier for many decades now, it has not been possible to pass judgment because no head-on, evenly matched confrontation has taken place between the two so far. The Falklands War saw many ships being targeted by anti-ship missiles but none of them was a carrier. Whether this was due to the use of sound counter-measures or astute tactical positioning that kept the carriers out of out of Argentinian reach is not clear.

Proliferation of satellites and other sophisticated surveillance systems has rendered the maritime battlespace almost totally transparent, and critics claim that a carrier may now have few places to hide. China's A2AD strategy, which is reportedly centred on the DF-21D and DF-26 Anti-Ship Ballistic Missiles (ASBM), amongst many other weapons, has added a new dimension to the carrier vulnerability debate. With an estimated range exceeding 1,000 nm, these ASBMs may force aircraft carriers to remain beyond distances suitable for efficient air operations against the Chinese mainland.

The DF-21D/26 systems would, presumably, receive targeting data from Over-The-Horizon (OTH) radars, satellites and patrol aircraft/UAVs. The initial panic having subsided, it appears that a number of counter-measures may be available to degrade or defeat the effectiveness of this concept

For a given usage of carrier deck space, a UCAV offers double or triple the range and many times more endurance than a manned aircraft. Moreover, the elimination of a pilot in the loop not only makes it stealthier, but also eliminates the operational constraints imposed by risk to human life.

which has never been tried out against a live, moving target. The options available to a carrier group include: (a) degradation/ destruction of target data sources; (b) mid-course interception using anti-ballistic missile weapons (including high-energy lasers and micro-wave weapons); (c) use of course/speed alterations and smoke/ camouflage to deceive the missile seeker-head; (d) decoys to seduce the seeker-head; and, finally, (e) hard-kill measures to achieve terminal destruction of incoming missiles.¹⁹

A technological innovation which has the potential to radically change the calculus of carrier employment is the Unmanned Combat Aerial Vehicle (UCAV). For a given usage of carrier deck space, a UCAV offers double or triple the range and many times more endurance than a manned aircraft. Moreover, the elimination of a pilot in the loop not only makes it stealthier, but also eliminates the operational constraints imposed by risk to human life.

The Northrop-Grumman X-47B UAV recently completed an extensive trial programme, from the decks of US Navy (USN) carriers, culminating in a successful air-to-air refuelling exercise. The USN has, thereafter, announced the integration of the X-47B into carrier operations alongside manned aircraft and designated it the Unmanned Carrier-Launched Air-borne Surveillance and Strike System (UCLASS). This, once again, opens the prospect of a carrier remaining well outside the enemy "threat envelope" and discharging a majority of its roles with relative impunity.²⁰

One must start with the premise that no platform is invulnerable, and that ships, if not deployed with operational acumen, will suffer in action at sea. However, regardless of its size, a fast-moving carrier is not easy to

19. Rubel, n. 11, p. 68.

20. <http://www.northropgrumman.com/Capabilities/x47bucas/Pages/default.aspx>. Accessed on April 26, 2016.

locate and identify at sea. Even if found, the carrier's air group and escort is capable of neutralising hostile ships, aircraft and submarines before they become a threat. In the worst case, even if it sustains missile hits, the carrier's chances of surviving serious damage are far greater than those of any other type of ship.

CONCLUSION

Today, there are less than 25 aircraft carriers in the world. The huge costs involved in constructing, operating and maintaining carriers have left this citadel of sea power in the hands of just a few select countries which include Brazil, France, India, Italy, Russia, Spain, Thailand, UK and the USA.

It is noteworthy, however, that the number of carrier operating navies has risen from just four at the end of World War II to ten; with China being the latest entrant.

Only time will tell whether the carrier can prevail over the emerging technological and economic challenges, or become extinct. However, as I stated at the beginning, there is much more to naval aviation than just carriers.

The latest Maritime Strategy emphasises that in order to exercise power projection and sea control in "blue waters", future IN fleets will be focussed, amongst other capabilities, on "two carrier task forces, each comprising one or more carrier battle groups". In addition, it visualises enhancement of "naval aviation capability, covering integral and shore-based aviation assets, including UAVs."²¹

Air power has, unquestionably, become intrinsic to every form of military operations—on land, at sea or in the air. In the past, controversy and even acrimony had arisen over the proclivity of some to describe air power as

The latest Maritime Strategy emphasises that in order to exercise power projection and sea control in "blue waters", future IN fleets will be focussed, amongst other capabilities, on "two carrier task forces, each comprising one or more carrier battle groups". In addition, it visualises enhancement of "naval aviation capability, covering integral and shore-based aviation assets, including UAVs.

21. *Ensuring Secure Seas: Indian Maritime Security Strategy* [IHQ, MoD (Navy), October 2015], pp. 138-144.

“indivisible”. While “indivisibility of air power” may have been a good hypothetical construct, in the early days, the ubiquity and indispensability of air power in today’s battlespace has rendered this concept archaic. The British Air Power Doctrine attempts to resolve this conundrum by describing air power as: “*The ability to project power from the air and space to influence the behaviour of people or the course of events*”, and then adding that ...*air power is inherently joint and drawn from all three Services*”.²²

The navy’s 15-year perspective plan, apart from 2-3 aircraft carriers, envisages an air fleet of 300-400 fighters, patrol aircraft, helicopters and UAVs; representing a substantive addition to India’s air power. The IN has accepted maritime strategist Julian Corbett’s dictum, “*Wars are rarely won by at sea, by navies; they only make it possible for armies to do so on land*”.²³ Perhaps there is need to adapt this aphorism to latter day circumstances, and accept that “*Wars cannot be won by a single component of military force. Jointness is the key to victory*”.

Given its growing reach and strategic capabilities that include long-range strike, aerial-refuelling and Air-borne Warning and Control System (AWACS), the IAF can be a powerful ally whose cooperation the Indian Navy must actively seek. This may be a good time for the two Services to get together and evolve an Air-Sea Battle Doctrine which will not only harness their synergy but also undergird India’s 21st century regional aspirations.

22. British Air Power & Space Doctrine. AP 3000, 4th Edition. (Air Staff MoD UK), pp. 13-14.

23. Sir Julian Corbett, *Some Principles of Maritime Strategy* (London: Longmans Green & Co. 1911).

MILITARY LEADERSHIP TRAINING: UNDERSTANDING AND MASTERING PERSONAL LEADERSHIP

S C MUKUL

What lies behind us and what lies before us are tiny matters compared to what is within us.

— Ralph Waldo Emerson

CONTOURS OF MILITARY LEADERSHIP

Of the variety of definitions and styles of leadership prevalent today, one can safely say that military leadership, like any other discipline, follows the natural principles and requires building up of character and skills at personal, inter-personal, managerial and organisational levels. Of these, the foundation or the bedrock is “personal leadership.” Modern-day research has thrown new light on personal and inter-personal dynamics at the workplace and opened up a new dimension for aspiring individuals to not only understand them better but has spelt out the basic fundamentals which can be implemented through self- study to ensure success.

On joining the armed forces as an officer you do not have a choice. The leadership positions come to you automatically. Each and everytime you exercise or execute a leadership role, you have to prove yourself, not only

Air Marshal **S C Mukul** PVSM AVSM VM VSM (Retd) was commissioned into the fighter stream of the IAF in January 1972 and has qualified on the MiG 21 and MiG-29. After a variety of field and staff appointments he finally retired from HQ IDS in December 2010.

In the case of the Indian Air Force (IAF), there is intense supervision of flying training, based on the type of training syllabi, briefings and debriefings, detailed discussions on flight emergencies, simulator sessions, blue book entries and periodic checks by external agencies like the Directorate of Air Staff Inspection (DASI) and Aircrew Examining Board (AEB).

to your subordinates and colleagues but also judge yourself in your own eyes - a sort of self-appraisal. Personal leadership skills have not only to be learnt but also honed after each failure along the entire Service career. In the current model, after being commissioned, the young officers move into individual units and squadrons for further training to become part of, and get assimilated into, the combat force. Meticulous care is taken to impart and monitor the military combat / flying skills necessary for carrying out the assigned missions. In the case of the Indian Air Force (IAF), there is intense supervision of flying training, based on

the type of training syllabi, briefings and debriefings, detailed discussions on flight emergencies, simulator sessions, blue book entries and periodic checks by external agencies like the Directorate of Air Staff Inspection (DASI) and Aircrew Examining Board (AEB). The process is so intense that one is fully engrossed in its progress during day-to-day routine life. In fact, one has little time for self-reflection to sort out internal leadership struggles.

As a youngster with one year's service, during the early part of my squadron training, in one of the introspective sessions, I had innocently and sincerely asked my role model, the Commanding Officer (CO), as to how does one proceed from here? What else do I need to learn or is to be done in addition to the flying skills being imparted? How did he manage to be where he is presently? What did he do to become a successful leader? What is the broad course of action that I should follow to grow in service? I distinctly remember, he gave a knowing smile and told me I would learn in due course. The flight commander was too busy and other senior unit officers were in their own orbits. Meanwhile, the CO changed; I too changed my unit, survived, and progressed in service. Following the beaten path, I proceeded to become a

Qualified Flying Instructor (QFI) and after a stint in the Training Command, returned to the flying unit to occupy the flight commander's chair. The job was very busy, with a shortage of flying hours for training, and a large number of under trainee pilots in the unit, coupled with the task of ensuring the operational preparedness of the unit. There was no time to look after any issues other than managing flying training. The real test came on occupying the CO's chair at around 20 years of service. I felt I had suddenly been thrown into a swimming pool wherein I had to learn not only to keep my head above the water but also provide ethical help and moral support to people under my charge. It was a serious business, lives were involved. Was I ready for the job that I had been assigned? There is no doubt that I had been imparted the necessary flying and combat leadership skills to lead a combat unit. But I felt that something more was needed on the personal front. I keenly recapitulated my experience during my formative years in service and how I hoped some concrete steps had been suggested to help me prepare myself on the personal front to be ready for the assignment of my lifetime. In the absence of any formal personal leadership training during the initial 20 years' service, it was a hit and miss on what and how I educated myself on these skills to fit the bill and progress in service to the higher ranks.

When we go and look for selecting our potential military leaders amongst millions of eligible volunteer candidates past their high school education, we look for a lifetime commitment of the individual in the service of the nation.

GROOMING YOUNG MILITARY LEADERS: LOST OPPORTUNITY

When we go and look for selecting our potential military leaders amongst millions of eligible volunteer candidates past their high school education, we look for a lifetime commitment of the individual in the service of the nation. To recapitulate the selection process: we carry out Union Public Service Commission (UPSC) written tests, and further filter those who have qualified through State Selection Board (SSB) interviews. Some emerge to commence further training and indoctrination at the National Defence Academy (NDA) and then at the Air Force Academy (in the case of the IAF). There can be no

doubt that the fresh officer level inductees into the Services represent some of the best available talent across the country in that category—people who have chosen military flying as a profession and have decided to devote their life to it. Given their potential, each one should emerge as a true professional as he or she progresses in Service life. While all may not pick up higher ranks due to the pyramidal rank structure of the Services, they should be the leading lights in their chosen field even in civil society. However, the track record of the Service officers realising or rising to their true potential in their lifetime is not good. One can say without any doubt that, as a Service, we are not able to harness the potential of these youngsters by grooming them into professionals and high calibre leaders. This is a lost opportunity which we as Servicemen can ill afford. The problem becomes more acute as today the younger leaders have to be ready much earlier in their careers. The leadership roles of squadron leaders and wing commanders are pivotal and key to accomplishing mission success at the grassroots level.

Keeping my own experience in mind, I feel that there is something missing in our plan or programme for development of young officers, especially dealing with an individual's formalised personal leadership training which is confused with the structured courses that focus on generalised training, and which form only one part of the military education. The other part remains woefully inadequate and is left to individual inclination or chance. Young officers must be formally groomed initially to sort out their internal leadership issues / struggles to ensure self-development. Of course, the environment and ethos also need radical change.

PERSONAL LEADERSHIP AT WORKPLACE DURING FORMATIVE YEARS

More than 25 years of brilliant research by social scientists such as Daniel Goleman, Ayman Sawaf, Robert Cooper and Robert Kelly in respect of experience during the formative years at the workplace have revealed as to why, despite equal intellectual capacity, training or experience, some people excel while others of the same calibre lag behind. This is true in the Services also, as on being commissioned, each one of us has

an equal opportunity to mature into a successful leader; however, only a few eventually emerge to do so. Recent studies in psychology have confirmed that our IQ has very little to do with accomplishing success in life or at the workplace. What makes a big difference is our Emotional Intelligence. Unlike IQ, Emotional Intelligence can be developed and improved. Not only do qualities associated with Emotional Intelligence, such as self-awareness, inner motivation, empathy and our ability to recognise and manage those of others, account for about 90 percent of our professional effectiveness, they also enhance intellectual performance; we work smart and not necessarily harder. Key factors assuring success at the workplace have been spelt out. These need to be understood by us and adopted without delay.¹

ALIGNING THE INTERNAL ARROWS: FUNDAMENTALS OF PERSONAL LEADERSHIP

Personal or internal leadership starts with oneself. Becoming aware about own competence – thinking and feelings at the workplace—helps us to practise “self-regulation” to achieve our goals. In order to understand the fundamentals of “self-awareness” leading to “self-regulation”, it is important to have a working knowledge of how we carry out the internal processing of information.

- In response to an external event or input, emotions are produced in the brain by an interaction of your thoughts (cognitive appraisals), and physiological changes (arousal actions) experienced and behavioural actions (action tendencies), and your emotional context (life experiences – everything that makes you who you are today). One can also describe an emotion as a moving of the feelings, an agitation of the mind; one of the three groups of the phenomenon of the mind – feelings, distinguishing or cognition, and will. If your heart races or you blush or you are short of breath – each of these is a ‘gut reaction’ – check what is the feeling behind each – fear, anxiety, eagerness?

1. Justin Constantine, A True Work-Life Balance Requires Personal Leadership www.huffingtonpost.com/justin-constantine/a-true-worklife-balance-r_b_5565772.html July 10, 2014.

You look at the world through it, and what you see is filtered back to you through it – an ocean of data and information helping you to make sense of the world around you. It influences the way you perceive others, the way you read situations, and the feelings you have about yourself.

- These emotions lead us to think, to exercise the mind, to resolve ideas in the mind, to judge, to form an opinion, to consider. Further, a thought can be defined as a spell of thinking, reasoning, deliberation, that which one thinks, a notion, a fancy, consideration, opinion. The thought process is a train of thought or manner of thinking.
- Emotions are not good or bad. Emotions are intelligence. By listening to them, we become aware of our feelings and we reason better when our feelings are taken into account. They give us valuable information that we cannot get anywhere else.

Self-awareness forces us to explore what is going on inside us, what drives us and what we are passionate about. Our emotions can blind us and guide us to do things or to become people we really do not want to be. If we are aware of our feelings and thoughts, we can choose how we will act or react in a given situation or to a certain person. It is being smart with our emotions, knowing how to use our passions to motivate ourselves and others, and discovering our emotional triggers / blind spots that will help us to deal with our reactions more cogently.

Our actions / reactions to inputs from emotions are shaped by what we believe – what we regard to be true or accept as true; what is said; or our belief, which can be defined as persuasion of the truth of anything; faith; the belief or doctrine based on which we form our opinion on the subject.

You may not be aware of a little known but highly important part of your persona that affects many of the decisions you make and how you behave in different situations. You cannot see your 'attitude' and your 'belief-window'² because they are invisible, but we all have them. The belief-window is figuratively attached to your head and hangs in front of your face. Every time you move,

2. Hyrum W. Smith "Belief Windows" <https://www.youtube.com/watch?v=7pIfBO3umx4>

that window moves with you. You look at the world through it, and what you see is filtered back to you through it – an ocean of data and information helping you to make sense of the world around you. It influences the way you perceive others, the way you read situations, and the feelings you have about yourself. Attitude, on the other hand, is a posture or position, a studied or affected posture; it could be termed as positive or negative. Attitude ascribes that we do not see things as they are; we see things as we are. Attitudes are habits or behaviour patterns which become a state of mind and dictate our responses. Most of our behaviour comes as a result of conditioning due to these two realities. Since we have them, it is important that we make sure that we keep our belief-window as clear as possible, and truly reflecting the reality, and our attitude as positive as possible.

Attitudes are habits or behaviour patterns which become a state of mind and dictate our responses. Most of our behaviour comes as a result of conditioning due to these two realities.

The interplay of your attitude and resulting behaviour is amply brought out by Dr Stephen Covey in his famous 90/10 Principle³. According to him, 10 percent of life is made up by events that happen to you, i.e. events over which you have no control. However, the other 90 percent is decided by how you react to an emerging situation based on your attitude. He quotes the following example to illustrate his contention:

You are eating breakfast with your family. Your daughter knocks over a cup of coffee onto your business shirt. You have no control over what just happened. What happens next will be determined by how you react. **You curse** (as your attitudinal response), you harshly scold your daughter for knocking the cup over. She breaks down in tears. After scolding her, you turn to your spouse and criticize her for placing the cup too close to the edge of the table. A short verbal battle follows. You storm upstairs and change your shirt. Back downstairs, you find your daughter has been too busy crying to finish breakfast and get ready for school. She misses the

3. Stephen Covey "10/90 Principle", <https://www.youtube.com/watch?v=iKvEYKoiJ48>, January 20, 2011.

bus. Your spouse must leave immediately for work. You rush to the car and drive your daughter to school. Because you are late, you drive 40 miles an hour in a 30 mph speed limit. After a 15-minute delay and throwing \$60 traffic fine away, you arrive at school. Your daughter runs into the building without saying goodbye. After arriving at the office 20 minutes late, you find you forgot your briefcase. Your day has started terribly. As it continues, it seems to get worse and worse. You look forward to coming home. However, when you arrive home, you find a small wedge in your relationship with your spouse and daughter. **Why? Because of your negative attitude—how you reacted in the morning. Why did you have a bad day?** (A) Did the coffee cause it? (B) Did your daughter cause it? (C) Did the policeman cause it? (D) Did you cause it? **The answer is “D”.**

You had no control over what happened with the coffee. How you reacted in those 5 seconds is what caused your bad day. Here is what could have and should have happened (under a positive attitude of mind). Coffee splashes over you. Your daughter is about to cry. You gently say, “It’s OK honey, you just need to be more careful next time”. Grabbing a towel you rush upstairs. After grabbing a new shirt and your briefcase, you come back down in time to look through the window and see your child getting on the bus. She turns and waves. You arrive 5 minutes early and cheerfully greet the staff. Your boss comments on how good is the day you are having. Notice the difference? Two different scenarios. Both started the same. Both ended different. Why? Because of how you **reacted**. You really do not have any control over 10% of what happens. The other 90% was determined by your reaction or your attitude.

There is a little difference between people, but that little difference makes a big difference. The little difference is attitude. The bigger difference is whether it is positive or negative. With a bad attitude, you can never have a positive day; with a positive attitude, you can never have a bad day. A positive attitude is like a magnet for positive results. The key is within you. A positive attitude is a prerequisite towards attaining higher leadership positions in society and life. If you react negatively, you will get stressed out and will just make things worse. Becoming aware of the power of a positive

attitude and applying it will lead to amazing results. Remember, for success, attitude is as important as ability.

Self-esteem or self-concept, i.e. how we feel about ourselves or our opinion of ourselves is another factor which critically influences everything – from our performance at work, or relationships and, further, to our accomplishment in life. Self-esteem is our self-concept. Self-talk has a powerful influence on our self-esteem. What you tell yourself goes immediately to your subconscious, where it either increases or decreases your emotions. Try to analyse your self-talk—what you say to yourself and why. Remember, whatever thoughts you focus on, you attract those thoughts. The tale of two wolves, as narrated by a grandfather to his grandson is self-explanatory. It goes as under:

One evening, an old Cherokee told his grandson about the battle that goes on inside people. He said, “My son, the battle between two wolves is raging inside us all the time. One wolf is evil – it is denoted by anger, envy, jealousy, greed, sorrow, regret, arrogance, self-pity, guilt, resentment, inferiority complex, lies, false pride, superiority and ego. The other wolf is good – it is joy, peace, love, hope, serenity, kindness, benevolence, empathy, generosity, truth, compassion, and faith”

The grandson thought about it for a while and asked the grandfather, “Which wolf wins?” The old Cherokee simply replied, “The one you feed.”

While the first step is self-awareness, to listen and learn from our gut feelings, the second step is to regulate these feelings and manage them so that they do more good than harm. Changing the actions of others is beyond anyone’s scope—all we can do is attempt to change and control our own attitudes and actions. Our passions can be contagious and energise others, but our ranting and raving can damage work relations beyond repair. When we get mad, we often sound more upset than we really feel because we are allowing our raw emotions to surface unchecked by our rational side. Checking these emotions is what self-regulation is all about. It is giving the rational side time to temper our feelings when needed. Self-control comes from recognising our emotions and moderating our response. It is using our

understanding of feelings to reason well. We take charge of our responses and actions by not letting our emotions hijack us. Self-regulation helps us act intentionally rather than reactively. Learn to accept responsibility for choosing our own emotional responses. Learn to recognise potential stressful situations and defuse them / reframe them into ones that are more challenging than stressful. Learn to be aware and manage your own emotional triggers.

INTERNAL LEADERSHIP: ATTAINING SELF-SUSTAINABILITY

Once you are aware of your feelings and have learned ways to manage them, the third step is to direct the power of your emotions towards a purpose that will motivate and inspire you towards your goal in life. How do you shortlist what you want to do with your life? How do you find your passion? Passions are the ideas that do not leave you alone. They are the hopes, dreams and possibilities that consume your thoughts. Just as Steve Jobs had a vision for his brand, you must have vision for the most important brand– yourself. What vision do you have for your military career? You need to follow your gut feelings and do something that you are passionate about. But while the passion fuels the rocket, it is the vision that points the rocket to its ultimate destination. First figure out what you really want – it needs to be something tangible, as opposed to something like attention or affection from another person. Keep your desires positive.

Motivation is the driving force behind our thoughts, feelings, words and actions which transfers us from one reality to another—from where I am to where I wish to be. It is an inner positive energy, a combination of enthusiasm and clear perception that enables us to accomplish a task or overcome a challenge. It is the desire to be continually interested in, and committed to, a task or to attain a goal or cross a difficult situation. Motivation, technically, is expanding energy in a specific direction for a specific purpose. It can be defined as motive in action. In terms of personal / internal leadership, it means using your emotional system to propel yourself towards your intended goal or direction. You are the most powerful of the four sources of motivation – because you are where it all begins. It is your thoughts, your behaviour that determine how you make use of your

emotions. What is motivation? How does it work? Motivation needs to be identified and constantly strengthened to succeed. While the external motivation could be due to fear or incentives, the internal motivation is due to: (i) recognition – this means being appreciated, being treated with respect and dignity and having a feeling of sense of belonging; (ii) responsibility – this gives a person a sense of belonging and ownership. He becomes part of the bigger picture, part of making things happen about the goal of the organisation. Motivation is like fire – unless you keep adding fuel, it dies; however, if the source of motivation is belief in inner values, the fire, once burning, becomes life-long.

Our thoughts really do colour our perceptions, and affect our motivation levels in many ways. While the greatest motivator is self-belief, it is the self-assessment or the self-image which determines the current status of our motivation level as it gets constantly modified based on external inputs and resulting self-talk. A constant stream of self-talk / self-appraisal is going on within us all the time. This self-talk, consisting of words, pictures, emotions can build or tear down the self-assessment we have at that moment, directly affecting our real performance. Negative self-talk causes your mind to grope, causing emotions of worry, frustration, fear, anger, discouragement, depression, panic and hopelessness to erupt inside you. Remember that the behaviour that results from self-image is automatic.

SITUATIONAL AWARENESS OR PROCESS OF ATTENTION MANAGEMENT

Before we try to chalk out a simple roadmap, it is essential to know the physical limitations with regard to the process of attention management by our brain – from perception to decision-making on encountering multiple simultaneous inputs. Scientific research has revealed that the human brain can process only a single input at a time, i.e. single input entry – processed by either the conscious or sub-conscious sections of our brain. Time sharing or the concept of channelised attention is resorted to by the brain to deal with multiple inputs between the two sections. For example, while we can scan a large area with peripheral vision, we can focus on only a few things at one time.

In creative visualisation, however, we make a conscious effort to imagine the new reality and make it come true by the power of will, focussed effort, passion, desire, belief and repetition.

Remember, our conscious mind has the ability to think, to rationalise. It can accept or reject. But our sub-conscious mind only accepts and it makes no distinction regarding input. The sub-conscious is the long-term memory or hard disc within the brain for recording. Through pattern recognition, it allows us to perform a free flow of activities. It also allows us to do more than one thing at a time. When the brain detects an emotionally charged event, the amygdala within the brain releases dopamine into the system which greatly assists and aids memory and information processing. It is like a mental post-it note that tells your brain to remember it. However it is important to understand that the recorded experience could either be an actual experience or one which is imagined, as the sub-conscious cannot differentiate between the two. Therefore, for recording, it is not necessary to experience the “actual event”—a “visualised” experience is as good. Recalling or recollection of an event recorded by the sub-conscious brain is dependent on the sharpness of the image at the time of the recording. For a visualised event the clarity of the sub-conscious brain recording is dependent on imagination (I) multiplied by vividness (V) or sharpness (i.e. $I \times V$).

CREATIVE VISUALISATION AND VIRTUAL SIMULATOR

Creative visualisation⁴ is using your imagination to create a new reality or what you want in life. It means mentally giving form to ideas with your inner senses. Most people use their inner eye for the process, they translate their ideas into mental pictures and that’s why imaging is often called visualisation. But you can also use inner hearing, smell, taste, feeling or a combination of these inner senses to envision your new reality – whatever you ardently desire, sincerely believe in, vividly imagine and enthusiastically act upon. This technique cannot be used to control the behaviour of others. It

4. “Creative Visualisation”, Wikipedia

is not necessary to have faith in any power but yourself. It involves four basic steps: (a) set your goal; (b) create a clear idea or picture; (c) focus on it often; and (d) give it positive energy through affirmations.

Creative visualisation is more than day-dreaming. Day-dreaming is a mental flight from reality; you know that the pictures your mind is showing you are not reality and you have no intention to give your fantasy the energy needed to make it come true. In creative visualisation, however, we make a conscious effort to imagine the new

reality and make it come true by the power of will, focussed effort, passion, desire, belief and repetition. In a visualisation, you are the main character of the movie, while in a day-dream, you are a spectator.

Some people can make very clear inner pictures, and many cannot. Simply use your mind to form your imagination. Start with envisioning a basic idea. If your mind does not spontaneously come up with an image, ask yourself questions in relation to your visualisation. For example, if you wished for a vacation on sea shores and if your mind does not spontaneously come up with an image, ask yourself questions in relation to your visualisation, like: What is the weather like? How does the sea look? Can I hear the waves or the sea-gulls? Are there any dolphins? What is my hotel like? What do I do there? What is the temperature of the water? Concentrated effort will ensure that bit by bit an overall impression is formed, consisting of elements you see, hear, smell, taste and, may be, feel—like the heat of the sun on your skin while you sit on the beach, etc. Make your visualisation as real as you can. With more experience, you will notice that it is possible to visualise with your eyes open and during daily occupations. This is very useful, as while you are undergoing a particular event or routine, you can visualise it being done in a splendid and perfect way – which will help you to improve your

Another possibility of visualisation is asking your sub-conscious to give you information by showing it to you. Build your own simulator using your natural ability of visualisation and anticipation which you can use throughout your life in any field at any time.

actions. Another possibility of visualisation is asking your sub-conscious to give you information by showing it to you.

Build your own simulator using your natural ability of visualisation and anticipation which you can use throughout your life in any field at any time. Train to ensure repetition of your goal constantly until the repetition results in a safe, quick and free flowing habit wherein, on facing a real problem, you come up with the correct response, as you have already visualised it happening correctly many times before. While training imparts the requisite skills to accomplish the mandated task, skills degrade with time, and need constant honing. This leads us to the concepts of skill currency and proficiency level of skills, and this is fully applicable to personal leadership. As a supervisor, help your subordinate to build his own simulator through picturing and visualisation on working towards his goal in life. Make him repeat it till it becomes a virtual reality for him, using the tools of imagination and vivid visualisation. The vision of experiencing his feelings in a challenging situation which he may face, as if he was actually going through it, not only helps prepare him and calm him for the real event, but stirs up his enthusiasm and instils confidence as well.

CONNECTING THE DOTS

We in the military are aware that no plan survives the first contact with the enemy. One needs to know and practise what to do in chaos, based on the commander's intent and focus on core drills and battle procedures. On similar lines, much as we try to plan our lives ahead in advance, there is always something that's completely unpredictable about life. What seems like bitter anguish and defeat at one moment – not getting the next rank or not being selected for a course, etc. – can sow the seeds of unimaginable success years later. As Steve Jobs said in his speech at Stanford University in 2005⁵, "You cannot be too attached to how you think your life is supposed to work out and instead trust that all the dots will be connected in the future. This is all part of the plan. Again, you cannot connect the dots looking forward, you can only connect them looking backwards. So you

5. Steve Jobs, Commencement Speech at Stanford University, 2005.

have to trust that the dots will somehow connect in the future. You have to trust in something – your gut, your destiny, life, *karma*, whatever. This approach has never let me down and has made all the difference in my life. Listen to that inner voice in the back of your head that tells you if you are on the right track or not – most of us do not hear the voice inside our heads.”

POWER OF CHANCE EVENTS

Narayana Murthy of Infosys, in his speech at the Stern School of Business⁶ observed,

As I think across a wide variety of settings in my life, I am struck by the incredible role played by the interplay of chance events with intentional choices. While the turning points themselves are fortuitous, how we respond to them is anything but so. It is this very quality of how we systematically respond to chance events that is crucial. Based on my life experiences, I can assert that it is this belief of learning from experience, a growth mindset, the power to take advantage of chance events and self-reflection that have helped me to grow to the present position. Back in 1960, the odds of my standing in front of you today would have been zero. Yet here I stand before you! With each successive step, the odds kept on changing in my favour and it is these lessons that made all the difference.

LUCK FACTOR

Professor Richard Wiseman⁷, while studying why some people seem to have all the luck, after a detailed study, commented on the elusive factor which makes people seem to be lucky. He found the lucky people more relaxed and open and, therefore, able to spot what is there rather than what they are looking for in life. My research eventually revealed that lucky people create good fortune via four principles: they are skilled at creating and noticing

6. Narayana Murthy, Speech at Stern School of Business, New York University.

7. “The Luck Factor,” www.richardwiseman.com/resources/The_luck_factor.pdf Skeptical inquirer May / June 2003; Vol 27, No 3 <http://www.CSICOP.org/SI/>

chance opportunities; they make lucky decisions by listening to their intuition; they create self-fulfilling prophecies via positive expectations; and they adopt a resilient attitude that transforms bad luck into good. According to him: (a) listen to your gut instincts – they are normally right; (b) be open to new experiences and breaking your normal routine; (c) spend a few moments each day remembering things that went well; (d) visualise yourself being lucky before an important meeting or examination or test; and (e) have a lucky day and work for it.

ROADMAP

The track to a successful military career in the armed forces is very simple. You have already chosen the career, and leadership roles are inevitable. For achieving excellence in internal leadership, the first step is self-awareness; the second is to learn to regulate emotions; the third step is to choose a goal and direct the power of these emotions; the fourth step is to harmonise and sustain the motivational force to achieve the desired goal; and the fifth step is to build your own virtual simulator to ensure progress in the desired direction. Inspiration or passion is what gets a person started; vision is what gives direction; motivation is what keeps him going on the track; visualisation is what enables this process to become automatic; and constant repetition is what makes this process sustainable over a long period.

While at the beginning of our careers all of us want to be successful, the pertinent question is, what pains or struggles are we willing to sustain to achieve this vision and the goals we set for ourselves? In 2005, Steve Jobs told Stanford graduates⁸ that the secret to success is having the “courage to follow your heart and intuition” as somehow they already know what you truly want to become! Jobs followed this throughout his life and it was this passion, he said, that had made all the difference. He was convinced that about half of what separates successful entrepreneurs from non-successful ones is pure perseverance. Unless you have lot of passion about your goal, you are not going to survive, and you are going to give up. According to Mr Narayana Murthy, it is less important

8. Jobs, n.5.

where you start. It is more important how and what you learn. If the quality of learning is high, the development gradient is steep, and given time, you can find yourself in a previously unattainable position / place.

Modern military leaders have to work in an ambiguous environment and will be called upon to deal with fast changing scenarios emerging in a rapidly changing technological medium. Having chosen to join the armed forces as officers, leadership roles are mandatory. The individual leadership training for young officers requires greater focus to be meaningful. Understanding and mastering personal leadership through a self-improvement guide will ensure the basic bedrock for a successful military career in which one can rise to touch the sky with glory.

INDIAN AIR POWER: AMBITIONS TO SECURE AEROSPACE

MANMOHAN BAHADUR

*All armies prefer high ground to low, and sunny places to dark.*¹

— Sun Tzu

INTRODUCTION

The Indian Union War Book is the master document that lays down the duties and responsibilities of various stakeholders in the security dispensation of India. The Indian Air Force (IAF) has been given responsibility for the Air Defence (AD) of the country. Air and space constitute the two dimensions of aerospace. Regulation and control of all that happens in the third dimension, thus, devolves solely on the IAF. So, while the other Services may have (and do have) their own air arms and their own tasking philosophies, the choreographing at the macro level of all activity in the air is the responsibility of the IAF. It is, however, surprising that despite India being a fair bit ahead of many space-faring nations, its armed forces are divorced to a large extent from possession of any space hardware or being a part of the national space dialogue. While it is true that the navy now has one dedicated satellite (GSAT 7) to its name, the figure is negligible compared to the numbers owned and operated by forces of other major

Air Vice Marshal **Manmohan Bahadur** (Retd) is a Distinguished Fellow at the Centre for Air Power Studies, New Delhi.

1. Lionel Giles, *Sun Tzu on the Art of War*, available at <http://www.au.af.mil/au/awc/awcgate/artofwar.htm>. Accessed on December 24, 2015.

nations. Thus, as the IAF approaches the centenary of its raising in 2032, this essay would debate, in four parts, what India's military hopes to achieve in the aerospace sector by 2032.

Any analysis of military capability can only be made vis-à-vis the threat that it is supposed to counter; hence, an analysis of the threat in the aerospace domain (as against the geo-political threat, which is an enormous subject by itself) would first be done followed by what Indian aerospace capability should ideally look like in 2032. This would be followed by an appreciation of what would be realistically possible in the next decade and a half vis-à-vis the ideal requirement of 2032 painted earlier. The essay would round up with an articulation of what military capability targets the armed forces, and indeed the nation, should aim for by 2047, the centenary of India's independence.

THE SALIENCE OF AEROSPACE IN WARFARE

The primacy of any one domain in warfare has been a point of contention between proponents of the three media (land, sea and air), in which war has been traditionally prosecuted. While the entry of cyber and space has added to the debate, victory or defeat would physically manifest in the three traditional ones. The advent of air power a century ago upset a lot of equations in war-fighting, a major one being one of its predominance, seen in clear terms in conflicts around the globe during the past three decades. Its impact on modern warfare came into the living rooms through television the world over in 1991 during the first Gulf War. The world saw the power of air delivered precision weapons, the capability of air-borne electronic warfare technology to influence engagements and command and control in all three domains, the amalgamation of space-based assets in the overall conduct of the campaign, and introduction of stealth to bring in the element of surprise; this has made air power the weapon of first choice of the politician everywhere. The development of air power would continue along the same vectors to reinforce its basic attributes of speed, lethality, precision, flexibility and responsiveness to bring a nation's power to bear at its point of choosing. These would form the basis of the deliberations in

this essay while evaluating the likely trajectory of Indian air power in the specified timeframes.

THREAT IN THE AEROSPACE DOMAIN

India has no territorial designs on any other country. The sole aim of its armed forces is to safeguard its territorial integrity and help secure the national aim of economic upliftment of its people. If one was to articulate India's military ambition in the aerospace sector it would be "to possess a capability to enable the nation to use aerospace to further national interests during peacetime or in conflict situations, and prevent it being used for activities prejudicial to India's interests." This ambition has to dovetail with the geographical span of national interest as mandated by the Ministry of Defence (MoD).² In doing so, there may be points of friction with other countries that would arise, and by all trends and analyses, India needs to plan for challenges from China and Pakistan, that are generally seen as adversarial in nature. There is no gain saying the fact that in any future conflict, air and space superiority would be contested with an aim to secure escalation dominance in these two domains and, indeed, in the overall conflict.

The development of air power would continue along the same vectors to reinforce its basic attributes of speed, lethality, precision, flexibility and responsiveness to bring a nation's power to bear at its point of choosing.

CHINA

China has been exhibiting expansionist tendencies, the clearest indication coming from its 2015 National Security Paper which minces no words in

2. The MoD Annual Report of 2012-13 stated that "India's size and strategic location.....links its security environment with the extended neighbourhood, particularly with neighbouring countries and the regions of West, Central Asia, South-East Asia, East Asia and the Indian Ocean", while the 2014-15 report discusses relations with immediate neighbours and adds that, "India's geo-strategic location makes it sensitive to developments beyond its immediate neighbourhood, in West Asia, Central Asia, in the Indian Ocean Region and the Asia-Pacific region. Major geo-political and geo-economic developments are currently transforming the global security scenario into one of uncertainty and volatility." Available at <http://mod.nic.in/writereaddata/MOD-English2003.pdf> and http://mod.gov.in/writereaddata/AR_2013/Eng/ch1.pdf respectively. Both accessed on December 19, 2015.

India has no territorial designs on any other country. The sole aim of its armed forces is to safeguard its territorial integrity and help secure the national aim of economic upliftment of its people.

articulating that one of the strategic tasks of its armed forces "...is to safeguard Chinese overseas interests."³ This is a major doctrinal shift and an indication of China's ambition to aggressively pursue what it sees as its national interests resulting in increased apprehension among its neighbours about its long-term plans. Chinese troops have violated areas in India's northern borders and it has gone on an island and airstrip building spree in the South China Sea. A clear manifestation of its resolve

in advancing its viewpoint has been its declaration of an Air Defence Identification Zone (ADIZ) in the East China Sea. The development of the DF 21A anti-ship ballistic 'carrier killer' missile as part of its Anti-Access and Area Denial (A2AD) policy has made the Americans devise their Air-Sea battle concept, now in the process of being superseded by the Joint Concept for Access and Manoeuvre in the Global Commons (JAM-GC) strategy.⁴ India too is in the South China Sea area as part of its 'Act East' policy for oil as well as to develop relations with countries in that region – that there is an attempt to balance China in this outreach is plain to all observers. Closer home again, the presence of People's Liberation Army (PLA) troops in areas of Pakistan Occupied Kashmir (PoK) under the ostensible requirement of safeguarding Chinese workers and interests in the China-Pakistan Economic Corridor, is a clear indicator of the application of the new declaration. One commentator has described the presence of Chinese troops as the creation of a ChOK – China Occupied Kashmir.⁵

3. Anthony H. Cordesman and Steven Colley, "Chinese Strategy and Military Modernization in 2015: A Comparative Analysis," CSIS Paper, p.3, available at http://csis.org/files/publication/150901_Chinese_Mil_Bal.pdf. Accessed on December 17, 2015.
4. Harry J Kazianis, "Air Sea Battle's Next Step: JAM-GC on Deck," available at <http://nationalinterest.org/feature/air-sea-battles-next-step-jam-gc-deck-14440>. Accessed on March 22, 2016.
5. Shailesh Kumar, "Pakistan Occupied Kashmir (PoK) Becomes China Occupied Kashmir (ChOK)," available at http://www.nationaldefence.in/2016/03/pakistan-occupied-kashmir-pok-becomes_15.html. Accessed on March 17, 2016.

What would China's aerospace forces be like in 2032? At the rate at which its aviation industry is progressing, the strike arm of the People's Liberation Army Air Force (PLAAF) would include the 4.5 Generation Su-35 fighter that it is acquiring now from Russia, various versions of upgraded Su-27 fighter aircraft as also its indigenous stealth J-20 [not yet a Fifth Generation Fighter Aircraft (FGFA) due to the absence of an engine that gives it super cruise ability] in squadron service. While the upgraded H-6K would be the mainstay of its bomber fleet, the project of the long range stealth bomber, if successful, should result in these aircraft being on the verge of entering service.⁶ Force multipliers in terms of Air-Borne Warning and Control System (AWACS) would be a plenty (KJ-2000 and KJ-500) while the Flight Refuelling Aircraft (FRA) fleet would be augmented with new IL-78s on order as also the FRA versions of the under development Y-20 heavy lift transport aircraft. The Y-20 is reportedly at the end of its prototype testing stage now and can presently carry a payload of 50 tonnes; with the installation of the new indigenous WS20 turbo-fan engine that is under flight testing, the payload will augment considerably to 70 tonnes. With 34 new Il-76s on order, and many medium lift aircraft already in its inventory, the airlift capability could indeed be impressive. Also around 2032, the AWACS version of the Y-20 could be in service, adding to the PLAAF's AD capability. The existing substantial heli-lift potential would improve even further with the fruition of the Advanced Heavy Lift (AHL) helicopter programme that is ongoing with Russia. Thus, the combined fixed-wing and heli-lift capability would translate into increased mobility and more rapid deployment across India's borders.

The AD system has been greatly modernised with new reverse engineered, as well as indigenous systems. The impending acquisition of the very modern and lethal S400 AD system from Russia would add an over the horizon long distance punch; going by China's track record, a reverse engineered S-400 with more advanced Chinese electronics can be expected in a decade's time.

6. Bill Gertz, "Stealth Bomber Race Underway," *The Washington Times*, November 4, 2015, available at <http://www.washingtontimes.com/news/2015/nov/4/inside-the-ring-stealth-bomber-race-underway/?page=all>

China's naval aviation is making steady progress. Its aircraft carrier, the *Liaoning* and its second carrier (first indigenous one) would be fully operational by 2032. The J15 fighter (Su-33 reverse engineered) would be the mainstay of the naval aviation strike force. There are reports that a carrier based version of the Shenyang stealth J-31 is under development;⁷ if this be true, then this aircraft too should be operational, since the basic J-31 is already in an advanced stage of prototype testing. The naval J-31, if the programme fructifies, would truly revolutionise naval air power since all ship-based air defence systems cater only to non-stealth aircraft; the large amount of changes required on air defence systems onboard ships of its adversaries can well be imagined. With a stated ambition of having a four carrier battle group navy,⁸ China's power projection into the Indian Ocean would become operationally feasible.

The reorganisation of the higher defence organisation and the creation of Theatre Commands by China is a step towards enhancing jointness in military operations. The amalgamation of all missile forces and the nuclear arsenal under a newly created PLA Rocket Forces (PLARF) Command would introduce unity of effort in the application of the PLA doctrine, which subscribes to extensive use of surface-to-surface missiles against an adversary's infrastructure and surface assets (on both land and sea). Though primarily aimed towards targets in its east, the PLA may try and offset the disadvantage in the Tibetan region of low payload of its offensive aviation assets due to reduced density at high altitude airfields, by using its PLARF munitions.

In space, China is progressing rapidly with many innovative scientific experiments, including a space station. Its Beidou [a la Global Positioning System (GPS)] system is on its way to full operationalisation by 2020 and it has a panoply of satellites for Intelligence, Surveillance, Reconnaissance (ISR), Electronic Intelligence (ELINT), data relay, communications, and counter-

7. "FC-31 / J-31 (Jianji-31 fighter aircraft 31)," available at <http://www.globalsecurity.org/military/world/china/j-31.htm>, March 17, 2016. Accessed on April 1, 2016.

8. Ankit Panda, "Is this China's first Homemade Carrier,?" October 2, 2015, available at <http://thediplomat.com/2015/10/is-this-chinas-first-homemade-aircraft-carrier/>. Accessed on January 20, 2016.

space capabilities.⁹ However, what is worrying is that it has very overtly demonstrated its Anti-Satellite (ASAT) capability with its 2007 successful engagement of a satellite in space;¹⁰ more ASAT tests have been reported although a kill has been avoided. Its WU-14 hypersonic glide vehicle is well into its prototype testing phase and on its operationalisation, China could possess prompt global strike (strike anywhere on the globe within one hour of the decision being taken) and anti-Ballistic Missile Defence (BMD) capability, something that only the US is on its way to acquiring. What the Chinese armed forces lack is actual war-fighting experience, a handicap that they are acutely aware of, and are trying to redress, by greater engagements and air exercises with Western style forces like those of Pakistan, Thailand and Turkey

When China's likely military capabilities, that would be state-of-the-art in 2032, are coupled with its ever increasing economic progress and engagement with countries all round the globe, the picture that emerges is one of a country that considers itself profoundly important on the world stage and a challenger to the United States.

PAKISTAN

Pakistan has hitched its fortunes with that of China. From the geo-political angle, Pakistan is also an important, and essential, cog in the attempts of the West, primarily the US, to make the Taliban and Al Qaeda ineffective (and neutralise them, if possible); the entry of the Islamic State in Syria (ISIS) has only complicated the issue further. Pakistan's utility to China is vital, exemplified by its \$ 46 billion China Pakistan Economic Corridor (CPEC) project. Due to the negative asymmetry with India in terms of the size of its economy, population, industrial output and conventional military strength, Pakistan can never be an existential threat to India. After having gone through three tumultuous decades of internal strife, some argue that

9. "China is Second Most Powerful Global Military Space Power with Destructive 'Counter-Space' Capabilities," available at <http://myidst.com/en/space/item/451-china-is-second-most-powerful-global-military-space-power-with-destructive-counter-space-capabilities>. Accessed on March 17, 2016.

10. Ibid.

Its coherent strategy of projecting itself as being an unstable nuclear weapons player brings an element of international inquisitiveness whenever there is an increase in Indo-Pak tensions.

Indo-Pak relations seem to be looking up slightly under the combination of the present political and military leadership, as seen from the bonhomie demonstrated recently between the leadership of the two countries and the commencement of a Comprehensive Security Dialogue. However, such periods of relative positivity have occurred earlier too, only to relapse into the status quo of uncertainty and hostility, demonstrated so starkly by the terror attack on Air Force

Station, Pathankot, on January 2, 2016; hence, it would be wise to err on the side of caution and view Pakistan as a security challenge for the next two decades at least and evaluate its aerospace threat accordingly.

Pakistan has well equipped and capable conventional armed forces. Its use of sub-conventional and irregular warfare against India as a matter of state policy through the use of so-called non-state actors has been well documented and accepted by the world. Its coherent strategy of projecting itself as being an unstable nuclear weapons player brings an element of international inquisitiveness whenever there is an increase in Indo-Pak tensions. As a commentator in the *Asia Times* wrote,¹¹ “Pakistan has a strategy of pointing a gun to its own head and threatening the US that it would shoot itself unless US aid continues”—implying that if Pakistan becomes unstable, then nuclear weapons may fall into the hands of terrorist entities. State-sponsored cross-border terrorism, however, continues and Pakistan links it to the Jammu and Kashmir (J&K) issue which is vexed, intractable and unlikely to be resolved soon. Hence, Pakistan’s aerospace capabilities need to be factored in in India’s security calculations.

The Pakistan Air Force (PAF) is a capable force with a modern and automated air defence system. Its assets are a mix of upgraded legacy Mirage III fighters, Chinese origin J-7s and the very capable F-16s, eight

11. Spengler, “Blazing Saddles in Pakistan,” available at http://www.atimes.com/atimes/South_Asia/MK29Df03.html. Accessed on March 17, 2016.

more of which have been cleared for sale recently. There are also reports that Pakistan wants to buy 10 more F-16s, and it has given a veiled threat that if this doesn't happen, the PAF would go in for Russian fighters (the Su-35 is being hinted at).¹² The JF-17, a multi-role light fighter aircraft born out of China-Pak collaboration, is a recent entrant in the PAF's inventory. It is being upgraded with air-to-air refuelling capability, Beyond Visual Range (BVR) missiles and a modern Active Electronically Scanned Array (AESA) radar; it is interesting to note that though the prototypes of aircraft and upgrades are developed and tested in China, the production is taking place in Pakistan, with Pakistan aggressively marketing the aircraft abroad. The point is that its aviation industry is slowly but surely making progress. By 2025, as India aims to get stealth aircraft like the Russian Fifth Generation Fighter Aircraft (FGFA) and/or the indigenous Advanced Medium Combat Aircraft (AMCA) by 2030, Pakistan is likely to pitch-in for the Chinese stealth J31 fighter that is specially made for export. PAF air crew are experienced, follow a Western style ethos in air operations and have been carrying out live air-to-ground engagements in their strikes against the rebels in the AfPak border areas. In the space sector, Pakistan has a modest programme and does not have any major achievements; it banks on foreign manufacturers and launch agencies for its satellite requirements. However, the fact remains that when it comes to a crunch situation, China can be expected to fulfill Pakistan's ISR needs for intelligence and targeting inputs.

It needs to be noted that the military forces of almost all of India's neighbours have been equipped with Chinese armaments, implying that China's influence on them cannot be neglected; this is a challenge for Indian diplomacy.

The other nations in India's vicinity are not a security challenge but can be major irritants if they side with China and or Pakistan. It needs to be noted that the military forces of almost all of India's neighbours have been

12. Farhan Bokhair, "Pakistan Looks to Buy Another 10 F-16s," available at <http://www.janes.com/article/58678/pakistan-looks-to-buy-another-10-f-16s> See also, "Pakistan Needs to Replace 190 Planes by 2020," available at <http://www.dawn.com/news/1245714>. Both accessed on March 22, 2016.

equipped with Chinese armaments, implying that China's influence on them cannot be neglected; this is a challenge for Indian diplomacy.

WHAT SHOULD THE INDIAN ARMED FORCES BE LIKE IN 2032?

The import of the cliché that "capabilities take time to build but intentions can change overnight" can be neglected only at one's own peril and, hence, an evaluation of what Indian aerospace power should look like in 2032 must factor in an assessment of the threat emanating from the modernisation trajectories of the armed forces of the adversaries.

The deterrent value of India's military's strength should be inviolate so that no country interrupts India's drive for economic upliftment of the masses. If deterrence breakdown occurs, there is no doubt that India's response to any misadventure or an anticipated one (preemption is hinted at here) would be led from the air. The disadvantage of difficult terrain that prevails on the frontiers, especially the northern border, would be overcome by taking the fight deep into the adversary's territory to make it difficult for him to fight a land battle on the borders.

To manage a two-front collusive challenge mounted by China and Pakistan, the IAF should have its full complement of 42 fighter squadrons. This implies first arresting the depletion of fighter squadrons (due to phasing out of the MiG-21/27 fleet) and then rapidly building up their numbers. The process warrants that the 36 Rafale multi-role fighter aircraft should already have been inducted and there should be no hiccups in the flow schedule of the Su-30s to their contracted number of 272 by 2019.¹³ But the major difference in arresting the slide in squadron strength and making up of numbers would be made by the induction of 20 Light Combat Aircraft (LCA) Tejas Mk1 and 100 Tejas Mk1A and a "...new fighter," as India's defence minister stated in February 2016.¹⁴ These should ideally be complemented

13. Air Mshl BK Pandey, "A Wake-up call from CAG," January 10, 2016, available at <http://idrw.org/a-wake-up-call-from-cag/>. Accessed on January 13, 2016.

14. "India Likely to Select Fighter Plane Under 'Make in India': Manohar Parrikar," PTI report, *Economic Times*, February 17, 2016, available at <http://economictimes.indiatimes.com/news/defence/india-likely-to-select-fighter-plane-under-make-in-india-by-year-end-manohar-parrikar/articleshow/51023295.cms>. Accessed on April 8, 2016.

by the IAF's reportedly stated requirement of 15 AWACS and 19 FRAs.¹⁵ The airlift component is already in place with the acquisition of all the C-17 and C-130 and the upgradation of An-32 and Il76 aircraft; the induction of the Airbus C295, that would be replacing the old warhorse Avro aircraft, should complete the picture. The heli-lift component should be in place with the full operationalisation of the 15 Chinook helicopters contracted for, and the availability of the three remaining heavy lift Mi-26 after their life extension—in fact, the Mi-26 fleet should be at the fag end of its life with the IAF. The Mi-25 attack helicopters would have been phased out and the 22 Apaches from the US should have been operationalised.

The AD system, with its obsolescent Pechora and OSA-AK Surface-to-Air Missile (SAM) systems, should have been revamped with the potent indigenous Akash SAMs and the quick reaction Spyder system from Israel. The Medium Range SAM (MRSAM) being developed with Israel should also be inducted by 2032.

In 2032, the naval air arm would be based around the INS *Vikramaditya* and the indigenous INS *Vikrant*. The second indigenous carrier, the INS *Vishal*, would be available to the Indian Navy only in the 2030s as it is still on the drawing boards, with major decisions like on the propulsion system (conventional or nuclear), type of aircraft and aircraft launch system et al yet to be taken. The full complement of 45 MiG29Ks for the *Vikramaditya* and *Vikrant* should have been inducted by 2032 and both carrier aviation groups operationalised. The naval air arm should have sufficient numbers of Maritime Reconnaissance (MR) and Anti-Submarine Warfare (ASW) aircraft and helicopters for the Indian Ocean Region (IOR).

Space was famously called the next frontier in the 1960s. The reality is that it has got embedded in all aspects of warfare due to the capabilities it affords in the realm of Command, Control, Communication, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR). While militarisation of space has taken place through its use as an enabler, its weaponisation would

15. Gulshan Luthra, "India to go in for 10 More AWACS," available at http://www.indiastrategic.in/topstories1910_IAF_to_go_in_for_10_more_AWACS_Rafale_deal.htm. Accessed on January 21, 2016.

not have happened (hopefully) due to international consensus. The Indian Regional Navigation Satellite System (IRNSS), which would afford satellite-based navigation (*a la* GPS) would be fully operational, and dependence on the GPS and Russian GLONASS should have been removed. Net-centric warfare, which all warfare would be in the coming decades, is heavily dependent on the use of space assets. An Indian Space Command should be functional to regulate and control all military space and space related issues. Turf wars should have been stymied by a political fiat and the nominated lead Service should have operationalised the command.¹⁶ However, it needs to be ensured that space does not become just a tool to support terrestrial warfare but is treated as an independent arena where warfare could take place. More satellites, solely dedicated for military use, should have been placed in orbit for the armed forces.¹⁷

LIKELY INDIAN AEROSPACE CAPABILITY IN 2032, INCLUDING SHORTFALLS

The IAF chief stated in a press conference on October 4, 2015, that the force expects to reach its full strength of 42 combat squadrons only by 2027.¹⁸ This would indeed be an achievement because frequent delays in procurement from abroad and in production by Hindustan Aeronautics Limited (HAL) have continuously pushed forward this schedule; in February 2009, Defence Minister A K Antony had said that the IAF's combat fleet would reach the

16. The IAF has a 'natural' claim to be made the lead manager for the Space Command, as is the case almost everywhere. There are many reasons for this. Four major ones are: (a) space operations are almost a mirror image of air power operations; (b) the satellite footprint required by the air force strike assets, by virtue of their long ranges, is extensive and subsumes that required by the navy and army; (c) space assets detect missile launches and warn the air defence system of the nation that is mandated to the air force by the Union War Book; (d) only space can be the enabler for networking aerial assets – the other Services surely require networking too but their targeting is not as dynamic as from the air.

17. The Indian space programme is primarily civilian led and driven, and information on its military space programme is extremely sketchy.

18. Ajai Shukla, "Indian Air Force Chief Expects Full Strength of 42 Squadrons by 2027," *Business Standard*, October 5, 2015, available at http://www.business-standard.com/article/current-affairs/indian-air-force-chief-expects-full-strength-of-42-squadrons-by-2027-115100500037_1.html. Accessed on January 3, 2016.

figure of 42 squadrons by 2022.¹⁹ The inflow of Su-30s from HAL had been slow and only 204 of the 272 contracted aircraft had been delivered by March 2015.²⁰ The Rafale contract should get signed in 2016 and, on a very optimistic note, with the deliveries commencing in 2019, the full complement of 36 aircraft may come in by 2024 or so. The AMCA, depending on the way the design and development proceeds, would come into service only by the mid-2030s, to replace the MiG-29 and Mirage-2000. So, some other aircraft would be required to make up the numbers; this would happen only through the 60-odd pending Sukhois (the full lot would be in by 2019)²¹ and through the Tejas Mk1A route. The first squadron of the Tejas Mk1, with only four to six aircraft, as against a squadron strength of 16, is supposed to be raised by end-2016, as per the IAF chief—the snail’s pace being due to the slow production rate of HAL.²² Even with an optimistic production rate of eight aircraft per year, HAL would be able to deliver the 20 Mk1s only by 2018-19. With the Mk1A still requiring clearance post resolution of the IAF’s major observations, the commencement of their service entry would not be before 2022. Thus, there is a need for some numbers in the 2018-25 timeframe to cover the phasing out of the MiG-21 variants and MiG-27 during this period. It is here that the pitch being made by the US for its F-16/18²³ and by Sweden

19. “Indian Air Force’s Fighter/Attack Aircraft,” available at <http://www.globalsecurity.org/military/world/india/air-force-equipment-fighter.htm>. Accessed on January 11, 2016. The website quoted India’s Defence Minister AK Antony’s written reply to a query in the Rajya Sabha, “During the period 2007-2022, the strength at the end of 11th, 12th and 13th Plan periods is expected to increase to 35.5, 35 and 42 Squadrons respectively,”

20. Report No 38/2015 of the Comptroller and Auditor General of India, 2015, p. 56, available at http://www.saiindia.gov.in/sites/default/files/audit_report_files/Union_Compliance_Defence_Air_Force_Report_38_2015_chap_2.pdf. Accessed on January 12, 2016.

21. Pandey, n.13.

22. Kalyan Ray, “IAF Wants to Induct 120 Tejas,” *Decan Herald*, October 4, 2015, available at <http://www.deccanherald.com/content/504353/iaf-wants-induct-120-tejas.html>. Accessed January 13, 2016.

23. Manu Pubby, “‘Make in India’ Boost: Boeing & Lockheed Martin Offer to Locally Manufacture F16 and F/A 18 Jets,” *Economic Times*, April 6, 2016 available at http://economictimes.indiatimes.com/articleshow/51707047.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst. Accessed on April 8, 2016.

The naval air arm would be centred around the already operational INS *Vikramaditya* and the indigenous INS *Vikrant*, which is supposed to join the navy in December 2018; even accounting for delays, 2020 would be a reasonable date on the outside.

for its Gripen²⁴ comes into play. Both countries have offered to shift their production plants to India under the 'Make in India' programme for producing the 100-odd aircraft required to fill the gap of the reduced Rafale purchase. The slide and build-up in IAF squadron numbers, therefore, would be arrested only by the mid to end-2020s with the stabilising of the Tejas Mk1A production line and the inflows of the remaining Su-30s, Rafale and the 'some other' multi-role combat aircraft²⁵ (one of F-16, F-18 or Gripen).

The attack helicopter fleet would comprise the 22 Apaches and around 20 Mi-35s as also the advanced light helicopter Dhruv (WSI) versions in substantial numbers—both with the IAF and army aviation. The light combat helicopter, whose prototype testing is underway, would start entering service with the IAF by 2022 and reach its figure of 60 machines by the mid-2030s.²⁶

The weapons holding of the IAF would have undergone a marked qualitative change, with substantial increase in the potency and range of their application. Thus, select Sukhoi-30s would be equipped with the 290-km range BrahMos supersonic air-to-ground missile and the Meteor mounted on the Rafale would give a BVR range in excess of 150 km! It is safe to assume that the 'new' fighter selected would also come with modern weapons and BVR capability. Similarly, the holdings of Precision Guided Munitions (PGM) would have gone up substantially.

24. Gerard O'Dwyer, "Sweden Pitches Sale of Saab's Gripen-NG Fighter Jet to India," *Defense News*, February 18, 2016, available at <http://www.defensenews.com/story/defense/international/europe/2016/02/18/sweden-pitches-sale-saabs-gripen-ng-fighter-jet-india/80566588/>. Accessed on April 8, 2016.

25. Ray, n.22.

26. WSI stands for Weapon System Integration. The ALH Dhruv (WSI) would have anti-tank missiles, air-to-air Mica missiles of French origin, 70 mm rockets and a chin mounted gun. The Light Combat Helicopter (LCH) would have two pilots in tandem seating with essentially the same weapons load.

The naval air arm would be centred around the already operational INS *Vikramaditya* and the indigenous INS *Vikrant*, which is supposed to join the navy in December 2018;²⁷ even accounting for delays, 2020 would be a reasonable date on the outside. By 2022, the INS *Vikrant* should have gained operational status and, given the availability of necessary surface, air and space infrastructure, the MiG-29K fleet on these two carriers would enable India to enforce sea control over a vast volume of air and sea space. The capability to deliver firepower onto shore targets would also exist but would depend on the availability of in-flight refuelling assets of the IAF. The Tejas Mk2s, which the navy desires, has a question mark over it, considering the slow progress of the programme.²⁸

As the An-32 fleet starts phasing out at the end of the 2020s, it would be logical to assume that these aircraft would be replaced by the C-295s, as it would make operational and logistic sense to have commonality in the low to medium airlift aircraft fleet.

The IAF would have a very substantial airlift capability with 10 C-17s, 12 Il-76s, 6 C-130s, around 100 An-32s and the increasing strength of C-295 aircraft which will start flowing in three to four years from now. As the An-32 fleet starts phasing out at the end of the 2020s, it would be logical to assume that these aircraft would be replaced by the C-295s, as it would make operational and logistic sense to have commonality in the low to medium airlift aircraft fleet. The heli-lift capability would be impressive and would be based around 15 Chinooks and 159 x Mi-171V5s, with the Dhruvs, Chetaks/ Cheetahs (yes, they will still be around till 2030 at least) and the incoming Ka-226s providing the light utility heli-support.

27. Statement by Minister of State for Defence in Parliament, "Government Targets to Deliver India's First Indigenous Aircraft Carrier by 2018 end," December 6, 2015, available at <http://www.dnaindia.com/india/report-government-targets-to-deliver-india-s-first-indigenous-aircraft-carrier-by-2018-end-2152516>. Accessed on January 19, 2016.

28. The IAF has decided to acquire 40 Tejas Mk1s and 80 Mk1As, exiting the Mk2 programme in which major changes to the aircraft have to be made to accommodate the high powered F-414 aero-engine. So, the question is whether it would be economically wise to continue the programme for just 40 odd aircraft that the navy requires.

With the induction of the S-400 lethal SAM system from Russia, 45 firing units of Akash SAMs (from Bharat Electronics Limited),²⁹ Spyder quick reaction missiles and MRSAMs, coupled with their networking with AWACS and new indigenous ground radars, the air defence environment would have undergone a substantial increase in potency. Long range weapons (BVR missiles, supersonic BrahMos surface-to-surface missile systems) and dynamic targeting capability with improved ISR due to the networking of AWACS, Airborne Early Warning (AEW) aircraft and Space-Based Surveillance (SBS) would give the IAF the ability to look deep and strike far; a caveat here needs to be added that this network-centricity would still be work in progress due to the staggered induction schedule of such assets, especially space satellites. It is surmised that military personnel would have been brought into the planning and decision-making loop with the Space Command having been operationalised. The creation of the Space Command would also convey the point that space would not be treated as an adjunct to 'air' but be a 'military medium' in its own right with its own dedicated personnel and Human Resource (HR) policies. The existence of an embryonic aerospace power should be visible by 2032 even as a true indigenous arms industry starts making an impact.³⁰ Also visible in the centenary of the IAF should be a clearly defined map for the next two decades, which would encompass the centenary of the modern Indian nation.

VISION 2047

What would the picture be like in the hundredth year of the Indian state? The steps being taken to set up an indigenous military industrial complex

29. Manu Pubby, "Defence Ministry to Clear Rs 5,000-Crore Procurement Contract for 'Made in India' Akash Missile Systems," *The Economic Times*, August 8, 2015, available at <http://economictimes.indiatimes.com/news/defence/defence-ministry-to-clear-rs-5000-crore-procurement-contract-for-made-in-india-akash-missile-systems/articleshow/48397910.cms>. Accessed on January 10, 2016.

30. It would still be a long road ahead but the 'resolute' entry of the private sector in the defence manufacturing sector (Reliance, Larsen and Toubro, Tatas, Mahindra *et al*) and far-reaching recommendations of the Dhirendra Singh Committee which have been included in the Defence Procurement Procedure, 2016, is the basis for this assessment. The government too has started holding the Defence Research and Development Organisation (DRDO) and Defence Public Sector Undertakings (DPSUs) to account.

should have borne fruit by then. The Jaguar, MiG-29 and Mirage 2000 fleets would have been phased out as also the early Su-30 MKI entrants. The AMCA would be forming the bulk of the offensive strike element of Indian air power, as also the Russian origin FGFA (if the programme proceeds successfully in the 2020s) and the next generation of aircraft should be entering service. The Sukhois would still be around, albeit their modernised and upgraded versions. Combat support elements (flight refuellers, AWACS et al) would have proliferated in numbers and capability while air defence would be one homogeneous entity. The decade of the 2040s would see the maturing of usable artificial intelligence in 'intelligent' war-making machines; true Unmanned Combat Aerial Vehicles (UCAV) would be a reality in the field of aerial combat, if the development schedule of UCAVs, as given out in the US Air Force's (USAF's) UAS Flight Plan:2037, proceeds as per schedule.³¹ Whether India would be somewhere there in that timeframe, is difficult to forecast, but steps towards such capability would certainly have been taken.

Hypersonic vehicles (whose design phase has presumably started) would be bridging the supposed gap between air and space and would be in service, while space itself would have seen a proliferation of secure Indian satellites. If the sanctity of space had been breached in the interim by any country through weaponisation, India too would have taken steps to acquire this capability through the Defence Research and Development Organisation (DRDO) and the advanced space programmes of the Indian Space Research Organisation (ISRO). Space assets would have given India the capability to support and sustain power projection capabilities offshore.

The plan for the air force, as elaborated above, exists but requires money—and lots of it! Where would it come from, with defence allocation being less than 2 percent of the Gross Domestic Product (GDP) till now, and likely to remain so in the future?

31. "Air Force Unmanned Aerial System (UAS) Flight Plan System (UAS) Flight Plan 2009-2047," available at <http://archive.defense.gov/DODCMSShare/briefingslide/339/090723-D-6570C-001.pdf>. Accessed on April 8, 2016.

An additional factor is that since most acquisitions would come under the ‘Make in India’ concept, additional jobs and revenue would be generated in the internal sector and, hence, would be attractive to the national leadership; it is also assumed, from experience, that there would be greater Research and Development (R&D) towards indigenisation since the private sector would be the beneficiary of the new acquisition policies.

BUDGETARY SUPPORT FOR MODERNISATION PLANS

The government is surely doing a tight-rope walk with its finances, considering the large outlay necessary for the ‘civil and social’ sectors, and it would be naïve to assume that all the demanded cash would be made available; however, it will also be unrealistic to presume that the government would turn a blind eye to the basic minimum requirements of defence. For example, for the Rafale acquisition, the defence minister has categorically stated that post the 2016-17 budget, “..adequate money has been kept...” for the project.³² Similarly, the army’s artillery modernisation plan is being addressed through the M-777 howitzer

deal for which a private sector major has been selected by BAE Systems to be their Indian production partner,³³ and for the navy, unstinted government backing has got the nuclear powered INS *Arihant* on steam and operational. It is a known fact that such critical high value acquisitions are funded by the government through special allocations and similar action can be expected for pending vital acquisitions like the ‘some other fighter aircraft’ that the IAF would get through the ‘Make in India’ proposal³⁴. Thus, the acquisitions mentioned in this essay can be taken to be substantially realistic in the given time span (from now to 2032/2047). An additional factor is that since most acquisitions would come under the ‘Make in India’ concept, additional jobs and

32. “Adequate Funds Kept for Rafale Deal: Manohar Parrikar,” *Business Standard*, March 4, 2016, Available at http://www.business-standard.com/article/current-affairs/adequate-funds-kept-for-rafale-deal-manohar-parrikar-116030400659_1.html. Accessed on April 10, 2016.

33. “BAE, Mahindra Join Hands for M777 Howitzer Unit,” *The Indian Express*, February 18, 2016, available at <http://indianexpress.com/article/india/india-news-india/bae-systems-selects-mahindra-as-india-partner-for-m777-howitzer-gun-deal/>. Accessed on April 10, 2016.

34. See Ray, n. 22.

revenue would be generated in the internal sector and, hence, would be attractive to the national leadership; it is also assumed, from experience, that there would be greater Research and Development (R&D) towards indigenisation since the private sector would be the beneficiary of the new acquisition policies. Has such optimism been expressed earlier too but not with commensurate results to show on the ground? The answer is yes, but the difference this time is the enhanced government resolve that is visible to change the *laissez faire* defence industrial sector.

China, like any country, has vulnerabilities across the Indo-China border and the vast expanse of the high altitude Tibetan plateau. While its good communication infrastructure begets it many advantages, it also affords a professional adversarial force many avenues to nullify them, especially through the use of air power.

CONCLUSION

Aerospace power, being the weapon of first choice in modern conflict, would give India the capability to safeguard its interests in a proactive way and to project power aggressively (if required) in the years leading to the IAF's centenary. The challenge is to accelerate the development of an indigenous arms industry, refresh doctrines to keep them contemporary and relevant, and train leaders to use aerospace power's full potential. The assets of the IAF may have reduced in numbers but the potency remains adequate for deterrence and driving home an advantage, if deterrence fails. Is it sufficient for a two-front conflict? The media and certain commentators have gone overboard quoting the observation of the IAF's vice chief, "Numbers are not adequate to fully execute an air campaign in a two-front scenario."³⁵ What is not being discussed is the next part of his statement that says that the probability of a two-front scenario is an appreciation that one needs to carry out. Herein lies the crucial element of assessments made at the government

35. "IAF: Don't have the Numbers to Fully Fight a Two-Front War," *The Indian Express*, <http://indianexpress.com/article/india/india-news-india/do-not-have-the-numbers-to-fully-fight-two-front-war-iaf/>

level with inputs from different sources – and which are not available to the media and the lay public.

War is a multi-disciplinary event involving the Services, diplomacy and political apparatus *et al.* There is scarcely a country that is likely to have an infallible military dispensation and there are many ways to address the perceived gaps that may exist; these redressal mechanisms are not restricted to the military kind only. The continuous debate on China, its growing military capabilities and its aggressive posturing necessitate a dispassionate and professional appraisal. While this subject is vast and qualifies for an independent study by itself, China, like any country, has vulnerabilities across the Indo-China border and the vast expanse of the high altitude Tibetan plateau. While its good communication infrastructure begets it many advantages, it also affords a professional adversarial force many avenues to nullify them, especially through the use of air power; air power is an effective tool for deep interdiction. The Indian Army and the IAF, being professional outfits, would be having plans and appropriately equipped formations to address these challenges. The Indian Navy is modernising and the Indian Ocean is its backyard, with the attendant advantages. China has to be concerned with protecting its unfriendly eastern sea board too, where it has been trying to expand its influence in a rather aggressive manner, raising the hackles of literally all its neighbours. Its extensive use of Information and Communication Technology (ICT) lends it to a soft kill attack through electronic warfare in the full electromagnetic spectrum, while any aggressive intent demonstrated against space assets would draw an appropriate response. The 'rise' of China, though impressive, has still some distance to go as it has to address the needs of its under-developed hinterland, which has been neglected, while all attention has been directed at the coastal regions where most of the benefits of its development have been concentrated – this will take up considerable resources and administrative energies as also the attention of its leadership. The Uighur problem in its Xinjiang province is not likely to go away in a hurry and it would be recollected that the last war it fought was against the relatively tiny Vietnam—the results were pretty disheartening for China, considering the

positive asymmetry it had in all military and non-military sectors. Thus, while a two-front confrontation for India is theoretically possible, it is not easy for a nation to go to war when its vital interests are not at stake. Thomas Schelling has said that in the strategy of war, the event (war) is not a constant sum game as in game theory but a variable one, as "...the sum of the gains of the participants is not fixed so that more for one inexorably means less for the other,"³⁶ In the event, China, like any other country, would have to weigh its chances carefully before committing to war since the perception of 'victory' and 'defeat' would be different for each participant. It did not take any military action in any of the Indo-Pak wars/confrontations that have taken place in the past seven decades. If tensions were to rise again between India and Pakistan, would China, a country aspiring to become a great power and a world statesman, commit itself to kinetic action on behalf of its client state or would it instead take political steps to diffuse the situation? In matters military, the operations staff knows best and when one talks of evaluation of the political thought process of a potential adversary, then the national civilian leadership dons the role of the executing agency – the Indian leadership, irrespective of the party in power, is sagacious and perceptive in evaluating threats to the nation's security. Uneducated views, due to lack of information or pure ignorance of realities has led to ill advised writing and scare-mongering, with some 'analysts' even saying that due to "business as usual" (*whatever that means*), "Indian air power has been driven to its knees."³⁷ Far from it — there are urgent issues for sure which the government needs to tackle, and while its numbers build up, it is incumbent on the IAF to nurse its formidable capacity for the long term and maintain its deterrent capability. It is a challenge that is not new; it is a challenge that comes the way of the armed forces of a nation that has to address critical social obligations; it is a challenge that the IAF is adept at tackling head-on as it moves towards its centenary.

36. Thomas Schelling, *The Strategy of Conflict* (London: Oxford University Press, 1970), p. 5.

37. Abhijit Iyer-Mitra and Angad Singh, "Indian Air Power," in Sushant Singh and Pushan Das, eds., *Defence Primer: India at 75* (New Delhi: Observer Research Foundation, 2016), p. 43. Also available at http://www.orfonline.org/wp-content/uploads/2016/03/Military_Layout.pdf. Accessed on April 11, 2016.

ISIS: THE NEW TERROR

DHIRAJ KUKREJA

INTRODUCTION

The world today is facing a major crisis, which is not the financial slowdown, but the ever-growing phenomenon of global terrorism. All nations, whether from the developed group or the Third World, have been afflicted with this malady, and have had their share of terrorist attacks. Three infamous dates stand out in the recent history of terrorist attacks—9/11, 26/11—and now, the recently added 13/11. It was on these dates that terrorists, through senseless attacks on innocents, got the better of three emblematic cities across the globe: New York, Mumbai, Paris. The target of the latest attack on 13/11, Paris, was a symbol of democracy, freedom, and secularism, not just in contemporary times, but right through its turbulent history.

For years, countries have been struggling with terrorism, yet today the threat has acquired new dimensions with the methods and techniques employed. No longer confined to within the boundaries of a single nation, terrorism has now spread its tentacles on an international level, acquiring a global status by operating through vast networks. The attacks in Paris reflect the realities existing in the world today. The attackers, who inflicted the mindless violence in Paris, are a part of a group, the Islamic State of Iraq and Syria (ISIS), which sees Islam and the non-believers of the West locked in an undeniable and destined conflict, giving belief to Samuel Huntington's

Air Marshal **Dhiraj Kukreja** is a former AoC-in-C of Training Command. He holds a Post Graduate degree in National Security Strategy from the National Defence University in the USA.

Lenin is reported to have said, "The purpose of terrorism is to terrorise". All terrorist groups display this trend, but the ISIS has shown it as its gory business card.

Clash of Civilisations theory. Huntington's clash of civilisations spectre, which was rejected when first written, seems frighteningly true today. His theory is premised upon the thought that cultural and religious identities, being the highest rank in a 'civilisation', would be the main source of conflict on the cessation of the Cold War. It is a different issue that the ISIS has killed more Muslims, believers in Islam, than people of other religions combined!

Lenin is reported to have said, "The purpose of terrorism is to terrorise". All terrorist groups display this trend, but the ISIS has shown it as its gory business card. The weapons of such groups are not the guns and bombs that they use; their primary weapon is the reaction that they hope to invoke: the more violent the reaction of those affected, the more successful they consider their mission.

There is a phrase in the French language, just as in many other languages too, "*un malheur ne vient jamais*", which translates as "misfortune never arrives alone". Yet, in this instant attack, it was not a misfortune, but horror of the worst kind, for it brought with it monstrosities and barbarism of a type, been seen before. The ISIS had arrived in the neighbourhood, unwanted, and without an invitation!

WHAT IS THE ISIS? THE GENESIS – HISTORY TO THE PRESENT

The rise of the Islamic State, IS, as it is also known, is not a new phenomenon; some analysts consider it as a new strand of an old problem. It caught the attention of the world in 2014, when it took over large swathes of territory in Iraq and Syria and declared itself a caliphate, a state governed under the *Sharia* law of Islam. A brief mention here about the caliphate in history would be apt.

The Ottoman Empire, which lasted almost as long as the Roman Empire, included not only the Middle East, but also North Africa, much of the North Black Sea coast, and Southeastern Europe, right up to the

gates of Vienna. For 1300 years or so, the caliphs, or the “successors”, took pride in developing the Islamic community that the Prophet Muhammad had left behind. The caliphs were far from being rigid and inflexible; while a few were Islamist, they loved music (anathema to the IS); had a passion for not just reading the Koran and the Muslim *Sunnah*, but also spy novels, and theatre. The caliphs saw themselves as defenders of all faiths that came to them for protection, not just Islam. Ultimately, of course, the caliphate, like other Eastern European dynasties like the Habsburgs and Romanovs, was dissolved. In 1923, Mustafa Kemal abolished the Ottoman Empire, and a year later, the title of caliph was also abolished.

The present leader, Abu Bakr al Baghdadi, a little known cleric until he usurped the title of caliph, claiming direct descent from Prophet Muhammad’s family, made a rather theatrical entry onto the world stage a few days after the IS had taken over the city of Mosul in 2014. Incidentally, Baghdadi was imprisoned for 10 months in an American prison in Southern Iraq, known as “Camp Bucca”, infamously known as the “academy of *jihadis*”.

What is fuelling the IS is not Islam, but a very radical ideology, as claimed by many experts. According to the IS, every Muslim on the face of this earth has to follow its rules, or face the consequences of being declared an apostate or a heretic; for the IS, an apostate is a bigger enemy than a ‘non-believer’, such as Hindus, Christians, or Jews.

The core ideology of the IS is the restoration of the Islamic Caliphate, the Islamic Empire led by a supreme leader. Saudi Arabia is considered the epicentre of Islam and the custodian of the two holy mosques at Mecca and Medina. The IS believes in absolute, impressive power and, hence, hopes that some Islamic countries may come into its fold; it eyes Saudi Arabia as

What is fuelling the IS is not Islam, but a very radical ideology, as claimed by many experts. According to the IS, every Muslim on the face of this earth has to follow its rules, or face the consequences of being declared an apostate or a heretic; for the IS, an apostate is a bigger enemy than a ‘non-believer’, such as Hindus, Christians, or Jews.

the prime target. The IS believes in the *Wahhabi* school of Islam, practised widely in Saudi Arabia under the active support of the monarchy. It has declared a war against not only the non-believers, but also other sects and schools of Islam, thus, implementing one of the key tenets of *Wahhabism*. It holds a special hatred for countries like the USA, Israel and other Western nations; there are other nations like Spain and India, where Islam once prevailed, which are also on the IS' radar. It, therefore, is targeting not just the non-Muslim nations and religions, but other Muslim majority nations, and nations where once Islam was all-powerful, but is not any longer. The IS wishes to control such states, not just symbolically, but to ensure the spread of its ideology.

The IS evolved from the Al Qaeda affiliate in Iraq, and was led by a Jordanian, Abu Musa al Zarqawi, who was later killed in a US drone attack in 2006. It is interesting to note that there was no Al Qaeda in Iraq before 2003, the year of the US invasion. It was only after the fall of the secular regime and the toppling of Saddam Hussein—which brought about a Shia government – that Al Qaeda and its successor, the IS, flourished. In the wake of the US invasion, Zarqawi pledged allegiance to Osama, roped in other *jihadis* and became the main face of the insurgency in US occupied Iraq. The Al Qaeda in Iraq formed an umbrella organisation, the Islamic State in Iraq (ISI), which was significantly weakened in the face of the US' surge and the 'awakening movement' of the Sunni tribesmen against its brutality.

It was in 2010, after Baghdadi took over the reins of the organisation, that the process of rebuilding it commenced, and it announced its arrival by staging several attacks a month on enemy ground. By 2013, Baghdadi shifted his focus to Syria and joined the Al Nusra Front, which were supported by Al Qaeda and other regional players, with an aim to topple the Bashar al Assad regime. With no major success in Syria, he merged his forces in Iraq and Syria and created the Islamic State of Iraq and the Levant (ISIL), now known as the Islamic State of Iraq and Syria – ISIS.

Once problems surfaced between the Shia-led regime in Iraq and the Sunni minority, the IS reverted its attention to Iraq, enlisting the support of Sunni

tribes and Saddam loyalists, and started occupying territory. It occupied the central city of Fallujah and then, over-running Mosul, it marched towards Baghdad, brutally massacring captured Iraqi soldiers, ethnic and religious minorities, in large numbers. Though its plan to take over Baghdad was not successful, the IS did occupy a number of towns and cities and consolidated its position; it then declared the establishment of an Islamic Caliphate and changed its name to Islamic State, the name it bears now.

The IS has since broken away from its parent sponsor, Al Qaeda, and has emerged as the single largest and most potent threat to the world today. It is the first terrorist group to occupy and control territory; it runs schools and hospitals in the towns and cities under its control, ruling with an iron hand under the *Sharia*.

STRATEGY OF THE IS

It is difficult to overstate how constrained the IS will be by its radicalism. The modern international system, born of the 1648 treaty, "Peace of Westphalia", relies on each state's willingness to recognise borders, however grudgingly. For the IS, that recognition is ideological suicide. Other Islamist groups such as the Muslim Brotherhood and Hamas have succumbed to the enticement and sweet words of democracy, and the potential for an invitation to join the community of nations, complete with a UN seat. Negotiations and accommodation have worked, at times, for the Taliban as well, when, under its rule, Afghanistan exchanged ambassadors with Saudi Arabia, Pakistan, and the United Arab Emirates, an act that invalidated the Taliban's authority in the Islamic State's eyes. To the IS, these are not options, but acts of apostasy.

Until recently, the IS had focussed its attention only on the regions it controls. In the wake of fresh military setbacks, after the Russian entry and the American support to the Kurds in Syria and Iraq, the IS seems to be changing its tactics. Earlier, its attacks were concentrated in Iraq and Syria, but recent attacks in Beirut, Sharm el Sheikh in Egypt, the downing of a Russian airliner, and the Paris attacks, are indications of its reaching out to spread chaos in the world, with renewed vigour.

The most important aim of the recent attacks seems to be to polarise populations across the world, Muslim, and non-Muslim, based on religion. The IS' recruitment methodology is based on its philosophy, to eliminate the "gray zone of coexistence" between Muslims living in the West and their non-Muslim neighbours. Its thinking is that the 'gray zone' is a twilight area that exists between good and evil, and has been highlighted by the events of 9/11 and thereafter. The IS quotes George W. Bush's "either you are with us or against us" speech, and terms the actual terrorists as those from the West. It further states that the "time has arrived for a repeat of 9/11 to divide the world and destroy the gray zone"; the terror attack on Paris could be viewed in this perspective.

In Europe, the attacks, it so seems, are aimed at forcing the governments to join the coalition attacks in Syria and Iraq, thus, widening the gulf between the local populace and the large number of Arabs and Muslim migrants staying in those nations. If the rift does widen, the IS speculates that it would bring the Muslim population to side with it and obliterate the 'gray zone'. The attacks in Beirut and Egypt are seemingly to deepen the schism between the Sunnis and Shias; bombs have exploded in predominant Shia areas and in Shia mosques. Other Sunni nations, Saudi Arabia, in particular, are aiding to increase the divide, such as by the military campaign in Yemen.

HOW THE IS MAKES ITS MONEY

The IS is now known as the most brutal of all terrorist groups; it is also known as the richest of all such groups. Where does it get its money from, for all terror organisations need money, and a lot of it, for weapons, vehicles, salaries, propaganda material, and international air tickets – none of which comes cheap?

Generally, the main sources of income of all Islamic terrorist groups, including the IS, are donations from wealthy Muslims, kidnappings, extortion, drugs and narcotics, and 'taxes'. The IS has brought about a paradigm shift in the terrorists' business model by using oil money and extortion in the territory it controls, which is about the size of Britain. A report compiled for Reuters in October 2014, lists 13 Iraqi oilfields, three refineries, five cement plants, some

big wheat silos, and a salt mine under its control. Its self-declared caliphate also includes some of the best agricultural land in the Fertile Crescent, and the heavy industry that Saddam Hussein had concentrated in loyal Sunni Arab areas. According to the RAND Corporation, the IS revenues increased from around \$1million a month in 2008, to \$3 million daily in 2014.¹ Another estimate by a 2014 Thomson Reuters Report claims that the IS controls assets worth over \$2 trillion and generates \$3 billion income each year.² It is reliably known that the sale of oil is its main source of income, combined with the sale of electric power to the Syrian government through third parties, though nobody really has a clear grasp of exactly how much money the IS generates and has at its disposal. There are other estimates as well, but all punctuated with caveats.

The major oilfields in Syria and Iraq, including al-Omar, have a production capacity of about 75,000 barrels per day, and there are others with lesser output. Ground reports—though firm evidence is hard to come by—hint at the IS selling oil at prices as low as \$25 per barrel and yet making profits to the tune of \$5 million each day, which works out to a total of \$1.5 billion annually from oil alone.³ While large oil exports can be effectively blocked by the Western nations, as is done during the imposition of economic sanctions, the movement of the IS oil is difficult to trace. However, it is presumed that the oil travels from northwest Iraq and northeast Syria to southeast Turkey.

A recent investigative report by two London-based scholars, George Kiourktsoglou and Alec Courtroubis, has exposed the route taken by the IS oil. It reportedly passes through the Turkish port of Ceyhan to the rest of the world.⁴ This was done through continuous monitoring and noticing a perceptible increase in container-traffic from Ceyhan, which was done between July 2014 and February 2015, just the time when the IS had taken control of the oilfields in Syria.

Another source of income for the IS is natural gas. The Thomson Reuters Report mentions that IS-controlled natural gas fields generate about \$500

1. Yatish Yadav, "Blood Money", *Sunday Express Magazine*, November 29, 2015.

2. Ushinor Majumdar, "Barrel Money", *Outlook*, November 30, 2015.

3. Ibid.

4. Ibid.

The IS, having control of territory, and having declared itself as a caliphate, functions like any other government with an established bureaucracy, complete with a rule book, and principles of administration.

million from sales. It is interesting that this gas is being routed to the thermal power stations in Syria, located in areas under control of the Assad regime!

Like the Taliban, the IS too has gained notoriety for destroying ancient, pre-Islamic sites and museums. While some of the destruction has been shown to the world, part may have been kept a secret, for it is another of the sizeable sources of income. The IS has been in the international black market for the sale of ancient artefacts; the Washington Institute for Near East Policy

estimates the amount to be over \$100 million a year.⁵

The IS, having control of territory, and having declared itself as a caliphate, functions like any other government with an established bureaucracy, complete with a rule book, and principles of administration. It has imposed taxes on people staying in its territory and levies taxes from non-Muslims on goods, electricity, water, telecommunications, cash withdrawals from banks and salaries; goods vehicles entering its territory are levied \$300-400. On a rough estimate, these taxes raise about \$350 million annually.

On the darker side of revenue-generation is the income through ransom from kidnappings, and sale of captured American equipment. It runs a flourishing business of selling American vehicles, construction equipment, and other such seized items, in addition to US arms and supplies. It also auctions abandoned properties, or those belonging to people killed by it. The ugliest face of revenue-generation is through selling women, mainly from the Yazidi and Shia-Turkoman minorities, to its fighters or in the slave markets of other terrorist groups.

While the IS may not have received as much donations as some of the other terrorist groups, these still comprise a substantial source of revenue. The IS is estimated to have received \$40 million in 2013-14 from donors in Saudi Arabia, Qatar, UAE, and Kuwait; Qatar has been accused by its own

5. Yadav, n. 1.

neighbours of funding all radical groups in the region, including the IS and Al Nusra Front. US intelligence has reportedly identified 20 Qatar citizens as IS financiers and blacklisted 10 of them. It uses alternative remittance methods from Western countries; a report has identified 28 online fund transfers wherein 17 beneficiaries linked to the IS withdrew money in 16 distinct business entities in Egypt, Germany, Greece, and Tunisia.

Earlier this year, monitors estimated the caliphate's Gross Domestic Product (GDP) at \$6 billion, a huge sum for a terrorist group. The IS militia consumes over 70 percent of revenues, according to a report. Foreign fighters are particularly costly, with foreign Arabs paid at least twice as much as locals, and European fighters getting over three times as much; Indians and Pakistanis are much lower down in the order. The Mosul windfall was quickly spent, which forced the IS to mount fresh raids in search of loot.

Recently, after 13/11, a combination of the increased coalition air attacks and the plummeting oil prices affected the IS' finances. Its retreat from Kobani in January 2015 cost it not only access to a key Turkish border crossing, but also the big Lafarge cement plant there. In October 2015, it lost Baiji, Iraq's largest oil refinery. American air support for anti-IS rebels now threatens to cut off the IS' last direct access to the Turkish border, hampering its ability to attract new foreign fighters. Feeling the strain, IS' taxes and fines have climbed and grown more indiscriminate. Scores of imprisoned suspected collaborators have paid upwards of \$30,000 to avoid being beheaded! Tensions fuelled by pay differentials have degenerated into skirmishes between local and foreign fighters.

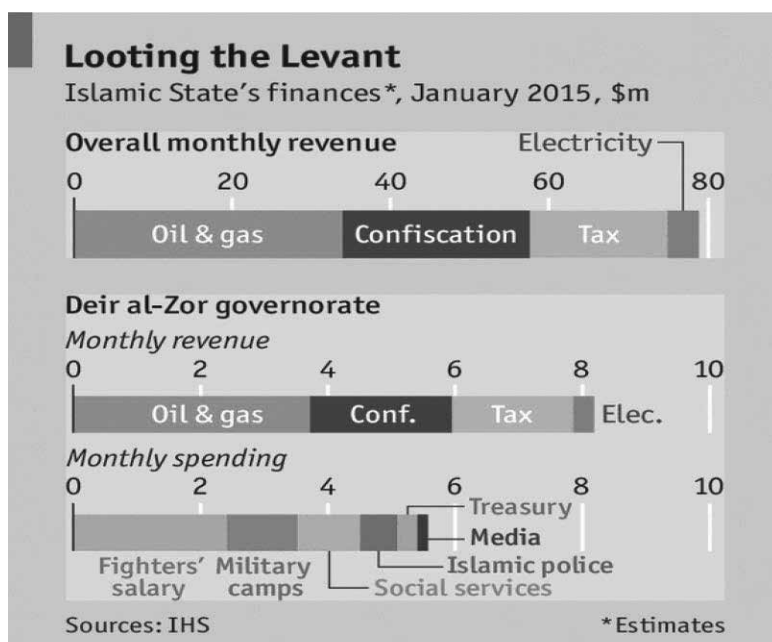
Total oil production has reportedly fallen from 100,000 barrels a day to below 40,000⁶. The traffic of tankers transporting oil between Mosul and Raqqa, has fallen sharply following repeated attacks; after the strikes on big

Earlier this year, monitors estimated the caliphate's Gross Domestic Product (GDP) at \$6 billion, a huge sum for a terrorist group. The IS militia consumes over 70 percent of revenues, according to a report.

6. "Islamic State's Finances - Degraded, not yet Destroyed", *The Economist*, December 12, 2015.

refineries, refining has become a cottage industry. This has resulted in an increase in fuel prices, and a drop in IS salaries and morale. Fearful of an exodus, the IS has raised the cost of an exit permit to \$1,800, and demands two named guarantors, who risk losing their heads, should the permit-holder not return. The revenues have fallen, but the sources have not yet dried up. An estimate of the IS' finances can be seen in Fig 1 below.

Fig 1.



Economist.com

INTERNATIONAL RESPONSE

In June 2014, when the IS declared itself a caliphate, its presence was limited to its area of influence in Syria and Iraq. However, in just over a year, it has grown into a terror organisation with a global presence, and safe havens in Syria and Iraq. The IS' major attacks worldwide, in 2015, are listed below.

- January – Two gunmen, affiliated to the IS, attacked the Charlie Hebdo office in Paris.

- February – A series of attacks in Libya, including on an oilfield, left four foreign nationals dead.
- February – A sole gunman, who drew inspiration from the IS, went on a shooting spree in Copenhagen, killing two.
- March – 22 killed, including 19 foreign tourists, in an attack on a museum in Tunisia.
- April – Several attacks on the Egyptian Army left more than 12 personnel dead.
- May - A single suicide bomber killed more than 20 people during prayers in a mosque in Saudi Arabia.
- June - An attack on a tourist resort at Port El Kantaoui, on the Mediterranean coast in Tunisia, killed 38 people.
- July - An attack in Suruc, in Turkey, near the Syrian border, killed 31 people, of whom a majority were students.
- August – An audacious attack on Saudi Special Forces, near the Yemen border, killed 15 were people in a mosque within the Special Forces HQ camp.
- September – More than 45 killed in two separate attacks in Yemen.
- October – A Russian passenger airliner blew up over Egypt, killing all 224 on board.
- November – Suicide bombers targeted the capital of Lebanon, Beirut, killing 43 people.
- November – In its most dramatic attack, the IS used multiple gunmen and suicide bombers in a coordinated attack in Paris, killing 130 people.

Although the IS has killed more Muslims than Christians, Jews, and others over the past few years, most Arab and Islamic nations have adopted an ostrich-like attitude. These nations pretend that the radical elements are a problem to be solved by the Western nations. Today, the only Arabs and Muslims who are fighting the IS are Syrian President, Bashar Assad, Egypt's President, Abdel Fattah-al-Sisi, the Iraqi government, and Iran and its proxy in Lebanon, the Hezbollah.

The latest terror attacks in Paris seem to have galvanised other nations to react into taking a concerted and coordinated stance against the IS. The attack has also exposed the confusion amongst the Arabs, the Muslims and the Western nations, in their stand against the IS and the Syrian crisis. The viewpoints and action plans of some of the major players, are as follows.

- **USA:** America is in a conflict with itself! It is training and assisting the Sunni militia to overthrow the Assad regime in Syria, while being unable or unwilling to stop Iran from its support to the Hezbollah, which backs Assad and is fighting the IS.
- **Russia:** President Putin has always been a supporter of the Assad regime in Syria and wishes it to continue in power. Until recently, Russian aerial attacks were mainly directed on the rebel militia in Syria. However, after the initial report on the crash of the Russian airliner and the IS claiming responsibility, it has now intensified its aerial attacks, not just against the Syrian rebels, but also against the IS strongholds.
- **Turkey:** It seems to be playing a double game. Turkey, a North Atlantic Treaty Organisation (NATO) member, is friendly with the Kurds in Iraq, but is fighting them in its own territory and Syria, while the Kurds are fighting against the IS. By bombing the Kurds in Syria, and imposing an embargo on supplies, Turkey has been accused of helping the IS. The shooting down of a Russian fighter aircraft has soured relations with Russia, further complicating the Turkish stand.
- **Iran:** Iran wants President Assad to continue for two reasons: one, as a counter to Israel, and two, as a Shia ally in the region. Having just come back into the international mainstream through the nuclear deal signed with the P5+1 nations, Iran has its own domestic issues to resolve, but also wishes to establish itself as a regional power. Besides, it has a rebellious Sunni population close to the Iraqi border, and the Taliban and the Al Qaeda in Afghanistan, to deal with. Nevertheless, it is providing support to the Assad regime, through its proxy, Hezbollah of Lebanon, which is fighting the IS in Syria.
- **Saudi Arabia:** Saudi Arabia, in an effort to counter the rising aspirations of Iran to establish itself in the region, lit the fire in Syria by supporting

the anti-Assad rebels, an act that has the support of the USA, Qatar, and Turkey. It has also attacked the Houthi rebels, a Shia group in Yemen, to divert the resources of Iran.

- **Iraq:** The puppet Shia regime, put in place by the withdrawing US forces, seems to be in no hurry to end the conflict against the IS, as that would bring the rebel Sunnis back into the political focus. It would defend Baghdad, for it is symbolic of the power-seat, but would not, as yet, reclaim Fallujah.
- **Israel:** The entire conflict situation seems to suit Israel. The Hezbollah is busy fighting in Syria; Syria itself, is on the defensive; Iran is getting involved into an uncertain war, with the end nowhere in sight. This involvement of the key players in the region has shifted the spotlight from the Palestine cause, giving Israel a reprieve for the time being.
- **The Kurds:** Syrian or Iraqi or Turkish, they are celebrating their recent military successes and want to defend their newly formed borders. They hope that their military successes would bring them closer to the realisation of their dream of an independent Kurdistan. Their campaign is not so much to crush the IS—they thereby hope that it would divide the Arabs and dilute the fight against them.
- **UK:** The UK has been actively involved in air strikes against the IS in Iraq, but not in Syria, since September 2014. After the terror attacks in Paris on 13/11, Prime Minister David Cameron just about managed to get the approval of the British Parliament, across party lines, and has commenced strikes against the IS in Syria too. The reluctance of the British Parliament to get involved in air strikes in Syria can be seen in the manner the motion was passed; while in 2014, the motion was passed by 524 votes against a mere 43, this year only 397 votes, against 223, approved the motion. It is now in the crosshairs of the IS for a Paris-type attack.
- **EU:** France and Germany were supplying military aid to anti-Assad rebels in Syria, while restricting their air strikes against the IS only to Iraq. After the Paris attack, France has “declared war” against the IS and has gone on a bombing spree against IS targets in Syria. It has called for a “large alliance” to take on the IS “decisively”, but has not invoked Ar-

A recent announcement by Saudi Arabia of the formation of a 34-nation Islamic military alliance to coordinate the fight against terrorism in Iraq, Syria, Egypt, and Afghanistan, is rare and surprising. The focus of the alliance, as stated in the announcement, is not just on the IS, but on any and every terrorist organisation that surfaces in these nations and around.

article 5 of the NATO Charter, which would have obligated all members, including Turkey that is playing a dubious game in the region, to provide military assistance to France.

The many IS attacks all over, and the 'indifference' and confusion in the ranks of the major players of the region and beyond, raise some unpleasant questions. Why are the global public opinion-makers not giving due attention to this war on terror? Why are the supply chains of the sophisticated weapons to the IS not being broken? Who is buying the oil from the IS, giving it finances to fund its terror activities?

A recent announcement by Saudi Arabia of the formation of a 34-nation Islamic military alliance to coordinate the fight against terrorism in Iraq, Syria, Egypt, and Afghanistan, is rare and surprising. The focus of the alliance, as stated in the announcement, is not just on the IS, but on any and every terrorist organisation that surfaces in these nations and around. While the modalities of the cooperation sought are not clear, it appears that the composition would further widen the divide between the Shia and Sunni communities in the region. The alliance has included far-off nations such as Malaysia and Bangladesh, but has omitted Iraq, Syria, Iran, and Afghanistan. A Press Trust of India report on December 17, 2015, quoting the *Dawn* newspaper of Pakistan, states that Pakistan was not aware of being included in the alliance⁷; a rather inauspicious beginning to a coalition with such a lofty aim!

INDIAN RESPONSE

The Paris attacks revived memories of the dark night of 26/11 in Mumbai. This, and earlier attacks elsewhere, had the alarm bells ringing in the Indian

7. *Hindustan Times*, December 17, 2015, p. 22.

security and intelligence establishments. Indian intelligence has report of an entity called Wilayat Khorasan (WT) that has been operating since January 2015 in the AfPak region and could affect Indian interests there. The Khorasan region, eastwards from northeast Iran into the Nangarhar province in Afghanistan, includes parts of Central Asia, and the extreme northern parts of Jammu and Kashmir (J&K), which are now under Pakistani occupation.

Although there is scant evidence of any foreign fighters under the flag of the IS in Afghanistan, some experts believe that the group's recruits in Afghanistan are local insurgents, previously operating with other local extremist groups, and have simply changed loyalties to the IS. It remains unclear whether any substantial command-and-control relationship exists between Afghanistan's IS adherents and the leaders of the group's strongholds in Iraq and Syria. Whatever be the case, there are some unconfirmed reports of IS militants gaining a foothold in the region, causing concern not just to the US troops stationed there, but also to the Indian security apparatus.

The WT, also known as the Islamic State of Khorasan, is the training ground for *jihadis*, whose final destination is Syria. While a concentrated attack, as in Iraq or Syria, is not expected in India, 'lone wolf' attacks by individuals inspired by the ideology of the IS, cannot be ruled out as India is in the IS' list of enemies.

As on date, the IS' presence is rather faint in India, but it is managing to influence some misguided youth to migrate to the ways of violence. The National Intelligence Agency (NIA) estimates that only 23 Indians have left to fight for the IS; another 15-20 were prevented from leaving or brought back from intermediate places.⁸ Indian intelligence and security agencies are

As on date, the IS' presence is rather faint in India, but it is managing to influence some misguided youth to migrate to the ways of violence. The National Intelligence Agency (NIA) estimates that only 23 Indians have left to fight for the IS; another 15-20 were prevented from leaving or brought back from intermediate places.

8. Meetu Jain, "Are We Prepared", *Outlook*, November 30, 2015.

continuously monitoring the traffic on the internet to detect people in contact with the IS; on any indication of their planning to leave, or help somebody to carry out any anti-national or terror activity, they are sure to be intercepted.

An India-specific *jihadi* organisation, Ansar-ut Tawhid fi Bilad al-Hind (AuT) is reported to have pledged allegiance to the IS in 2014; this could be the face of the IS in India. It has been active in the cyber space and has posted IS messages, sub-titled, not just in Urdu or Hindi, but in English and other regional languages as well. The AuT is looking to seduce recruits for the IS through these posts on the internet.

So far, the security and intelligence establishment in India has done well in preventing some, and intercepting some, radicalised youth from joining the IS. Steps have been initiated, not just by the government, but also by the large Muslim population of India, to curtail the influence of the IS within the country. In addition, India is in constant touch with the Middle East nations, sharing intelligence inputs, to coordinate on the activities of the IS.

The immediate response, initiated by the tough talk of the French president, in the aftermath of the Paris attacks on 13/11, would have warmed the hearts of many a right-wing element in India. The government has to tread cautiously in giving similar responses to attacks on Indian soil, be they from the IS or any another terror organisation; one false, hurried step could spell a catastrophe. Earlier governments in India, especially under the stewardship of Prime Minister Vajpayee, have displayed restraint and sagacity, and did not succumb to pressure to join any international coalition after the 9/11 attacks. Notwithstanding, the changed geo-political standing of the country since 9/11, the succeeding dispensations in the government have ably resisted the temptations to do so while working for national interests. While taking the threat seriously and remaining wary and alert, the Indian response to any attack has to be measured, on a 'case-to-case' basis.

THE IS IN CYBER SPACE

The conflicting clash between the 21st century technology and the *Salafist-jihadist* interpretation of Islam, which advocates a return to the 7th century lifestyle, ceased to be a topic of debate between the extreme

ideologists and the *mullahs*, when the full potential of the worldwide web was fully realised. Today, the IS and its supporters use the internet and social media platforms in a brazen, overt manner, advertising their 'brand' and spreading their propaganda via mainstream networks, such as Twitter and Facebook.

To achieve what the IS has achieved, in terms of controlling large swathes of territory and recruiting a large army, it needed to master the internet. Most of the people who are attracted to the IS are in their late teens or the early 20s. Research has brought out that in this age group in the developed world, 89 per cent are active online, 70 per cent use social networks daily, and each individual spends as much as 19.2 hours a week surfing the internet.⁹ The *jihadis* are no exception, spending may be more time to ensure the reach of their message.

Most of the IS commanders and the new recruits are technologically knowledgeable. Coding on computers, which includes writing software and placing information on html pages, comes as naturally to them as their mother tongue. Most of the IS business is conducted online, from recruiting and propaganda, to battlefield strategy and instructions. The range, quality and availability of the latest equipment such as HD cameras, editing equipment, software, and special effects libraries, are used by the professional media teams to produce the grisly and barbaric videos for which the organisation has become known.

The IS has made it a point to recruit not just fighters, but also Information Technology (IT) specialists and those with knowledge of online marketing. It also has its recruitment machine largely online, to keep itself relevant with the internet generation of today. Initial approaches could be through an intermediary, or even direct through Facebook or Twitter. Thousands of Twitter accounts, feeds through automatic digital distribution, and messaging networks provide updates on battle reports and news about life in the IS. In this manner, the IS keeps potential recruits and supporters engaged, while countering any adverse propaganda. The Twitter and Facebook profiles are

9. Abdel Bari Atwan, "Slashtagged @ Jehadi Joes", *Outlook*, November 30, 2015.

also used to cyber-stalk and identify enemies; military personnel, politicians, and journalists are the prime targets, some of who, surprisingly post personal details on the social media!

The IS is also known to have employed professional journalists, photographers, film-makers, and editors, but only after they swear allegiance to the caliph. As a result, the quality of films produced are comparable with those of national broadcasters and, in some cases, even Hollywood! It also runs its own radio station, Al Bayan, based in Mosul, and a satellite TV station, Tawheed, from a base in Libya. What the IS *ihadists* may be lacking in terms of sophisticated weaponry, they more than make up through their 'keyboard warriors'.

INTERNATIONAL RESPONSE: THE ROADMAP

What is the strategy behind this Islamic State-inspired violence? *Jihadists* of all bents of mind seek to create discord, pitting Muslims against non-Muslims in the West and Sunni Muslims against Shia Muslims in the East. The theocratic ideology of Islamism prospers on division, polarisation, and claims of Muslim victimisation. The world must first understand the difference between Islam and Islamism. Islam is a religion, and just like any other religion, it, too, is internally diverse. Islamism, however, can be explained as the desire of one sect to impose its version on the other sects and even on the entire society. Islamism, therefore, is not Islam, but an offshoot of Islam, just as there are offshoots in other faiths. Similarly, *ihad* is a connotation of a struggle, be it spiritual and personal, or a struggle against an external enemy. *Jihadism*, however, is something entirely different; it is the doctrine to spread Islamism through the use of force. Another issue that needs to be understood is that the actions of the IS members cannot be termed as militancy or insurgency; they comprise terrorism, and, therefore, have to be dealt with as such. The urgency of making these distinctions should be apparent to everyone, prior to planning a strategy against the IS.

The IS has territory, natural resources, and income from the sale of oil and gas, ransom, and taxes. The war against the IS, hence, has to throttle the income, stop its exploitation of natural resources and capture its territory.

Simultaneously, an ideological war has to be conducted to educate the misguided.

Since the November attacks by the IS in Paris, the propaganda machine of the IS had been working overtime to drumbeat violence. It laid claim to a series of attacks and suicide bombings in Tunis, Baghdad, and California. Yet, for all its successes at advertising and projecting terror, life on the ground in the IS after the Paris attacks, has grown darker. The IS, though not yet shrinking in territory, is definitely not expanding. The biggest loss for the IS in November 2015 was probably losing the Iraqi town of Sinjar, which made the journey between its two main cities, Mosul in Iraq and Raqqa in Syria, far longer and more perilous. Another setback of significance was the loss of oilfields west of Sinjar, to the Kurdish forces in Syria, which would surely affect its revenues. The aerial attacks by the coalition, in both Iraq and Syria, have also begun to show effects and need to be continued under a common strategy.

Shutting down of social media accounts on platforms needs to be further accelerated to isolate the IS on the internet. This would make it difficult for it to spread its ideology to potential recruits. The Western governments have done well in prodding the social media companies to increase their efforts to identify and block accounts sympathetic to the IS. Aaron Zelin, a fellow at King's College, London, and other researchers have reported a marked deterioration in the number and quality of pictures uploaded in media releases by the IS.¹⁰

With the coalition air attacks successes in checking the advance of the IS and the sharp drop in global oil prices, the IS' finances have faltered. The IS is feeling the strain, and the pressure needs to be maintained. The UN must step in and mandate a force under its flag to fight this war on terror. The differences in opinion on the continuing civil war in Syria are helping the IS. The major players involved—the USA, with its coalition partners, Russia, and Iran—need to resolve their differences at the earliest to put a stop to the Syrian civil war, and, instead, have uninterrupted focus on the war against the IS.

10. "Unfriended", *The Economist*, December 12, 2015.

CONCLUSION

Terrorism is the new face of war in the 21st century. Theatres of terror, some large and some small, have emerged in different continents. People all over the world, are slowly getting accustomed to a life in times of terror.

The new generation is not too religiously inclined, and is getting detached from formal religion even while retaining its spirituality. The professed ideologies of love, goodwill, redemption, and salvation are being used for the wrong purposes. Terrorists, on the other hand, are picking up the cloak of religion to get their cadres together and portray themselves as the guardians of their religion. In several societies with feudal social settings, political formations too, are being cast on religious lines. The IS, Al Qaeda, the Taliban, and Boko Haram are the major players of terror in recent times. They have nothing in common in their deliverance to the followers of Islam across the world, but their atrocities have become a burden to the true Islamic culture and beliefs.

Most of the weapons on the inventory of the IS have come from the heaps generously donated to the supposed defenders of freedom and democracy, be they in Libya or in Syria. It is ironic that the very nations which gave these weapons, have become the targets of their use. The IS represents a sea-change in how terrorism is conducted. It could become the winning brand, the new icon of 'global *jihad*', which could lead to greater allegiance to it from other terrorist groups. It is important to address ways to reduce the impact of its lopsided ideology, through effective strategies to discredit it, both on the battlefield and in cyber space.

Parts of the Middle East and Africa are in a quagmire, sliding towards a warlord era. States are struggling to control their territory. Parts of states are now under the rule of local chieftains, rebel groups, and terrorist movements. Armed irregular forces are holding effective power over growing areas of Iraq, Libya, Mali, Nigeria, Somalia, Syria, Yemen, and may be a few others too. Motivated by extreme forms of militant Islam or regional separatism, non-state actors have grabbed territory and are creating their own version of law and order. As the regional order is

collapsing, non-state actors are filling the vacuum. The IS represents the sea-change in how terrorism is conducted.

The major focus on counter-terrorism strategies has always been on hard power, but policy-makers have realised that such strategies have produced limited results. The world leaders need to rethink their strategy and use soft power instead, for if we do not engage in this ideological war now, the world will continue to face threats that will morph into even greater threats. While there have been some signs of progress in the campaign against the IS, the threat could easily move from conventional warfare to guerrilla-style insurgency, increased suicide attacks and even cyber terror.

The world is not just fighting terrorists, but also an ideology, twisted to suit the depraved mind; an ideology that is not targeting countries, but a way of life.

THE RATIONALE FOR THE INDIAN NUCLEAR 'EXCEPTIONALISM'

MANISHA CHAURASIYA

INTRODUCTION

As a non-signatory to the nuclear Non-Proliferation Treaty (NPT), India has long been an outcast of the nuclear non-proliferation regime, and deprived of the entitled benefits the regime membership offers. The Indian nuclear weapon programme was seen by the non-proliferation ayatollahs as a case of nuclear proliferation and, hence, the country was debarred from civilian nuclear commerce. This was despite the fact that India shared the aims and concerns of the regime – such as the pursuit of nuclear disarmament, strengthening of the nuclear non-proliferation structure, free and easy global access to the benefits of peaceful nuclear technology and, finally, averting nuclear proliferation to non-state actors.

The winds of change for India began to blow in 2005 when the joint statement signalled greater cooperation in civilian nuclear aspects between New Delhi and Washington. Later, the Indo-US Civilian Nuclear Cooperation Agreement was signed between the United States and India which acknowledged the prolonged Indian non-proliferation record and its shared global nuclear concerns and responsible international conduct. The agreement is often referred to as the 'nuclear deal'. India, technically a non-signatory to the NPT, was enabled to participate in nuclear

Ms. **Manisha Chaurasiya** is a Research Associate at the Centre for Air Power Studies, New Delhi.

The Indian nuclear reactors for civilian uses were accepted to be separated from the military ones under the deal, wherein the former were brought under the International Atomic Energy Agency (IAEA) inspections.

commerce—to access enriched uranium, fuel for its civilian nuclear reactors, and purchase nuclear reactors, nuclear fuel and the related technologies for civilian use. India was brought into the mainstream nuclear non-proliferation regime, along with recognition of its non-proliferation record and voluntary adherence to regime goals and principles. It was referred to as “a responsible state with advanced nuclear technology”¹ by Washington which furthered the mainstreaming of the country into the nuclear non-proliferation regime. The process was tricky and involved lengthy negotiations. The Indian nuclear reactors for civilian uses were accepted to be separated from the military ones under the deal, wherein the former were brought under the International Atomic Energy Agency (IAEA) inspections. Amendments were brought to the domestic laws of the USA and largely in the norms laid down by the nuclear non-proliferation regime. India promised adherence to the IAEA Additional Protocol², which it also ratified in 2014. India’s nuclear ‘exceptionalism’ was certainly a result of prolonged observance by the country of the norms laid down by the nuclear non-proliferation regime, proving in short that “compliance is rewarded.”³ Kelly Wadsworth has argued that though “India is unlikely to sign the NPT, but (the nuclear deal suggests that) behaviour matters more than NPT signature.”⁴

-
1. White House, *Joint Statement Between President George W. Bush and Prime Minister Manmohan Singh*, 2005. Available at: <http://georgewbush-whitehouse.archives.gov/news/releases/2005/07/20050718-6.html>. Accessed on November 21, 2015.
 2. The Additional Protocol helps to provide much greater assurance on the absence of undeclared nuclear material and activities to the IAEA. It is a legal document that grants the IAEA complementary legal authority to verify a state’s safeguards obligations.
 3. Kelly Wadsworth, “Reward India’s Non-Proliferation Good Behaviour”, available at: <http://csis.org/publication/pacnet-52-reward-indias-nonproliferation-good-behavior>. Accessed on October 5, 2015.
 4. Ibid

THE DEAL THAT HONOURED THE INDIAN EXCEPTION: A BRIEF ANALYSIS

The cementing or the de facto acceptance of Indian nuclear capabilities became the hallmark feature of India's nuclear exceptionalism. The Indo-US Civilian Nuclear Cooperation Agreement was indeed a bilateral negotiation with broad multilateral ramifications. The strategic partnership between India and the USA was the fruit of prolonged diplomatic efforts on both sides. The cooperation was enabled by the

respective strategic calculations of national interests by both states. On the one hand, Washington's interest in engaging India was a combination of factors like the need to support the weakened nuclear non-proliferation regime by acknowledging outside adherents like India; the US' War On Terror (WOT) post 9/11; the potential rise of China as a power not just in Asia but in the world; the need for new markets for goods, especially nuclear technology for the USA. On the other hand, the deal provided India the opportunity to engage and integrate with the nuclear non-proliferation regime from which it had long been isolated on the grounds of being a non-NPT state.

India transcended two salient hurdles through the nuclear deal and got (a) accommodation in the regime without reopening the grand bargain of the NPT which itself was a nearly impossible process in both legal and practical terms; (b) a waiver from the daunting and nearly impossible task of generating consensus domestically to ink the Comprehensive Test Ban Treaty (CTBT) and the NPT, the two treaties which the country has criticised for decades for their blatant discrimination. Apart from these, there was a pressing need in India for importing civilian nuclear technology, goods, fuel and even reactors to cater for its ever increasing demand of energy.

There were costs involved for both parties in engaging in this diplomatic endeavour. The US brought about serious alterations in its domestic laws: the US Congress passed the Hyde Act in 2006 to support

The deal provided India the opportunity to engage and integrate with the nuclear non-proliferation regime from which it had long been isolated on the grounds of being a non-NPT state.

the deal with India. In 2008, External Affairs Minister Pranab Mukherjee and US Secretary of State Condoleezza Rice put the final seal on the 123 Agreement⁵ and operationalised it. Indian Prime Minister Dr. Manmohan Singh too faced severe criticism in the Parliament, and debates continued for months, in the media as well as in academic circles. However, the national interests of both the parties were largely catered for in the deal. It was indeed a fruitful, synergic, bilateral agreement. The nuclear deal, thus, brought the long awaited fresh air in the regime, at least from the perspective of the non-proliferation enthusiasts who felt the Indian inclusion was long pending and deserving.

Looking back on the journey shows that in the backdrop of the Indian nuclear tests— Pokhran-I and Pokhran-II in 1974 and 1998 respectively—the Indian nuclear diplomacy had a considerably difficult time negotiating and explaining its rationale for going nuclear and its civilian nuclear energy goals to the world. The tests had inculcated a sense of mistrust between India and the world. At first, Washington and the regime, did not distinguish between Islamabad's and New Delhi's nuclear journeys, routes, decisions and intentions, and, therefore, applied a policy of "Cap, Roll Back and Eliminate" to both. It became the chief strategy of their diplomatic endeavours for the elimination of new nuclear weapons in South Asia. The new millennium, however, welcomed the sincere diplomatic engagement between India and the USA as both intended, if not to simply vaporise, at least to encounter, the irritants and elements of mutual mistrust between the two democracies. A series of intense negotiations began which continued for years before the deal came through. The dialogue between Jaswant Singh and Strobe Talbott, as Lalit Mansingh says, was "a record of sorts in bilateral diplomacy, the two leaders met 14 times at ten locations in seven countries over a period of 18 months."⁶ The tough diplomatic journey between the two states can

5. Section 123 of the United States Atomic Energy Act of 1954, titled "Cooperation With Other Nations", establishes an agreement for cooperation as a prerequisite for nuclear deals between the US and any other nation, which is why it is called the 123 Agreement.

6. Lalit Mansingh, "Indo-US Nuclear Deal and Indian Foreign Policy", in P R Chari, ed., *Indo-US Nuclear Deal: Seeking Synergy in Bilateralism* (New Delhi: Routledge, 2009), p.175.

be aptly referred to as “from estrangement to engagement.”⁷

In short, the nuclear deal achieved in 2005 with the USA acted as a catalyst for reopening both the spectrum of possibilities and the stagnant civil nuclear interaction between India and the world. To quote Dinshaw Mistry, “President Bush, Secretary of State Rice and a small group of advocates sought to change the long standing US non-proliferation policy to advance what they believed was a more important US foreign policy objective, that of strategic engagement with India.”⁸ A *détente*, thus, achieved resulted in several alterations in state attitudes, norms and domestic legislations in both New Delhi and Washington. India was enabled to enter nuclear commerce along with easing the brunt of the multiple sanctions on it since the post-Pokhran days. It pledged to: (a) separating its civilian nuclear facilities from the military ones and that the civilian nuclear facilities would come under safeguards through an Additional Protocol with the IAEA; (b) “reaffirming its unilateral moratorium on nuclear testing and the futility of running a nuclear arm race; (c) working with the US to conclude a multilateral Fissile Material Cut-Off Treaty (FMCT); (d) refraining from transfers of enrichment and reprocessing technology and supporting international efforts to limit their spread”⁹; and (e) “to secure its nuclear materials and technology through comprehensive export control regulations, and harmonise them with the guidelines of the MTCR, NSG”¹⁰. India’s assurance for greater adherence to the prescribed guidelines, principles and norms of all the multilateral export control regimes was clubbed with a reverse assurance of a meaningful integration with, and membership of, the regime institutions to India in the near future.

The nuclear realities after the Indo-US Civilian Nuclear Cooperation Agreement have been portrayed by commentators with the presence of “NPT+1”¹¹ on the global canvas. By professing its regional and global

7. As Ajai K. Rai, *India’s Nuclear Diplomacy After Pokhran-II* (New Delhi: Pearson Longman, 2009). He has used the term “Estrangement to Engagement” to describe in detail the post Pokhran-II diplomatic endeavours among India and the USA.

8. Dinshaw Mistry, *The US-India Nuclear Agreement: Diplomacy and Domestic Politics* (New Delhi: Cambridge University Press, 2014), p.52.

9. Chari, n.6, p.6.

10. Ibid.

11. Pankaj K. Jha, *India and the Oceania: Exploring Vistas for Cooperation* (New Delhi: Pentagon Press, 2016), p. 61.

responsibilities, India has emerged as an informal participant which assured being a reliable and responsible partner of the nuclear non-proliferation regime for the 21st century.

AN 'EXCEPTIONAL STATUS' FOR INDIA: FACTORS FOR EMERGENCE

'Exceptionalism' stands for grant of an extraordinary status that does not conform to normal rules. Why India was chosen for an 'exception' by the nuclear non-proliferation regime and by the USA is, indeed, interesting. The Indian nuclear 'exceptionalism' was expectedly welcomed with sharp accusations of partiality, favouritism, bias, discrimination. The answer to the pertaining question "Why the exceptionalism for India?" lies broadly in the country's responsible nuclear journey and clean track record of non-proliferation. Unsurprisingly, often cited as a diplomatic achievement of India in the year 2005, the Indo-US Civilian Nuclear Cooperation Agreement was actually not an immediate product, nor a premature reward. The nuclear deal was a consequence of India's prolonged quest for purely peaceful uses of nuclear technology, its history of supporting nuclear disarmament, a clean track record of nuclear non-proliferation, responsible nuclear behaviour and doctrine, and the efforts of its nuclear diplomatic fraternity as well as generations of leadership.

Quest for Peaceful Uses of Nuclear Technology

Since the very beginning of the nuclear age, India, surprisingly, had no ambitions for attaining parity in nuclear weapons and weapon technology, unlike the prevailing trend. However, India aspired to taste the fruits of civilian nuclear technology in the hope of utilising the atom for development. Seven months before the India's independence, Pandit Jawaharlal Nehru clarified the stance in the Constituent Assembly when he said, "In essence, today, there is a conflict in the world between two things, the atom bomb and what it represents, and the spirit of humanity."¹² But the peaceful uses of the atom as well as the contrasting duality of the nature of atomic technology was well identified, acknowledged and grasped by India. A

12. Ashwini Kumar Chopra, *India's Policy on Disarmament* (New Delhi: ABC Publishers, 1984), p.2.

preference between weapon and energy usage of nuclear technology was actually “a choice between co-destruction and co-prosperity,”¹³ respectively. In the direction of civilian nuclear energy generation and other peaceful uses of atomic technology, India, on both the national and international stages, was at the forefront.

- **Domestic Efforts**

A research institute called the Tata Institute of Fundamental Research was instituted in 1945 with the aim of developing technologies for the peaceful use of the atom. The shared vision of Homi Jahangir Bhabha, the director of the research institute, and Pandit Nehru, the prime minister of the country, stood for the goal of “making India self-reliant in the energy field”¹⁴ and utilising the atom for the best of Indian interests of development and growth. As Nehru once clarified, “We are not interested in, and we will not make, these bombs, even if we have the capacity to do so, and in no event will we use atomic energy for those most destructive purposes”¹⁵. The intent was clearly distinct from the destructive aspect of the atom, which was mirrored in the Indian policy decisions of abstaining from the evil uses of atomic technology. All the three virtues: (a) a sense of responsibility in international conduct; (b) active restraint in behaviour; and (c) respect for non-violence, were embedded in the Indian strategic culture.

- **International Efforts**

India was optimistic and enthusiastic of the proposal of 1946 of the Atomic Energy Commission (AEC) for the establishment of an international agency for the control, development and use of atomic energy. The Bernard Baruch Plan was for the creation of

13. Jawaharlal Nehru's *Speeches, Vol. 1*, September 1946-May 1949 (Delhi: Ministry of Information and Broadcasting, 1949), p.24-25 ; Nehru cited in George Perkovich, *India's Nuclear Bomb* (1991), p.15.

14. B. M. Jain, *India in the New South Asia: Strategic, Military and Economic Concerns in the Age of Nuclear Diplomacy* (New Delhi: Viva Books, 2011), p.42.

15. Quoted in Brochure, “National Nuclear Energy Programme” (New Delhi: Lok Sabha Secretariat, 1985), p.7.

Domestic restraint in the direction of possession of nuclear weapons was coupled with Indian efforts for, and international support to, the idea of nuclear disarmament. The Indian call was persistent for the alternate path of complete global nuclear disarmament.

an International Atomic Development Authority as an institution with: (a) managerial control ownership of all atomic energy activities potentially dangerous to world security; (b) power to control and inspect; (c) the duty of fostering beneficial uses of atomic energy; (d) and research, development and responsibilities to comprehend and detect, misuse of atomic energy.¹⁶ The multilateral negotiations on the matter brought forward several proposals and

viewpoints. The AEC's proposal planned an unjust infringement of sovereignty of states by transferring ownership of all the atomic raw materials, ownership and management of mines and of all plants producing atomic energy to an international authority.¹⁷ But the Soviets laid greater stress on the prohibition of atomic weapons and related stocks in advance before any deliberation on the authority on atomic energy. India, however, intelligently nurtured its opinion and perspective and emerged as an upholder of a sovereign voice on the matter internationally. It introduced a resolution in the United Nations (UN) General Assembly that stressed on the need for effective international control of atomic energy.¹⁸ Indian internationalism was well in consonance with the Indian domestic vision on atomic energy matters.

The quest for peaceful nuclear energy remained the backbone of the state's international behaviour and the national policies it pursued. After Pandit Nehru, Prime Minister Shastri too remained firm on the redundancy of nuclear armaments in the Indian arsenal, even in the aftermath of an

16. Official Records of the Atomic Energy Commission, No.1, 1st year meeting, June 1946, p.7.

17. Chopra, n. 12, p. 213.

18. Resolutions Presented by India on October 7, 1948, at the Third Session of the UN General Assembly, Document A/C, 1/315.

unanticipated war that was imposed on the country by China.

Nuclear Disarmament

Domestic restraint in the direction of possession of nuclear weapons was coupled with Indian efforts for, and international support to, the idea of nuclear disarmament. The Indian call was persistent for the alternate path of complete global nuclear disarmament. At the height of the Cold War bipolarity and nuclear rivalry, the Indian policy of non-alignment called for reduction of nuclear arms rivalry and the related threats

to humanity. India, thus, did not just transcend from the 'accepted' norm of the Cold War by not adhering to either of the Communist or Capitalist ideological camps but actually contributed actively and positively by treading the alternate path of nuclear disarmament and non-violence. "The moralist visionary, Nehru, abhorred the wanton destructiveness of nuclear weapons and saw them as anathema to the unique spirit of India."¹⁹ This unique spirit, embedded in Indian strategic thought, was the product of India's civilisational history, culture and spirit of peace and coexistence. The element of maturity was integral in the Indian foreign policy in general and in the Indian nuclear policy in particular.

The Acheson-Lilienthal Report of 1946 discussed possible methods for international control of nuclear weapons and international ownership of the complete nuclear fuel cycle. India, from the pre-independence days, voiced its support for the same. The Indian advocacy of nuclear disarmament was born pre-independence when the unacceptable inhuman effects of the nuclear bomb were felt at the cities of Hiroshima and Nagasaki in Japan in the dusk of World War II. India voiced the demand for world nuclear disarmament at several multinational platforms and devised plans for

In 1954, Nehru responded to the reckless nuclear testing by proposing a "standstill agreement" on further tests pending by both the superpowers. The same was presented at the UN to "the Secretary-General Dag Hammarskjöld a few days later..."

19. Perkovich, n.13, p.14.

conducting it gradually. In 1954, Nehru responded to the reckless nuclear testing by proposing a "standstill agreement" on further tests pending by both the superpowers. The same was presented at the UN to "the Secretary-General Dag Hammarskjöld a few days later...India has ever since been a persistent advocate in the UN of nuclear disarmament, the peaceful uses of nuclear energy, and a comprehensive nuclear test ban treaty."²⁰

"Nehru was counted among a few of the intellectual leaders, top statesmen and scientists of the world who, back in the 1950s, were continuously making appeals for cessation of nuclear tests"²¹ and complete nuclear weapon disarmament. The imprint of Nehru's scientific temperament, pacific intentions and global vision for nuclear disarmament was well reflected on the country's nuclear decisions as well as on its various policy selections internationally. Undoubtedly, India was blinded neither by the glare of nuclear weapon possession nor by the potential of such weapons for world domination. Even in adverse circumstances, when the external security situation worsened, the Indian stance and efforts for complete nuclear disarmament remained firmly in place. The problem of proliferation of the nuclear weapons reached heights in the immediate neighbourhood. The Chinese nuclear testing and the 1962 uninvited and unprecedented encounter with India contributed to fresh threats and insecurity for India. India witnessed the Chinese nuclear tests in 1964 when negotiations for nuclear disarmament and non-proliferation issues through the European Nuclear Disarmament Conventions (ENCs) were in full swing.

At the UN Third Special Session of the General Assembly on Disarmament in 1988, India unveiled the Action Plan for a Nuclear Weapon Free and Non-Violent World. On the bilateral level, in a brief span of two years—1986-87—the Indian leadership engaged with the leadership of both the USA and the Soviet Union. India signed the Joint Declaration of Principles of a Nuclear Weapon Free and Non-Violent World with President Gorbachev in New Delhi in 1986. The next year, in his meeting with President Reagan, Prime

20. Sergio Duarte, "Towards a World Free of Nuclear Weapons", A Conference Commemorating the 20th Anniversary of the Rajiv Gandhi Action Plan, New Delhi, 2008, available at http://www.un.org/disarmament/HomePage/HR/docs/2008/2008June09_India.pdf. Accessed on September 23, 2015.

21. U.N. Gupta, *International Nuclear Diplomacy and India* (New Delhi: Atlantic Publishers, 2007) p.17.

Minister Rajiv Gandhi expressed his disinterest in, and intention of forging, the nuclear weapon technology, unless constrained by neighbours.

Track Record of Non-Proliferation

India has a long record of advocating nuclear disarmament and also a reputation of nuclear non-proliferation. The Indian perception on nuclear non-proliferation is explicit from Air Cmde Jasjit Singh's identification of nuclear non-proliferation as one of the five interconnected and interrelated critical challenges²² confronting the world. Though the four states that have certainly built nuclear weapons for themselves—India, Pakistan, Israel and North Korea—are beyond the pale of the NPT, the story is incomplete without recounting that the nuclear haves that promised to surrender their nuclear weapons at an early date post-NPT, didn't do so either.

THE CASE OF PAKISTAN: A CONTRAST WITH INDIA

The fear of illicit transfer of nuclear technology has always been a concern. Pakistan's clandestine nuclear weapons activities were revealed when "the activities of the scientist Dr. Abdul Qadir Khan and his 'theft' of critical secrets regarding enrichment technology from the Dutch firm URENCO"²³ came to light. Pakistani nuclear weapons are summed up as the ones "developed in secrecy and tested in defiance...nuclear weapons program has been a point of pride for Pakistanis, a worrisome portent for Indians, a source of profit for nuclear proliferators, and a security concern for US policymakers."²⁴

22. The five challenges related to nuclear programmes and policies that coincide between India and the world in the 21st century, as identified by Air Cmde Jasjit Singh are: the challenge of nuclear power, the challenge of nuclear weapon programmes and ensuring credible affordable defence through deterrence, the challenge of nuclear non-proliferation, the question of nuclear disarmament; and the global security architecture, especially shaped by these factors and their future role.

Jasjit Singh, "Global Nuclear Challenges: An Introduction", in Manpreet Sethi, ed., *Global Nuclear Challenges: Energy, Proliferation and Disarmament* (New Delhi: Knowledge World, 2009).

23. Abha Dixit, "Status Quo: Maintaining Nuclear Ambiguity" in David Cortright and Amitabh Mattoo, eds., *India and the Bomb* (Notre Dame: University of Notre Dame Press, 1996), p.62.

24. Shehzad H. Qazi "Making the Bomb: Pakistan's Nuclear Journey", a book review of *Eating Grass: The Making of the Pakistani Bomb* by Feroz H. Khan. Available at: <http://www.worldaffairsjournal.org/article/making-bomb-pakistan%E2%80%99s-nuclear-journey>. Accessed on September 23, 2015.

Unlike Pakistan, the India nuclear programme is indigenous. India never went the way of "beg, borrow, steal" in attainment of its nuclear weapons. The quest of India and Pakistan for the bomb has been contrasting from the beginning. The nexus and nuclear technological exchanges between Pakistan and China, and Pakistan and North Korea, are well known. These transfers have proved pivotal in the nuclear weapon production in India's western neighbourhood. "Even as the 1965 War was getting underway, Pakistan sent its recently retired Air Mshl Asghar Khan, to China to seek aircraft and weapon systems to meet Pakistan's 'dire needs'."²⁵ The growing axis between Pakistan and China was seriously altering the security and strategic dynamics of South Asia. India was well aware that further proliferation of nuclear weapon technology was certainly counter-productive for plans of its abolition, yet the threat emerging from a nuclear neighbour, made it evident that India would need to rethink, and give serious consideration to, the weapon option of the technology. The "Chinese nuclear assistance (to Pakistan) has been a matter of deep concern and has altered the security situation globally."²⁶ This bilateral relationship had severe negative ramifications for the nuclear non-proliferation regime. "Eating grass"²⁷ but making the nuclear weapon symbolises the fanatic streak and desire of Pakistan's decision-making, and is evidence of its nuclear proliferation. Pakistan holds the belief that nuclear weapons can compensate for conventional military inferiority even as it continues its acts of terrorism. It has enthusiastically pursued the Tactical Nuclear Weapons (TNWs) and miniaturisation technologies which have not just been provocative in nature but also recognise its belief in nuclear war-fighting, which India, on the other hand, considers an "alien concept"²⁸.

Right from the Nehruvian days, India's has accepted nuclear technology as an exceptional one, deserving exceptional arrangements for its security

25. Shalini Chawla, *Nuclear Pakistan* (New Delhi: Knowledge Word, 2012), p. 67.

26. *Ibid.*, p. 88.

27. Pakistan President Zulfikar Ali Bhutto, in an interview with the *Manchester Guardian* in 1965, said that if India built the bomb, "we will eat grass, even go hungry, but we will get one of our own." "Eating Grass" was also adapted as title of a book on the Pakistani nuclear journey by Feroz H. Khan.

28. As pointed out by Air Mshl Vinod Patney during an interview with the author, October 20, 2014.

and safety. The Indian state has provided its nuclear facilities, materials and technology with a high level of safety and security. India also has never been ever involved in illicit transfer of the technology to states or non-state actors. India has been a founder member of the IAEA and has retained its good reputation in nuclear non-proliferation since then.

Responsible Nuclear Behaviour

The Indian record is that of a responsible nuclear power with an element of restraint embedded in its international behaviour and conduct. Unsurprisingly, the country has also been referred to as a responsible nuclear state with advanced nuclear capabilities in the 2005 Indo-US Civilian Nuclear Cooperation Agreement Joint Statement. The Kargil War was imposed on India in the aftermath of it going nuclear. Evidence supports the fact of Indian nuclear restraint. It responsibly resisted the provocations from the other side and, thus, limited the scope of the war. The Indian Nuclear Doctrine further states the blueprint of India's nuclear intentions and future nuclear behaviour. The country has maturely projected restraint by strict abidance of the unilateral moratorium on nuclear testing, as promised.

- **Kargil War and Indian Nuclear Restraint**

As was witnessed by the world in 1999, just a year after the Indian nuclear tests, Pakistan attempted to test the Indian resolve. The Report of the Kargil Review Committee published in the post-war period, mentions that the Pakistani actions causing the Kargil War of 1999 reveal that "the possibility of a conventional war between two nuclear powered states (India and Pakistan) cannot be ruled out."²⁹ Nuclear deterrence, thus, does not come automatically with nuclear capabilities but has to be communicated and nurtured. Thus, keeping in mind the possibility of nuclear misadventures by its potential adversaries, India has ensured building nuclear deterrence but of a credible minimum

29. Group of Ministers Report of Kargil Review Committee, February 2001, available at: <http://www.vifindia.org/sites/default/files/GoM%20Report%20on%20National%20Security.pdf> Accessed on January 18, 2016, p.8.

The Indian Draft Nuclear Doctrine was released in 1999 with the aim to clear the prevalent apprehensions and random guesswork regarding India's nuclear intentions globally. It clearly reaffirmed "India's readiness to join multilateral negotiations for the reduction and elimination of nuclear weapons."

variant. The Indian nuclear restraint during the Kargil War and the firm belief that nuclear weapons are "weapons of deterrence" and not "weapons of waging wars" suggests maturity. Pakistan, on the other hand was "preparing its nuclear forces for deployment"³⁰ during the war in the hope of winning a military advantage though being fully aware of the ghastly destructive results of nuclear escalation.³¹

- **Indian Nuclear Doctrine and Moratorium on Nuclear Testing**

The Indian Draft Nuclear Doctrine was released in 1999 with the aim to clear the

prevalent apprehensions and random guesswork regarding India's nuclear intentions globally. It clearly reaffirmed "India's readiness to join multilateral negotiations for the reduction and elimination of nuclear weapons."³² India's promise of credible minimum nuclear deterrence combined with a No First Use (NFU) evidently certified the maturity of the Indian side. India soon extinguished the concerns regarding Pokhran-II. India certainly did not want to unnecessarily flex its muscle of its indigenous technological achievement of nuclear weapons. Through further testing and multiplying the stockpile, it

30. Strobe Talbott, "The Day a Nuclear Conflict Was Averted", 2004. Available at: <http://yaleglobal.yale.edu/content/day-nuclear-conflict-was-averted>. Accessed on January 20, 2016.

31. The ghastly destructive results of nuclear escalation would have been bad and holocaustic not just for the parties fighting the war—India and Pakistan—but also the world, in the sense that it would have broken the global nuclear non-use taboo and logic and viability of nuclear deterrence. Nuclear use, thus, would have caused unacceptable damage to humanity, in general.

32. As elaborated by Jayant Prasad, permanent representative to the Conference on Disarmament at Geneva, on February 13, 2007.

also did not want to engage in the “war of numbers”³³ with neighbours. The echo of “responsible India” was evident in the draft nuclear doctrine, in the sense that the very first paragraph, instead of obvious glorification of the country’s technological and national pride through nuclear weapons, iterated the unfortunate “virtual abandonment of nuclear disarmament” in the world. As WPS Sidhu believes, the nuclear doctrines of states most often discuss the “deployment” of the arsenal and “never advocate abolition”³⁴. The Indian effort was unique in the sense that the very doctrine explicitly affirmed firm belief in nuclear disarmament.

On the other side, India has successfully lived up to its self-imposed unilateral moratorium on nuclear testing to which it had pledged in 1999. India, realising the futility of nuclear testing due to reasons of prestige, has refrained from any such activity.

On the other side, India has successfully lived up to its self-imposed unilateral moratorium on nuclear testing to which it had pledged in 1999. India, realising the futility of nuclear testing due to reasons of prestige, has refrained from any such activity.

Indian Civilian Nuclear Energy Needs In the 21st Century

India recorded a “GDP growth rate of 9.3 percent in 2005.”³⁵ The problem of energy scarcity in India called for diversifying energy generation through

33. ‘War of numbers’ here signifies the thrust of unnecessarily exceeding one’s count of nuclear weapons simply to match or outnumber the adversary’s expected weapon count. India found it useless to unnecessarily multiply its nuclear stockpile as it intended to maintain a minimum credible nuclear deterrence. The count of warheads had been decisive in traditional warfare but India believes that it becomes useless in the nuclear game. Unlike the Cold War nuclear arm race between the USA and the USSR, India is of the opinion that numbers hardly matter, as the very presence of nuclear weapons in an equation evaporates the distinction of weak and strong. This is a result of the unacceptable damage associated with eliminates. Thus, the war of numbers is overall futile.

34. WPS Sidhu, “This Doctrine is Full of Holes”, *The Indian Express*, September 8, 1999.

35. According to the World Bank: GDP growth (annual %) country wise data table. Available at: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?page=1> , Accessed on September 18, 2015.

plural sources, mostly clean, sustainable and environment friendly. Nuclear as a "source of energy holds tremendous promise of expansion (in India) and can significantly contribute to the continued economic growth, its energy security and environmental health."³⁶ The civilian nuclear cooperation between the two states, India and the USA, thus, had the plausibility of requirements of both states in the 21st century. India was in need of power, that too from cheaper, cleaner and safer sources than other existing options. The USA was keen on expanding its trade in civilian nuclear technology and goods with "reliable partners"³⁷ which was not just desirable from the economic and business point of view for a capitalist system but was also feasible from the non-proliferation perspective. A commonality of vision for the promotion of civilian nuclear technology led the deal with synergic cooperation efforts from both sides.

CONCLUSION

The above factors suggest, and assure, that being different and proving one's credentials of responsibility in nuclear behaviour certainly takes more than a generation of leadership and diplomatic efforts. The requirement of continuity in foreign policy decisions and intentions along with generation of diplomatic confidence internationally are necessary. Indian nuclear diplomacy, thus, has been quite remarkably constant and mature in its approach. From strict denial to nuclear weapons in the 1950s and 1960s, the state compellingly pursued the weapons option in the face of deteriorating strategic stability in the South Asian region. However, it never compromised on its firm belief on the need for nuclear disarmament which was "unconditional and unqualified". One can observe that India took nuclear disarmament far more seriously than other states that, in due course of time, have tried diluting the spirit of the motion.

36. Manpreet Sethi, "Inputs for a Nuclear Energy Policy for India", in Jasjit Singh, ed., *Nuclear Power and Non-Proliferation: Conflict or Convergence* (New Delhi: Knowledge World, 2004), p. 81.

37. "Reliable partner" here has been referred to states like India. The term here signifies the characteristics of a prolonged non-proliferation record, responsible nuclear behaviour and absence of 'rogue state' attributes. India, even being a non-NPT which was in possession of nuclear weapons has had shown no signs of unduly exploiting the nuclear status and has continued projecting restraints and maturity. A stable government, a well established democracy and a civilisation of strategic culture qualified the state as a reliable partner the US could count on.

In the 21st century, the completion of the Indo-US Civilian Nuclear Cooperation Agreement suggests, and reassures, that in an international system, ridden with a history of cases of nuclear proliferation and illicit transfers, against the spirit and principles of the export controls and the nuclear non-proliferation regime, a country's nuclear non-proliferation record and good behaviour would be rewarded in the long run. Bad proliferation behaviour has historically received condemnation and punishment, therefore, good behaviour similarly, deserves equivalent credit and encouragement. In regard to the 2016 North Korean nuclear tests, the "hard hitting international response that the UN, along with US, South Korea, Japan"³⁸, not to exclude China, would give, proves that any serious pursuit of nuclear proliferation deserves and "has to be (in) a way to make nations pay for 'bad behaviour.'"³⁹ On similar lines, this paper on the Indian case of 'exceptionalism' has looked at the other side of the coin, that the deal, instead of being discriminating and biased, actually hails and incentivises adherence to the non-proliferation regime's norms and principles—awarding and recognising "good behaviour" with the same enthusiasm that it condemns and punishes bad behaviour with stringent sanctions and strategies of global isolation of the country.

As the meaning of 'exceptionalism' is "the condition of being different from the norm"⁴⁰, India has proved its credentials of being an exception. The four cardinal features; (a) an impeccable record of nuclear non-proliferation; (b) nuclear responsibility, as highlighted through the No First Use (NFU) doctrine and credible minimum nuclear deterrence; (c) nuclear restraint by abiding by its self-imposed moratorium on nuclear testing; and (d) constant support to nuclear disarmament since the very beginning of the nuclear age, all combine to make the Indian case worthy of winning the nuclear exceptionalism it has achieved.

38. Hina Pandey, "Analysing the Recent DPRK's Nuclear Test and China's Possible Role", available at: http://capsindia.org/files/documents/CAPS_Infocus_HP_09.pdf. Accessed on January 20, 2016.

39. Aparna Pande, "North Korea's Pakistan Connection", January 2016. Available at: <http://www.hudson.org/research/12117-north-korea-s-pakistan-connection>. Accessed on January 22, 2016.

40. "Meaning of 'Exceptionalism'," available at: <http://www.merriam-webster.com/dictionary/exceptionalism>. Accessed on September 20, 2015.

ESPIONAGE, INTELLIGENCE AND EXPLOITATION IN THE DIGITAL AGE: CONCURRENT MANIFESTATIONS OF THE CYBER ZEITGEIST

ASHISH GUPTA

Kautilya's *Arthashastra*, composed around 321 BCE, is one of the oldest and most comprehensive treatises,¹ which still acts as a signpost and a point of reference, giving pragmatic and empirical solutions to theoreticians and practitioners, on complex statecraft issues. The exhaustive and indigenous political theory propounded by Kautilya covers many tenets of statecraft including diplomacy, peace, intelligence, security, war and political economy. According to Kautilya, 'yuddh' or war was of three kinds: *Prakash-yuddha*, (open fight) at a place and time of choosing, *Kuta-yuddha* (concealed fighting) involving cunning and tactical manoeuvring in the battlefield, and *Tusnim-yuddha* (silent fighting) by using secret agents for enticement or neutralisation of the enemy.² In today's geo-political landscape, an open fight or '*Prakash-yuddha*' continues to be a conceptual possibility, if not an empirical reality in all domains of war. On the other hand, the tenets of *Kuta-yuddha* (concealed fighting) and *Tusnim-yuddha* (silent fighting), as described by Kautilya, are still visible and applicable across the

Group Captain **Ashish Gupta** is a Senior Fellow at the Centre for Air Power Studies, New Delhi.

1. P.K.Gautam, "One Hundred Years of Kautilya's Arthashastra", *IDSIA Monograph Series*, No. 20, July 2013, p.1.
2. R.P. Kangle, *The Kautilya Arthashastra, Part 3: A Study* (Delhi: Motilal Banarsidass, 2010), p.258.

In the realm of modern warfare, the conceptual expositions as well as practical applications of Kautilya's *Kuta-yuddha* and *Tusnim-yuddha* still serve as anchoring points for strategic perception management, and intelligence and counter-intelligence operations across political, economic and military dimensions.

broad spectrum of strategic manoeuvring and geo-political engagement among nations. In the realm of modern warfare, the conceptual expositions as well as practical applications of Kautilya's *Kuta-yuddha* and *Tusnim-yuddha* still serve as anchoring points for strategic perception management, and intelligence and counter-intelligence operations across political, economic and military dimensions.

The relevance of the *Arthashastra* in the present scenario is both insightful and profound. Some of the concepts propagated by Kautilya have a parallel and undeniable

resemblance with existing practices of espionage undertaken by several nation-states, either as a pretext for securing their national interests or for complying with its strategic objectives. For the advancement and achievement of the short and long-term objectives, espionage, in one form or other, has been used—deliberately, relentlessly and unrepentantly—by almost every nation-state. The practitioners of this clandestine craft undertake intelligence gathering activities across a broad spectrum of fields, construed as vital for the security, economy and military of adversaries. The professionalism and tactical value of the skills of these agent provocateurs is much sought after in peace-time and becomes almost indispensable in the times leading to, and during, a war.

The generation and processing of an unimaginable quantity of data is a manifestation of the 'cyber Zeitgeist'. For almost all agencies, organisations institutions or individuals, data from a range of sources, is a resource that can be analysed and synthesised for decision-making. Data as a resource must be protected and preserved across its life cycle. Lost and compromised data can result in financial losses, loss of confidential information and, with that, loss of credibility, functionality and operational effectiveness. The measure of criticality of data determines its ultimate importance to friends and

foes alike. The efforts to protect data are matched with incentives to access, steal or manipulate information. In effect, intelligence is the product resulting from the collection, collation, evaluation, analysis, integration, and interpretation of collected information.³

Most nations have complied with the demands of the grim imperative of cyber espionage, revamping it as an inalienable necessity and an instrument of state policy.

Intelligence in its essence pertains to the ways in which sovereign powers create, exploit, and protect secret advantages against other sovereignties. Sovereignty, of course, need not be a modern state; it also comprises “non-state actors” who have the will and the means to use force to control territory, resources, and other people.⁴ The systematic institutionalisation of cyber espionage and associated clandestine activities to garner, analyse and synthesise data has emerged as a new discipline or set of disciplines, combining traditional intelligence methods with new and sophisticated technical approaches.

The systematic institutionalisation of cyber espionage and associated clandestine activities to garner, analyse and synthesise data has emerged as a new discipline or set of disciplines.

EVOLUTION OF INFORMATION GATHERING IN CYBER SPACE

In the practice of the craft of intelligence gathering, some tools, techniques and methodologies have remained free from the political, cultural, temporal and spatial imperatives, while some have evolved into distinctively different forms, necessitated by the changed characteristics of the targets, types of information and the evolving intent. All humans are endowed with intelligence and memory along with social, emotional and cognitive vulnerabilities and are likely to unwittingly or otherwise succumb to the temptations of power, greed and ambition. The elicitation of intelligence from human sources has been used across the expanse of history. Human

3. National Security Decision Directive 298, *The National Operations Security Program: Compendium of OPSEC Terms*, Greenbelt, MD: IOSS, (1991).

4. Michael Warner, *The Rise and Fall of Intelligence: An International Security History* (Georgetown: Georgetown University Press, 2014), p.2.

Intelligence (HUMINT) is the most common and highly effective method used for espionage. HUMINT is defined as “a category of intelligence derived from information collected and provided by human sources.”⁵ Intelligence agencies have refined the art of exploiting people, using cyber space in general and the social media in particular, by intimidation, allurements or fraudulent means in garnering critical intelligence.

The intelligence gathering process involving visual clues, pictures and images collected, collated and analysed during a specific time period is an effective and result oriented methodology. For a battlefield commander, real time visual clues provide ‘real time situational awareness’—the holy grail of intelligence. During the American Civil War, the Union Army used hot air balloons for observation and photography.⁶ The Germans experimented with both kites and rockets as platforms in the late 1800s.⁷ With the advent of flight, aerial photography became an integral part of the information and intelligence gathering processes. The evolution of some of the finest flying machines such as the Lockheed U-2, Lockheed SR-71 “Blackbird” and MiG-25 is largely attributable to the accordances of extreme relevance of, and importance given to, Imagery Intelligence (IMINT) during times of both peace and war. With satellites and Unmanned Aerial Vehicles (UAV), the aerial intelligence acquisition techniques have transformed to a new level. Basic satellite imagery can now be easily accessed by the click of a mouse using Google Maps and Google World.

In the annals of history, cryptography and espionage may have their genesis in the same time period. From a humble beginning during the Roman period, the renaissance and resurrection of cryptography in the form of complex codes and ciphers is mainly attributable to French and Italian cryptographers in the 1500s.⁸ In early 1917, the deciphering of a German encoded telegram, often referred to as the “Zimmerman Telegram”,

5. US Military Intelligence Handbook, *Strategic information, Procedure and Developments* (Washington: International Business Publications, 2011), p.249.

6. J.K. Petersen, *Handbook of Surveillance Technologies, Third Edition* (New York: CRC Press, 2012), p.571.

7. *Ibid.*, p.569.

8. Will Gragido, and John Pirc, *Cybercrime and Espionage: An Analysis of Subversive Multi-Vector Threats* (Burlington: Elsevier, 2011), p.111.

changed the course of the war. The “Zimmerman Telegram” was a secret communication from the Foreign Secretary of the German Empire, Arthur Zimmerman, to the German ambassador to make an offer to Mexico for it to join the German cause and, in return, to reclaim the territory of New Mexico, Texas, and Arizona from the United States. Until that point, the United States saw the war largely as a European affair and attempted to remain neutral. On being informed about the contents of the telegram, the US officially declared war against Germany and its allies on April 6, 1917.⁹

During World War II, Arthur Scherbius invented the ‘Enigma’, an ingenious electro-mechanical machine for encryption and decryption.¹⁰ The Enigma had several rotors and gears which could be arranged in numerous configurations, making it virtually unbreakable with brute force methods. The claim of ‘*unbreakability* of encryptions’ provided by Enigma made German operators over-confident about their ability to encrypt secret messages. To break the innumerable key combinations of Enigma, Alan Turing designed and used the first electronic computer which helped in “deciphering the Enigma code”. The German over-confidence and over-reliance on Enigma during the course of the war was exploited to the hilt by the Allied cryptographers.¹¹ For code breaking or cryptanalysis, the signals or messages transiting between people (e.g. Communications Intelligence or COMINT) or between machines or networks (e.g. Electronic Communication or ELINT) or a combination of the two need to be intercepted, collated and analysed.

Cryptologic encryption has become almost a standard requirement for the privacy of electronic mail, secure-commerce transactions and the digital economy. End-to-end encryption ensures that the data in any conceivable form are encrypted in transit and in storage, and the key to decrypt these is available only with those communicating mutually. To counter these, the governments of some countries, such as the US, are trying to force the tech companies to provide ‘back doors’ within the encryption schemes to facilitate

9. Thomas Boghardt, *The Zimmermann Telegram: Intelligence, Diplomacy, and America's Entry Into World War I* (Maryland: Naval Institute Press, 2012), p.31.

10. Miloslav Dusek, Norbert Lutkenhaus and Martin Hendrych, *Quantum Cryptology Progress in Optics, Volume 49* (Amsterdam: Elsevier, 2006), p. 385.

11. *Ibid.*

privileged access to the law enforcement and secret services agencies. After the San Bernardino shooting, on December 9, 2015, the Federal Bureau of Investigation (FBI) Director James B. Comey, while making a statement before the Senate Judiciary Committee, brought out that the Islamic State in Syria (ISIS) is increasingly using encrypted private messaging platforms. He said, “This real and growing gap, which the FBI refers to as ‘Going Dark’, we believe, it must be addressed, since the resulting risks are grave in both traditional criminal matters as well as in national security matters.” He further commented that the US government is trying to ensure that the private players who own and operate these platforms – with end-to-end encryption – understand the national security risks that result from the use of their encrypted products and services by malicious actors. Though there is no legislating obligation upon these companies, the companies are being asked to cooperate constructively with the US government.¹²

RESEARCH IN OPEN PUBLICATIONS (OSINT)

The publicly accessible information, which can be scouted from a myriad sources, is a treasure trove of data capable of producing actionable intelligence. The initial scepticism about acquisition of intelligence from non-classified and open sources has given way to acceptance of this form of intelligence gathering, as a mainstay of intelligence operations. Tools and methodologies are being evolved within the national security apparatus on how to use information *gleaned from open sources*. The evolution of Open Source Intelligence (OSINT) as a mainstay of intelligence operations can be attributed to three main factors. The first is the paradigm shift in challenges from the largely state-centric security considerations of the Cold War era to the multiple threats emanating from more diverse individuals, groups or agencies. During the Cold War, the primary focus of the Western intelligence community was on the intentions and capabilities of the Soviet Union and its allies. Similarly, Soviet intelligence agencies

12. The US Federal Bureau of Investigation, *Oversight of the Federal Bureau of Investigation*, James B. Comey, Director, Federal Bureau of Investigation, Statement Before the Senate Judiciary Committee (Washington, D.C: December 9, 2015), <https://www.fbi.gov/news/testimony/oversight-of-the-federal-bureau-of-investigation-8>. Accessed on January 20, 2016.

were actively involved in intelligence gathering about their adversaries. The disintegration of the erstwhile USSR, emergence of a new world order and evolution of contemporary terrorism in a more dangerous and deadlier form, have given rise to many challenges for the intelligence community. The scope and range of issues to be dealt with by the intelligence agencies have spiralled to unprecedented levels. Terrorism, organised crime, state sponsored terrorism, home-grown terrorist organisations, proliferation of illegal weapons, rogue states, illegal immigration and energy security are the issues that keep the intelligence agencies on their toes at all times. In the wake of multifarious challenges to national security and the widening of the security agenda to non-military threats, intelligence agencies have to trawl through gathered intelligence to identify subtle and specific signatures to determine the magnitude, timing and place of conditioned responses. This, in turn, has seen a greater demand for more information and a natural progression of this is the increased reliance and utilisation of OSINT. A second driver for the growth of OSINT is technology. The emergence of the collaborative web and the presence of the ubiquitous internet have provided the security actors a new set of tools and technologies for collecting, collating, analysing, and disseminating information in a very short time.

WEB SOURCE INTELLIGENCE (WEBINT)

The ability to gather information by leveraging the power of the internet is termed as WEBINT. By using powerful web crawlers and indexing systems, it is possible to harvest just about any piece of information stored on publicly available servers. The incentives to undertake acts of cyber crime, espionage, subversion and sabotage are only limited by the ingenuity, dexterity and technological capabilities possessed by hostile malevolent entities. The successful culmination of an espionage activity in cyber space may be a technology and capability demonstrator, a deliberate attempt to garner tangible and intangible results or a premediated design to cause severe *disruption* in the *functioning* of political, financial, social or military entities. An act of espionage in cyber space by a state may also be a manifestation of its deterrence capability. After all, credible deterrence

The cyber attackers have become more ingenious and opportunistic in their endeavours, and attack vectors and techniques have evolved in terms of lethality and consequences.

depends on communication of actions and responses in the wake of the adversaries' attempts to cross the security threshold prescribed by the state in pursuant to its stated national interests.

CYBER ESPIONAGE AND EXPLOITATION

Today, use of stealth techniques and exploits with an aim to exploit the computers and networks of various organisations and institutions, has become a menace of unparalleled proportions. Cyber crime and espionage reveal the dark underbelly of cyber space. This has given rise to an increasingly dangerous ecosystem inextricably embedded within the fabric of global cyber space. This ecosystem is teeming with inimical activities and devious enterprises, not only within existing precincts but foraging in systems beyond immediate reach. The cyber attackers have become more ingenious and opportunistic in their endeavours, and attack vectors and techniques have evolved in terms of lethality and consequences. The cyber espionage activities may also be undertaken to keep the dynamic relationship equation consistent between two rival states. The desire of a state to bring parity to the sum total of all capabilities may be the main motivation for the adoption of non-conventional means. The dedicated cyber espionage campaigns launched by China against the US may be one of the drivers for this. China tries to make up for what it lacks in conventional military means by exploiting the cyber space.

Cyber espionage activities may provoke a reaction and intensify latent hostilities. The reaction can be offensive or defensive in nature, based on the perceived tolerance threshold. Defensive actions in response to an espionage activity are generally exhaustive and, at times, are way out of proportion in terms of resources, time and manpower. In a bid to secure itself from future cyber espionage threats, the target may over-react and over-protect. In the bargain, it may lose out on opportunities the global information age has to offer. This sets in motion a vicious circle in which a substantial amount

of money is committed to clean up existing systems malware while even more money is spent for future protection. This may end up being a *'Pyrrhic victory'* as the time, money and efforts spent may not result in accruing the intended results.

CYBER ESPIONAGE BY NON-STATE ACTORS

Although nation-states tend to have larger stakes in exploitation of cyber space, non-state actors have equal motivation, though for different reasons. The use of cyber space as a potential venue for undertaking various malevolent, insidious and treacherous activities has become the order of the day. While motives may vary from one hacker to the next, the objective is consistent with the goal of exploiting the cyber space for malicious intents. Financial gains, espionage, ephemeral fame, nefarious notoriety, entertainment, hacktivism, terrorism or misplaced sense of patriotism are some of the drivers which propel hackers into the murky world of cyber crime. Motivation for making money rules the roost, closely followed by corporate espionage activities. The hacking skills acquired by individuals are much sought after and there is an increasing demand for their services for industrial espionage, *intellectual property thefts*, financial frauds and monetary misappropriation.

Cyber criminals and cyber espionage operators have evolved a myriad attack techniques with ever-increasing lethality and sophistication commensurate with their evolving expertise and experience. A cyber criminal gains currency in a small, exclusive and secretive community, based on the success, quantum and frequency of his exploits. The success of such exploits largely depends on the understanding of the system architecture, network transmission protocols, exploitation of associated vulnerabilities, malicious codes and content exploits. The understanding of almost every aspect of human fallibility and frailty also assists them in their nefarious endeavours.

Cyber criminals and cyber espionage operators have evolved a myriad attack techniques with ever-increasing lethality and sophistication commensurate with their evolving expertise and experience.

ZERO DAY VULNERABILITY EXPLOITATION

In recent times, the vulnerability quotient due to espionage activities in cyber space has gone up many notches. A direct ramification of this is a burgeoning market offering services, tools and technologies facilitating credible and potent espionage activities. The spirit of entrepreneurship has caught up with computer geeks, who have the proven prowess in exploiting cyber vulnerabilities, and no qualms in offering their services to the highest bidder. These espionage activities in cyber space may threaten the economy and national security and well-being of people.

The mother of all malicious programmes and bugs is the “zero day exploit”. In a zero day exploit, the creation of the exploit is concomitant with the knowledge of vulnerability before, or on the same day. By creating a virus or bug that takes advantage of a vulnerability not known to the vendor and without a security patch, the attacker can inflict debilitating damage on unsuspecting victims. On an average, zero day vulnerability remains unknown to the affected software vendor and its users for an average of 312 days.¹³

In the recent past, software vendors and security researchers have been caught up in an animated debate on the issue of ethicality, legality and desirability of disclosing vulnerability information. The dichotomous dilemma of making the information public, on the one hand, may allow all the affected parties to carry out risk assessment while, on the other, the information will also be available for exploitation. The dependence of society on information technology has transformed the knowledge about security vulnerabilities, a highly prized and valuable asset. An ethical security researcher may seek monetary compensation for the time spent uncovering vulnerabilities. However, reporting vulnerabilities for seeking compensation might be viewed as akin to extortion by the vendor. On the other hand, cyber criminals, with no ethical considerations, are willing to pay a substantial amount for suitable vulnerability information. The market for sale and purchase of vulnerabilities has evolved from its nascent stage,

13. Krebssecurity, “How Many Zero Days Hit You Today? ”, <http://krebsonsecurity.com/2013/12/how-many-zero-days-hit-you-today/>. Accessed on May 1, 2016.

operating from dark and isolated alleys under the shroud of anonymity, to commercial service offerings with legitimacy.

Vulnerability Purchase Programmes

Traditionally, the primary players in the commercial vulnerability market have been iDefense, which started its Vulnerability Contributor Programme (VCP)¹⁴ in 2002 and TippingPoint, which started its Zero Day Initiative (ZDI)¹⁵ in 2005. In a bid to show their ethical intents, both vendors publicly disclosed their vulnerability handling services and policies. The VCP and ZDI programmes typically purchase vulnerability information to protect customers before the vulnerability becomes public knowledge, subsequently informing the vendor of the affected software. The VCP and ZDI programmes entreat security researchers to accept lower compensation with the assurance that the information would not be used with malicious intent. Upon acquiring a vulnerability, both programmes provide detailed technical information on the vulnerability and on the timeline from its initial purchase through publication. Under the VCP and ZDI programmes, the two companies together had purchased 2,392 vulnerabilities till September 23, 2013.

Bug Bounty Programmes

In order to bring in resilience to their products, a number of software vendors have embarked on 'Bug Bounty Programmes'. Under this programme, a finder can directly report a vulnerability to the software vendor and is monetarily compensated by the vendor. This incentive may discourage a finder going public with the vulnerability information or selling it to an unscrupulous person. It was first introduced by the Mozilla Foundation and since then, Google, Facebook, PayPal and others have followed suit. Microsoft, which vehemently opposed such a system, finally succumbed to commercial and security imperatives and introduced its bug bounty programme.

14. "VeriSign iDefense Threat Intelligence Services Overview", <https://www.verisign.com/static/031415.pdf>. Accessed on May 1, 2016.

15. "Why Did We Create the Zero Day Initiative?", <http://www.zerodayinitiative.com/about/>. Accessed on May 1, 2016.

- Under the bug bounty programme, Google, on January 28, 2016, announced that it had paid more than US \$ 2 million to security researchers in the year 2015. Since the launch of the programme in 2010, the company had paid more than US \$ 6 million, with the largest single payment of US \$ 37,500 to an Android security researcher.¹⁶
- Mozilla, in the last three years, has paid approximately US \$ 570,00 for the knowledge of 190 vulnerabilities which were discovered in the Firefox browser.
- Facebook has paid out a whopping US \$ 4.3 million since it introduced its bug bounty programme in 2011 to more than 800 researchers around the world.¹⁷
- Microsoft has paid to the tune of US \$ 100,000 from June 2013 onwards, when it decided to become part of the bug bounty programme. On October 8, 2013, it awarded US \$ 100,000 to James Forshaw (the head of vulnerability research at Context Information Security) for discovering a new type of mitigation bypass technique that could potentially threaten the security and integrity of its latest version of Windows operating system.¹⁸

The cost benefit accrued by the bug bounty programme is much higher than the cost of hiring full-time security researchers to locate bugs internally. Bug bounty programmes help software vendors to plug in the security loopholes which otherwise have the potential to be exploited offensively. It also hastens the action towards remedy of vulnerabilities reported through a bug bounty programme.

Most nation-states are leveraging cyber warfare techniques either with hostile intent or for the protection of their Critical Information Infrastructure (CII). In the recent past, the budget outlays and spending to acquire capabilities

16. Google Security Rewards - 2015 Year in Review, "Google Security Blog", <https://security.googleblog.com/2016/01/google-security-rewards-2015-year-in.html>. Accessed on May 1, 2016.

17. "2015 Highlights: Less Low-Hanging Fruit," Facebook Bug Bounty, <https://www.facebook.com/BugBounty/>. Accessed on May 1, 2016.

18. "Microsoft-Pay-Out-First-100000-Bug-Bounty", available on <http://nakedsecurity.sophos.com/2013/10/09>. Accessed on May 1, 2016.

for waging cyber war have increased manifold. While unethical hackers and even criminal organisations have limited resources and have to operate within the confines of shoe-string budgets, a nation-state's cyber warfare assets have plenteous resources and immunity from prosecution. In order to stay a step ahead of potential adversaries, it is not uncommon for nation-states to purchase vulnerabilities for exploitation. The US government, for example, is an enthusiastic buyer, with the National Security Agency (NSA) devoting US \$ 25.1 million to "covert purchases of software vulnerabilities" from private vendors during the fiscal year 2013. This would enable it to acquire an estimated minimum of 100 to 625 exploits based on the present going rate.¹⁹ Other countries are also big spenders when it comes to acquiring exploits.

The year 2009 was a defining year which marked the arrival of the first true cyber weapon, the "Stuxnet". A complex computer worm was developed with the specific objective to decommission uranium enrichment facilities in Natanz in Iran. It is believed that the perpetrators used four zero day security vulnerabilities to spread around Microsoft's Windows operating system. After detailed study, Microsoft admitted that the attackers initially exploited the old MS08-067 vulnerability which was a remote code execution vulnerability. Successful exploitation of this vulnerability enables the attacker to take complete control of an affected system remotely.²⁰ A new LNK (Windows Shortcut) flaw was used to launch the exploit code on vulnerable Windows systems and a zero day bug to exploit the print spooler vulnerability (this vulnerability was leveraged to propagate and affect systems connected to the affected machine's network).

Presently, a number of new entrants are offering services ranging from vulnerability feed, penetration testing to vulnerability and security assessment. Among them are Exodus Intelligence and Netragard in the US, Vupen in France, Revuln in Malta and Telus in Canada. In fact, Vupen openly offers sales of "exclusive and extremely sophisticated zero days

19. Stefan Frei, "The Known Unknowns : Empirical Analysis of Publicly Unknown Security Vulnerabilities", NSS Labs, p.14.

20. "Vulnerability in Server Service Could Allow Remote Code Execution", <http://support.microsoft.com /kb/958644 MS08-067>. Accessed on May 1, 2016.

Big software vendors will leave no stone unturned to plug these vulnerabilities either by internal evaluation or by purchase from vendors under the bug bounty programme.

for offensive security". It also advertises that it offers government-grade zero day exploits which could be used by law enforcement agencies and the intelligence community in furtherance of their offensive cyber missions and operations. These companies are hunting with the hounds and running with the hares with an aim to make money by leveraging the fear factor emanating from concerns among companies and organisations about the security of their systems as well as by selling the zero day exploits to the highest bidder.

On any given day, a number of vulnerabilities are privately known. Out of these, it can be safely assumed that a substantial number are exploitable. These vulnerabilities and exploits are being purchased with equal gusto by cyber criminals as well as by government agencies. Big software vendors will leave no stone unturned to plug these vulnerabilities either by internal evaluation or by purchase from vendors under the bug bounty programme. This has added a new dimension to an already complex issue of cyber espionage and exploitation.

LARGE-SCALE SURVEILLANCE PROGRAMMES

The *governments of some of powerful nations*, such as the US and China have embarked on an organised, state sponsored but publicly denied surveillance programme, in effect, *trampling 'the human right of privacy' with impunity*. Such acts often lead to a dichotomy between the government's overt assertion of human rights and covert sponsoring of mass surveillance on its own citizens.

US Surveillance State

In one of the earlier such attempts, under the US-UK Security Agreement, the five signatory nations namely, Australia, Canada, New Zealand, the UK and the US became part of the Signals Intelligence (SIGINT)

collection and analysis network, code-named "Echelon". With the objective of monitoring the communications of the erstwhile USSR and its allies in the 1960s, the Echelon carried out interception and eavesdropping on voice and data communication over commercial satellites. With the arrival of the ubiquitous internet, the electronic communication was largely being transmitted through this new medium. In order to monitor the traffic going to and from a suspicious target, in the late 1990s, the US FBI came up with the "Carnivore" programme. The fruition of the programme saw the attachment of a device at the Internet Service Provider (ISP) of the target facilitating filtering and recording of all inbound and outbound traffic.²¹ Under much public outcry, the programme was abandoned in 2001, only to metamorphose into commercially available devices. Still trying to make strides in the field of mass surveillance,²² the FBI developed the "Magic Lantern" technology which allowed installation of powerful software on a remote machine, transmitted through an exploit or a Trojan horse via a seemingly innocuous yet extremely malicious e-mail.²³ Once installed, the software would begin to record every keystroke made on the compromised machine. In the year 2002, the existence of the Magic Lantern programme was confirmed by the FBI, however, with the equally implausible statement of denial of its deployment ever.

Tone and Tenor of Mass Surveillance after 9/11

The American psyche, lacerated with hurt, clouded with anger and ripe with distrust, scepticism, alienation and self-criticism in the aftermath of the September 11 attacks in 2001, was malleable to the acceptance of

21. Talitha Nabbali, and Mark Perry. "Going for the Throat: Carnivore in an Echelon World—Part I." *Computer Law & Security Review* 19.6, 2003, pp. 456-467.

22. Ted Bridis, "FBI Develops Eavesdropping Tools", Centre for Research on Globalisation (CRG), November 23, 2001, <http://globalresearch.ca/articles/BRI111A.html>. Accessed on April 23, 2016.

23. Ibid.

some harsh steps. The resolve to negate the possibility of future attacks of such magnitude paved the way for the enactment of many laws granting sweeping powers to government agencies to undertake mass surveillance such as the Patriot Act, Protect America Act and FISA (Foreign Surveillance Act) Amendments Act. Under the Protect America Act, the mandatory requirement of a warrant for government surveillance of foreign targets was removed.²⁴ Under the FISA Amendments Act, some of the original FISA court requirements were dispensed with.²⁵ The US National Security Agency (NSA) and its international collaborative partners went into overdrive to bring every US citizen and all possible foreign nationals, even without any significant interest in US affairs, under the surveillance net. However, some in investigative journalism got wind of what the government agencies were up to. In November 2010, WikiLeaks and five major news journals, namely, *El País* of Spain, *Le Monde* of France, *Der Spiegel* of Germany, *The Guardian* of the United Kingdom and *The New York Times* of the United States began publishing leaked US State Department diplomatic “cables” simultaneously.²⁶ Other documents of classified nature which were leaked to the public domain included the Afghan War documents, Iraq War documents and the Guantanamo Bay files leak. However, to witness the mother of all leaks, the world had to wait till June 6, 2013, when the British newspaper *The Guardian* began publishing a series of revelations made available by Edward Snowden, an ex-NSA-contracted systems analyst. Snowden, acting as a whistleblower, came in contact with two journalists, Glenn Greenwald and Laura Poitras, and provided them a cache of around

-
24. 107th Congress (2001-2002), “H.R.3162 - Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act of 2001”, <https://www.congress.gov/bill/107th-congress/house-bill/3162>. Accessed on April 23, 2016.
25. 110th Congress (2007-2008), “H.R.3773 - FISA Amendments Act of 2008”, <https://www.congress.gov/bill/110th-congress/house-bill/3773?q=%7B%22search%22%3A%5B%22FISA+Amendments+Act%22%5D%7D&resultIndex=1>. Accessed on April 23, 2016.
26. Nick Davies, “Afghanistan War Logs: Story Behind Biggest Leak in Intelligence History”, *The Guardian*, July 25, 2010, <http://www.theguardian.com/world/2010/jul/25/wikileaks-war-logs-back-story>. Accessed on April 23, 2016.

15,000–20,000 documents.²⁷ The Snowden revelations made it amply clear that the NSA was operating a complex and intricate network of spying programmes intercepting internet and telephone conversations from over a billion users around the world.

Snowden's act was criticised and applauded in equal measure from various quarters. NSA Director General Keith Alexander in a swift and acerbic statement blamed Snowden for causing "irreversible damage" to the US.²⁸ The Senate Intelligence Committee Chair Dianne Feinstein described Snowden's action as treasonous. The process to indict Snowden on charges of espionage and treason was initiated. However, some saw the situation from a different vantage point. Former Vice President Al Gore viewed the NSA surveillance as violation of the Fourth Amendment (Amendment IV) to the United States Constitution.²⁹

The Snowden revelations have triggered a dichotomous debate over the issue of accountability and the value of privacy. There is a perceptible shift in opinion in many parts of the world over not succumbing to the "*Orwellian doublespeak*" of the high and mighty. Besides, there is a resurgence of resolve and renewed vigour among mainstream media to sensitise the public on key issues that may have been deliberately kept out of the public domain. However, the Snowden disclosures have not firmed up the resolve of an overwhelming majority of countries to respond in any tangible measure. If we look closely and dissect through the layers of protests in the form of representations, governmental inquiries and media coverage, the collective measures for prevention and mitigation of such occurrences were largely insignificant. The small numbers of reforms that have been adopted by governments appear to lack the necessary drive to set up an institutionalised

27. Glenn Greenwald, Ewen MacAskill and Laura Poitras, "Edward Snowden: The Whistleblower Behind the NSA Surveillance Revelations", *The Guardian*, June 11, 2013, <http://www.theguardian.com/world/2013/jun/09/edward-snowden-nsa-whistleblower-surveillance>. Accessed on April 23, 2016.

28. Spencer Ackerman and Dominic Rushe, "NSA Director: Edward Snowden has Caused Irreversible Damage to US", *The Guardian*, June 17, 2013, <http://www.theguardian.com/world/2013/jun/23/nsa-director-snowden-hong-kong>. Accessed on April 23, 2016.

29. Suzanne Goldenberg, "Al Gore: NSA's Secret Surveillance Program 'Not Really the American Way'", *The Guardian*, June 14, 2013, <http://www.theguardian.com/world/2013/jun/14/al-gore-nsa-surveillance-unamerican>. Accessed on April 23, 2016.

international system with provisions for prosecution and punitive actions to act as deterrence.

China's Quest for Mass Surveillance

The Communist Party of China, while being weary of the implications of the legitimacy of its unrestricted online access to information, has enthusiastically promoted the use of the internet as an inalienable part of its quest for global hegemony, economic growth and orchestration of its technical prowess. China views the internet as a fertile ecosystem that germinates, fosters, nurtures, and engenders political dissent, detrimental social activities and societal unrests. To counter this, China has an aggressive and multi-faceted online censorship system, commonly known as the Great Firewall. After viewing the contents on the internet through the prism of its own contentious policies and cultural interests, the censorship apparatus filters or blocks access to online material deemed dangerous to the state.

The Chinese leadership has, for long, had an ambivalent relationship with the internet. During the Arab Spring in early 2011, China bolstered its censorship bureaucracy, reportedly creating a new office under the State Council Information Office to “regulate every corner of the nation’s vast internet community,”³⁰ However, confinement within the precinct of the Great Firewall has given an impetus to an evolving and thriving Chinese online ecosystem, *driven, sustained and perpetuated by indigenous innovation, enterprise and entrepreneurship*. Beijing’s efforts to alienate its citizens from the global net has paved the way for home-grown companies to cater to the online requirements and needs of 1.3 billion people in their societal interactions, financial transactions, knowledge exploration, online resource exploitation and a myriad other services. The internet’s ubiquitous and totemic icons—Google, Wikipedia, Twitter, YouTube, Facebook, Instagram — are under the censorship of the ruling Communist Party due to the fears of fanning the flames of anti-government sentiments. In the absence of a competitive environment, Chinese home grown companies are thriving and

30. Scott J. Shackelford, *Managing Cyber Attacks in International Law, Business, and Relations: In Search of Cyber Peace* (New York: Cambridge University Press, 2014).

have garnered market *capitalisation*, even exceeding that of their foreign counterparts whom they emulate.

At the helm of the Chinese online oppression against free speech and tyrannical censorship is China's new internet czar Lu Wei who took over the State Internet Information Office in 2013 and became the director of a powerful Internet Committee headed by President Xi Jinping in 2014.³¹ While unrepentantly defending China's need for stronger internet content control, he has issued new regulations restricting sharing on social media sites and increasing censorship of popular online video sites. In a response over such controls, Lu Wei said "The internet is like a car. If it has no brakes, it doesn't matter how fast the car is capable of traveling, once it gets on the highway you can imagine what the end result will be."³²

The home-grown Chinese firms have ensured that most of the Chinese incarcerated behind the Great Firewall are not deprived of online experiences and services unless they want to voice their political dissent online. Adherence to Chinese government regulations and sticking to Chinese sites is rewarded with sufficiently high speeds and reasonable access charges. In the first quarter of 2015, the total transaction value of China's e-commerce market exceeded US\$ 567.49 billion, an increase of 10.1 percent on a *year-over-year* basis.³³ As of December 31, 2014, the top five listed Chinese internet companies by market value were Alibaba (US \$253.41 billion), Tencent (US\$135.50 billion), Baidu (US\$80.32 billion), Jingdong (US\$31.52 billion) and Netease (US \$ 13.01 billion). In September last year, e-commerce king Alibaba scored the largest Initial Public Offer (IPO) in Wall Street history. Tencent, the designer of the messaging company WeChat, has a market capital more than that of IBM. As a hybrid of Twitter and Facebook, Sina Weibo has emerged as the most popular Chinese microblogging website with a market penetration comparable to that of Twitter.

31. Paul Mozur and Jane Perlez, "Gregarious and Direct: China's Web Doorkeeper," *New York Times*, December 2, 2014, http://www.nytimes.com/2014/12/02/world/asia/gregarious-and-direct-chinas-web-doorkeeper.html?_r=0. Accessed on July 21, 2015.

32. David Bandurski "Lu Wei: The Internet Must Have Brakes," *China Media Project*, November 11, 2014, at [http://cmp.hku.hk/2014/09/11/36011/ Lu Wei: the internet must have brakes](http://cmp.hku.hk/2014/09/11/36011/Lu%20Wei%3A%20the%20internet%20must%20have%20brakes). Accessed on July 21, 2015.

33. Cecilia, "China E-commerce Market in Q1 2015," *China Internet Watch*, July 16, 2015, at <http://www.chinainternetwatch.com/13430/e-commerce-marketq1-2015/>. Accessed on April 21, 2016.

The Chinese internet strategy, aimed at containing the simmering political dissent, has a much more sinister dimension to it.

In its infancy, the internet shook the very foundation of sovereignty as propagated by the dominant ‘Westphalian conceptions’. The belief that the internet’s *transcendence* of physical boundaries would render it immune to *oppressive regulatory regimes* has given way to acceptance of the fact that a determined state with technical underpinnings can regulate and control the internet. The Chinese internet strategy, aimed at containing the simmering political dissent, has a much more sinister dimension to it. Chinese state-backed hackers have been accused of cyber espionage. A recent report made public by Fireeye Labs, a company that provides cyber security solutions, examination of malware aimed predominantly at entities in Southeast Asia and India, revealed a decade-long operation focussed on targets—government and commercial—that hold key political, economic and military information about the region. The planned development efforts aimed at regional targets and missions made the lab believe that this activity was state sponsored—most likely by the Chinese government.³⁴

China is also determined to extend its oppressive regime beyond its borders. In the cyber lexicon repository, the term “Great Cannon” has been added alongside “Great Firewall”, christening a new tool for censorship developed by China. When used offensively, this ability can turn a normal internet user into a vector of attack. In one such case, the Great Cannon intercepted traffic sent to Baidu infrastructure servers returned a malicious script, unwittingly enlisting the web surfer in the hacking campaign against foreign websites that have helped the circumventing of the Chinese censorship.³⁵

34. Fireeye Labs. “APT30 and the Mechanics of a Long-Running Cyber Espionage Operation: How a Cyber Threat Group Exploited Governments and Commercial Entities across Southeast Asia and India for over a Decade”, <https://www2.fireeye.com/rs/fireeye/images/rpt-apt30.pdf>. Accessed on April 21, 2016.

35. Alex Hern, “‘Great Cannon of China’ Turns Internet Users into Weapon of Cyberwar,” *The Guardian*, April 13, 2015 at <http://www.theguardian.com/technology/2015/apr/13/great-cannon-china-internet-users-weapon-cyberwar>. Accessed on April 21, 2016.

CONCLUSION

In the context of cyber espionage and surveillance, the mission preparedness and befitting response depend on 'early warning' of potential malevolent events and the 'motivation and resources' of an adversary. For the process to be meaningful and result oriented, it is imperative to have situation specific and contextual knowledge, discerning disposition and homogenised actions. The information and intelligence garnered through the infrastructure of surveillance and communication systems that support effective decision-making is a culmination of training efforts, experience and technical sophistication. These qualities, either acquired through training or accumulated with experience, coupled with intuitive ingenuity and intuitional perceptions, make surveillance in cyber space a widely used and useful construct.

Its scope, magnitude and implications are limited only by the ingenuity and intent of the perpetrators and the technological advancement.

The constant evolution of cyber threats is a cold hard reality which will continue to cause cataclysmic upheavals in the cyber landscape. Its scope, magnitude and implications are limited only by the ingenuity and intent of the perpetrators and the technological advancement. The most traditional information security programmes are repeatedly circumvented with impunity. Nations around the world are in a race to develop, consolidate and refine cyber warfare capabilities. To mitigate the associated risks, organisations need to evolve their current surveillance capabilities and augment these with positional and temporal accuracies by using technological innovations with persistent reconnaissance to produce timely and actionable intelligence.

INDIA'S MEMBERSHIP IN THE SHANGHAI COOPERATION ORGANISATION: OPPORTUNITIES AND CHALLENGES

POONAM MANN

Our summit today has opened a new page in the history of SCO development. For the first time since its establishment, we have launched a procedure for admitting new members – India and Pakistan...

— Vladimir Putin¹

Over the past decade, India has been articulating its desire consistently to get full membership in the Shanghai Cooperation Organisation (SCO). This aspiration is largely based on India's quest for playing an active role in its extended neighbourhood, on the one hand, and a pivotal role in

Dr. **Poonam Mann** is a Research Intern at the Centre for Air Power Studies, New Delhi.

1. "SCO Heads of State Council Meeting", July 10, 2015 at <http://en.sco-russia.ru/transcripts/20150710/1013634475.html>. Accessed on April 13, 2016.

“If India was offered full membership, it would bring its rich experience of multilateral diplomacy into the SCO”. India has played a very productive role in organisations like the Non-Aligned Movement (NAM) of which it was a founder member. Similarly, the Indian experience in combating religious extremism and terrorism can be a valuable input for the SCO.

maintaining the Asian balance of power, on the other.² Finally, the Ufa Summit of the SCO, in Russia, on July 10, 2015, approved India's candidature as a full member. On completion of certain procedural formalities, its membership would come into effect from June 2016.³ It has taken a long ten years for India to traverse the path from observer status to full membership. In the present study, an attempt has been made to critically evaluate the space that India may get in both manoeuvring and easing the possible obstacles.

BACKGROUND

The Shanghai Cooperation Organisation (SCO), grew out of the “Shanghai Five” mechanism, following the admission of Uzbekistan in 2001. The Shanghai Five was founded in 1996 by China, Russia, Kazakhstan, Kyrgyzstan and Tajikistan to demarcate and demilitarise the borders between China and the new post-Soviet republics, as well as to introduce confidence-building measures. The first summit of heads of states in 1996 initiated the talks about the peaceful resolution of border disputes that culminated in an

2. “In the period since the collapse of the cold war bipolar world, there has been a trend towards consolidation and expansion of the existing regional groupings and the formation of several new ones. Examples include the emergence of the European Union (EU) from the former European Communities, the creation of the North American Free Trade Area (NAFTA), the activation and expansion of the Asia-Pacific Economic Cooperation (APEC) Group, the expansion of the Association of Southeast Asian Nations (ASEAN) and moves to further develop the ASEAN Regional Forum (ARF) and the ASEAN Free Trade Area (AFTA), the Shanghai Cooperation Organization (SCO), the Conference on Interaction and Confidence building in Asia (CICA), etc. India is seeking new partnerships with these regional organizations in its extended neighborhood as a part of its vision of a larger role in Asia.” See Swaran Singh, “India and Regionalism,” in Alyson J.K.Bailes, et.al., *Regionalism in South Asian Diplomacy*, SIPRI Policy Paper No. 15, February 2007, pp. 33-34..
3. “India, Pakistan Membership in SCO to be Finalised in 2016: Russia,” www.dnaindia.com/world/report-India-Pakistan-membership-in-sco-to-be-finalised-in-2016-russia-2102491. Accessed on April 13, 2016.

agreement that helped prevent potential conflicts along the borders among the five countries and introduced security and stability in the relationship between China and other member countries. This, in 1997, was followed by the Agreement on Mutual Reduction of Military Forces in the border areas. These documents laid out a comprehensive and meaningful initiative concerning military restraint and transparency along the shared borders of the five states.⁴

Economic cooperation has been an integral component of the SCO's agenda. The 2003 Multilateral Trade and Economic Cooperation Programme defined the basic goals and objectives for economic cooperation within the SCO framework.

It was not until 2001, however, with the formation of the SCO, that this initiative was transformed into something more substantial. Uzbekistan became a full member,⁵ and the organisation assumed broader and more extensive functions. The signing of the Founding Declaration of the SCO on June 15, 2001, provided the first formal institutionalisation of the organisation,⁶ as the declaration stated,

...the goals of the Shanghai Cooperation Organisation are: to strengthen mutual trust, friendship and good neighbourliness between the member-states; to encourage effective cooperation between them in the political, trade and economic, scientific and technical, cultural and educational, energy transport, environmental and other spheres; and to undertake joint efforts for the maintenance of peace, security and stability in the region, and

4. Qinggo Jia, "The Success of the Shanghai Five: Interests, Norms and Pragmatism," <http://www.comw.org/cmp/fulltext/0110jia.htm>. Accessed on April 18, 2016.

5. It is believed that the Tashkent bombings in 1999 and other attacks by the Islamic Movement of Uzbekistan (IMU), in Uzbekistan, and increased activities of the Taliban in neighbouring Afghanistan, gave an impetus to Uzbekistan to secure its position by joining the five and, thus, establishing the Shanghai Cooperation Organisation in June 2001. See, Marina Sorkina, "Shanghai Cooperation Organisation – Geopolitics at the Crossroads of Eurasia," lib.ugent.be/fulltext/RUGOI/001/458/358/RUGOI-001458-385-2011-001-AC.pdf. Accessed on April 18, 2016.

6. For details, see Stephen Aris, *Eurasian Regionalism: The Shanghai Cooperation Organisation*, (Palgrave, MacMillan, 2011).

the building of a new, democratic, just and rational international political and economic order.⁷

Besides, a formal charter was signed in 2002, which set out the organisation's purpose, ethos and formal structure. It spelt out that the SCO forum would adhere to mutual respect for independence, sovereignty and territorial integrity; non-interference in each other's domestic affairs, not to use any force against each other; and, equality and consensus among members.⁸

The SCO does not seek sovereign control over its member states nor intends to impose its authority to enforce its decisions and recommendations. There is no formal codified procedure of decision-making. It works on the basis of informal discussion, and relies mainly on consensus as a decision-making mechanism.⁹ Its membership is open only to regional states, though the charter provides for cooperation with other states and international bodies too. The SCO was given observer status at the UN General Assembly and got engaged actively with other UN-related agencies. It has signed Memorandas of Understanding (MoUs) with the Secretariats of the Association of Southeast Asian Nations (ASEAN) and Eurasian Economic Community (EURASEC), and established contacts with the European Union (EU), Organisation of the Islamic Conference (OIC), and Commonwealth of Independent States (CIS).¹⁰ Further, to broaden cooperation on issues of security, crime and drug-trafficking, it has also signed an agreement with the Collective Security Treaty Organisation (CSTO).¹¹

7. "Declaration on the Establishment of the Shanghai Cooperation Organisation," at www.ehu.eu/ceinik/tratados/5C14TRATADOSDEALIANZASPOLITICOMILITARES%5CTAPM14101NG.pdf. Accessed on April 19, 2016.

8. For details, see "Charter of the Shanghai Cooperation Organisation," at <http://en.sco-russia.ru/load/1013181846>. Accessed on April 19, 2016

9. Stephen Aris, "Shanghai Cooperation Organisation: Mapping-Multilateralism in Transition No.2," at http://www.ipinst.org/wp-content/uploads/publications/ipi_e_pub_shanghai_cooperation.pdf. Accessed on April 30, 2016.

10. Jianwei Wang, "China and SCO-Towards a New Type of Interstate Relations," in Guoguang Wu and Helen Landsdowne, eds., *China Turns to Multilateralism: Foreign Policy and Regional Security* (London: Routledge, 2008), p.113.

11. P.Krishna Mohan Reddy, "Afghanistan's Political Future and the Shanghai Cooperation Organisation", in Arpita Basu and Srimanti Sarkar, eds., *The Political Future of Afghanistan: Issues and Perspectives* (New Delhi: KW Publishers Pvt. Ltd. 2016), pp. 133-134.

The Secretariat, with its headquarters in Beijing, and the Regional Anti-Terrorist Structure (RATS), headquartered in Tashkent, are the most important permanent bodies of the SCO. The Secretariat is the standing SCO administrative body that provides organisational and technical support to the activities carried out in the framework of the SCO. It provides the bureaucratic backbone to the organisation.¹² On the other hand, the primary function of RATS is to coordinate the fight against the three evils (terrorism, separatism and extremism) in a more effective way. The main functions of RATS include maintaining working contacts with the main administrative bodies of the member states, to strengthen coordination with the international organisations on matters of combating the three evil forces, draft international legal documents, gather and analyse information provided by the member-states, to create a data bank for the anti-terrorist structure and hold research conferences to exchange experiences on combating the three evil forces.¹³

To impart more substance to the SCO anti-terrorism cooperation, the member states have been engaged in military cooperation, exchange, training and joint operations since 2003.¹⁴ Since then, this has become a regular feature. Initially, these were termed as “anti-terror” exercises, but lately, military-to-military activities involving large scale war games were termed as peace missions. These exercises depict joint efforts at disrupting and defeating simulated “three evils” behaviour, such as killing or capturing hostage takers and rescuing hostages, storming buildings and surrounding places or forcing down hijacked airlines.¹⁵

These activities have helped as the military and security services of the member countries practise tactics and weapon handling, and also gain useful experience after working with other countries on planning, command and control, logistics and manoeuvres.¹⁶ However, the level of the participation of the members has been varied. Mostly, these are dominated by Russian and

12. Aris, n.6, p.24.

13. Wang, n.10, p.112

14. At the Moscow Summit in May 2003, the SCO defence ministers signed a memorandum on joint military exercises to be carried out in autumn 2003. Ibid

15. Julie Boland, *Ten Years of the Shanghai Cooperation Organisation: A Lost Decade? A Partner for the U.S?*, 21st Century Defence Initiative Policy Paper, Brookings, June 2011, p.11

16. Ibid.

Chinese troops, with Kazakhstan playing a notable role, while Kyrgyzstan and Tajikistan have minor roles. Uzbekistan—traditionally against any involvement in multilateral military formats—usually declines to take part.¹⁷

Economic cooperation has been an integral component of the SCO's agenda. The 2003 Multilateral Trade and Economic Cooperation Programme defined the basic goals and objectives for economic cooperation within the SCO framework. This included working toward the free movement of goods, services, capital and technology by 2020.¹⁸ A follow-up plan with 100 specific actions was signed in 2004 and the evolution from security to trade was further enhanced in 2005, when the SCO agreed to prioritise joint energy projects, including in the oil and gas sectors, the exploration of new hydrocarbon reserves and joint use of water resources.¹⁹ With an aim to foster direct contact between the institutions and businessmen of its member states, and contribute to the implementation of the SCO projects, the SCO Business Council was created in 2006.²⁰ Also, the SCO-Interbank Association was established, which is a banking institution of six countries that, at its own discretion, determines the feasibility of projects based on the generally accepted banking standards.²¹

Further, transport is a crucial factor for the development of regional economic cooperation. Therefore, transport corridors – air, rail and road—are being developed. Projected routes (some already under construction) include motorways from China to the Persian Gulf and from Russia to India. The most ambitious project is the E-40 highway, connecting Western Europe through Russia and Central Asia to China. Trans-continental high speed rail links are also planned. The financing for these enterprises is being provided by China, the SCO Inter-Bank Consortium and international financial institutions like the Asian Development Bank (ADB), European Bank for Reconstruction and

17. Aris, n.6.

18. "Shanghai Cooperation Organisation," <https://aric.adb.org/initiative/shanghai-cooperation-organisation>. Accessed on May 5, 2016.

19. Chris Devonshire-Ellis, "The Shanghai Cooperation Organisation's Growing Trade Influence," <http://www.2point6billion.com/news/2010/11/10/the-shanghai-cooperation-organisations-growing-trade-influence-7957.html>. Accessed on May 3, 2016.

20. Aris, n.6, p.30.

21. *Ibid.*

Development (EBRD) and Russo-Kazakh Eurasian Development Bank.²²

Cooperation in the energy sector is another important area for the SCO countries. The SCO comprises both countries that are big energy producers and importers. Therefore, it makes them internally dependent on each other, and also creates the basis for multilateral interaction. Thus, the idea of creating the SCO "Energy Club", was put forward by Russian President Vladimir Putin in 2006. The objective behind this proposal was to improve energy security, streamline energy strategies, coordinate efforts and comprehensive discussions on the prospects of cooperation in different sectors of the energy industry in the interests of the SCO member states.²³ After long deliberations over the years, it was on December 6, 2013, that the SCO members signed a memorandum on the creation of the SCO Energy Club in Moscow.²⁴

All these initiatives were seen as steps forward towards economic cooperation. These economic bodies served as organisational and coordinating hubs, working towards projects agreed upon by the member states through the main SCO framework. However, it is believed that the coordination and harmonisation of economic programmes and interests among the SCO members is not an easy task, because the domestic economic and political situations of the member countries are very different.²⁵ The framework of the SCO also encompasses social and cultural activities. In April 2002, the culture ministers of the six member states met for the first time and signed a joint statement to boost cultural exchanges and cooperation.²⁶ Besides, a number of initiatives and projects have been undertaken to encourage exchanges and people-to-people contacts. For example, the creation of the SCO University, scholarships for SCO member states' students to study in China, joint SCO exhibition at the World Expo, SCO-sponsored art exhibitions, etc. In doing

22. Shirin Akiner, "The Shanghai Cooperation Organisation: A Networking Organisation for a Networking World," www.globalstrategyforum.org/wp-content/uploads/The-Shanghai-cooperation-organisation.pdf. Accessed on May 6, 2016.

23. "SCO Energy Club: Structure Ready for International Interaction, not Shanghai Six's Elite Club," <http://infoshos.ru/en/?iden=13913>. Accessed on May 6, 2016.

24. "SCO Members Ink Memo on Creation of Energy Club," at <http://www.news.tj/en/news/sco-members-ink-memo-creation-energy-club>. Accessed on May 6, 2016.

25. Aris, n.6, pp.30-31.

26. "Culture Ministers of SCO Member States Meet in Beijing," at en.people.cn/200204/13/eng20020413_93954.shtml. Accessed on May 7, 2016.

The SCO membership shall be open for other states in the region that undertake to respect the objectives and principles of this charter and to comply with the provisions of other international treaties and instruments adopted in the framework of the SCO.

so, it is hoped that greater understanding, trust and common interest would emerge in the region.²⁷

On the issue of SCO membership, Article 13 of the SCO Charter declares that “the SCO membership shall be open for other states in the region that undertake to respect the objectives and principles of this charter and to comply with the provisions of other international treaties and instruments adopted in the framework of the SCO”.²⁸ However, the organisation did not show any enthusiasm for the addition of new members

for a long time. It was believed that the enlargement of the organisation would inevitably lead to complications of management and decision-making. However, during the Tashkent Summit in 2004, Mongolia was accepted as the first “observer,”²⁹ followed by India, Pakistan and Iran in 2005.

So far, a number of countries have been given “observer” as well as “dialogue partner” status. The list includes Afghanistan (observer, 2012), and Sri Lanka, Belarus and Turkey as dialogue partners in 2009, 2010 and 2013 respectively.³⁰ Belarus’ status was raised from a dialogue partner to an observer state in July 2015, while Azerbaijan, Armenia, Cambodia and Nepal became new dialogue partners at the same time.³¹ That observer status automatically would translate into full membership was not the case. The procedure for granting the status of an SCO member state was adopted by the SCO Heads of State Council in Tashkent in 2010. As per the statute, any state wanting to join the SCO must be located in the Eurasian region, have diplomatic relations with all the SCO member states, and have the status of an

27. Aris, n.6.

28. n.8.

29. Wang, n.10, pp.112-113.

30. Thomas Wallace, “China and the Regional Counter Terrorism Structure: An Organizational Analysis, *Asian Survey*, vol. 10, no.3, 2014, p.202.

31. Sergei Blagov, “Shanghai Cooperation Organisation turns Pan Asian,” at <http://atimes.com/2015/07/shanghai-cooperation-turns-pan-asian/>. Accessed on April 13, 2016.

observer state or a dialogue partner. It must also maintain active trade, economic and humanitarian ties with the SCO members, should not be involved in armed conflict with other states, and also should not be under the UN Security Council sanctions. An official application for SCO membership is to be submitted to the chairman of the SCO Heads of State Council by the head of state of the applying country through the chairman of the council of foreign ministers of the organisation.³²

Finally, the key documents that set out procedures for accepting new members, including the requirements that applicant states need to fulfil in order to achieve full SCO member status, were signed in the September 2014 SCO Summit in Dushanbe, Tajikistan. India, Pakistan and Iran were the probable entrants. However, Iran was under UN sanctions, hence, could not be considered for full membership. In fact, the discussions relating to SCO membership expansion and India's and Pakistan's potential entry, had been on the SCO leaders' table for a long time. They came closer to agreeing on the admission process for new members in the Dushanbe Summit in 2014. Russian President Vladimir Putin, in particular, supported the SCO expansion. He emphasised that concerted efforts would be made to ensure that the organisation maintains momentum behind SCO expansion, when Russia takes over chairmanship of the SCO in 2015.³³ The Ufa Summit in 2015, launched the procedure for admitting India and Pakistan as full members of the SCO.³⁴

India can be welcomed as the third pillar of the SCO. Basically, China and Russia jointly play a leading and active role in the organisation – both are leveraging the SCO as a tool to strengthen their position in Central Asia. Therefore, an element of competitiveness and cooperation is inherent in the relationship.

32. D. Litskay, "Shanghai Cooperation Organisation Looking Toward Enlargement," *International Affairs*, vol.61, no.3, 2015, pp.59-60.

33. Diana Gapak, "Motivations and Implications of SCO Expansion: A Look at India and Pakistan," <http://chinaincentralasia.com/2014/12/17/motivations-and-implications-of-sco-expansion-a-look-at-india-and-pakistan/>. Accessed on April 13, 2016.

34. "SCO Heads of State Council Meeting," at <http://en.sco-russia-ru/transcripts/20150710/1013634475.html>. Accessed on April 13, 2016.

INDIA AND SHANGHAI COOPERATION ORGANISATION

India was admitted to the Shanghai Cooperation Organisation as an observer at the 2005 Astana Summit. Since then, India has been regularly and enthusiastically participating in all SCO activities as an observer, often represented by its foreign minister. India seriously believes that there are many stakes, especially in the security and economic spheres of the Eurasian space, and the SCO serves as an appropriate platform to discuss its areas of concern in the region. Therefore, India had evinced keen interest in becoming a full member so as to contribute effectively, from the very beginning. India's Minister of State for External Affairs Natwar Singh had observed in 2005, that "If India was offered full membership, it would bring its rich experience of multilateral diplomacy into the SCO". India has played a very productive role in organisations like the Non-Aligned Movement (NAM) of which it was a founder member. Similarly, the Indian experience in combating religious extremism and terrorism can be a valuable input for the SCO.³⁵ India submitted its formal application for full membership of the SCO at the SCO Heads of State Summit in Dushanbe, Tajikistan, in September 2014.³⁶ Speaking on the occasion, India's External Affairs Minister Sushma Swaraj said, "We have today imparted a new energy and momentum to our ties with our immediate and extended neighbourhood. Our government is ready to step up its engagement with the SCO and contribute more meaningfully to its activities."³⁷ She further added, "In keeping with this objective, we have submitted our formal application for the full membership of the SCO to the current SCO chair. We hope to lay the foundation of a new relationship with the SCO region which will draw strength from our ancient links while preparing together to address the opportunities and challenges of the 21st century."³⁸ Since the procedure of India's inclusion as a full member of the SCO has been initiated, a number

35. Nirmala Joshi, "The Shanghai Cooperation Organisation: An Assessment," *Issue Brief*, Vivekananda International Foundation, New Delhi, pp. 18-19.

36. "Annual Report 2014-15, Ministry of External Affairs," at www.mea.gov.in/uploads/publicationsdocs/25009_External-Affairs_2014-2015_English_Pdf. Accessed on April 13, 2016.

37. "India's Membership in Shanghai Cooperation Organisation Initiated," at http://articles.economictimes.indiatimes.com/2014-09-12/news/53851166_1_sco_membership_the_SCO_shanghai_cooperation_organisation. Accessed on May 6, 2016.

38. *Ibid.*

of concerns have been raised, as Pakistan is another country which is getting a similar status along with India. Both are nuclear powers that are in rivalry with one another and have a set of territorial problems.³⁹

Nevertheless, Russia has been on the whole supportive of India's candidature, and its position stems from the Joint Russian-Indian Declaration on Deepening the Strategic Partnership, signed by the leaders of the two countries during an official visit to Russia by Indian Prime Minister Manmohan Singh in December 2009. It was stated that "admitting such a large and successfully developing country as India would make the SCO the second largest international organisation in the world after the United Nations in terms of the aggregate population of its members. India's admission would significantly increase the SCO's political weight and economic attractiveness among the developing countries."⁴⁰ The Central Asian Republics have also been supportive of India's inclusion into the SCO. They had viewed India as a soft balancer against the two leading powers (China and Russia), as it would strengthen their multi-vector foreign policies.⁴¹ The main reluctance for India's membership into the SCO was from China. Beijing argued that admission of such a large country would change the face of the relatively young organisation and that the already complicated decision-making process would become more difficult.⁴² Now, the entry of Pakistan to the SCO as a full member is seen as China's counter-balancing strategy.

INDIA'S INTERESTS IN THE SCO

First and foremost, India's interests are geo-political and geo-strategic. The SCO platform can help bring India closer to the Central Asian Republics

39. As quoted by "Russian Foreign Minister Sergey Lavrov in an interview to the Xinhua Chinese News Agency," see Joshi, n.35, p.19

40. Alexander Lukin, "Should the Shanghai Cooperation Organisation be Enlarged?," at eng.globalaffairs.ru/number/should-the-shanghai-cooperation-organisation-be-enlarged-15245. Accessed on May 9, 2016.

41. "India in SCO: India will be of Great Significance to the Regional Security," at <http://armedia.am/eng/news/30675/India-in-sco-india-will-be-of-great-significance-to-the-regional-security-exclusive.html>. Accessed on April 29, 2016.

42. Lukin, n.40.

(CARs),⁴³ which India considers as its extended neighbourhood. India lays great emphasis on the development of its relations with the CARs, with which it has age-old traditional linkages. However, despite close historical and cultural linkages, the relationship has not progressed to the desired extent. The major constraint has been lack of direct access to Central Asia. India's transit to the region lies through Pakistan and Afghanistan, thus, limiting India's reach in a pure physical sense.

The CARs possess vast natural resources. Its three states – Kazakhstan, Turkmenistan and Uzbekistan—hold some of world's largest oil and natural gas fields. Besides, Kazakhstan possesses a quarter of the world's known uranium reserves whereas Uzbekistan holds the largest gold mines on earth. It is also the fourth largest cotton producer country. Tajikistan, apart from holding the world's largest deposits of silver, possesses enormous gold and aluminium deposits. Turkmenistan is the world's fourth largest producer of natural gas.⁴⁴ Geographically, the strategic location of these countries makes them a bridge between regions of Asia and between Europe and Asia. Hence, the significance of the region in India's economic energy security scenario is quite apparent.

Indian Prime Minister Narendra Modi's visit to five the Central Asian Republics in July 2015 was aimed to give a fresh impetus to India's relations with each of these nations. The outcome of the visit was:

- A joint agreement with Kazakhstan for the supply of 5,000 tons of uranium to India in the next five years, starting from 2015. This was the second such agreement between the two countries since 2009.⁴⁵ The importance of this agreement lies in the fact that it is a critical input into India's energy requirements and energy security. Besides signing agreements on defence, railways, cultural exchanges, etc., the two countries agreed

43. Central Asian Republics include the republics of Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan. It is important to mention here that Turkmenistan is not a member of the SCO.

44. P. Stobdan, "Central Asia: India's Strategic Approach", *Strategic Analysis*, vol. XVIII, no.6, 1995, pp.750-751.

45. Dipanjan Roy Chaudhury, "PM Modi's Visit to Central Asia ; India and Kazakhstan Ink Deals on Uranium Supply, Defence "at <http://economictimes.indiatimes.com/news/defence/pm-modis-visit-to-Central-asia-India-and-Kazakhstan-ink-deals-on-uranium-supply-defence/articleshow/47996585.cms>. Accessed on May 12, 2016.

on increased collaboration in the framework of the International North South Transport Corridor (INSTC) and agreed that the Kazakhstan–Turkmenistan–Iran rail link, operationalised in December 2014, become a linked corridor of the INSTC. These initiatives will serve as the basis for enhanced economic and commercial interaction between the two countries in the future.⁴⁶ Another path breaking development was that India’s ONGC–Videsh Ltd. (OVL) finally made its first breakthrough with Prime Minister Modi launching the drilling operations for oil exploration in the Satpayev block on July 7, 2015.⁴⁷

- In Uzbekistan, the leaders of both countries discussed ways to enhance defence, economic and energy ties, and shared concerns over the growing influence of extremism and terrorism, including the situation in Afghanistan. Significantly, Prime Minister Modi sought Uzbekistan’s support for joining the Ashgabat Agreement – a transit pact established in 2011 by Iran, Oman, Uzbekistan and Turkmenistan.⁴⁸ Accession to the agreement would enable India to utilise this existing transport and transit corridor to facilitate trade and commercial interaction with the Eurasian region.⁴⁹
- Besides discussion on deepening cooperation on various issues, the leaders of India and Tajikistan also agreed on consultations over India’s inclusion in the existing Pakistan–Afghanistan–Tajikistan Trilateral Transit Trade Agreement (PATTTTA), an arrangement aimed at facilitating trade between Tajikistan and the countries of the South Asian region.⁵⁰

46. Tej Kadam, “India-Kazakhstan Joint Statement,” at mea.gov.in/outgoing-visit-detail.htm?25437/Tej+Kadam+india++Kazakhstan+Joint+Statement. Accessed on May 12, 2016

47. “PM Narendra Modi Launches OVL Oil Block Project in Kazakhstan,” *The Economic Times*, July 7, 2015, at <http://articles.economictimes.indiatimes.com/2015-07-07/news/64178283-1-satpayev-oil-block-ovl-satpayev-vostochn>. Accessed on May 12, 2016.

48. “India, Uzbekistan Ink Pacts to Boost Cooperation”, *The Hindu*, July 7, 2015, www.the.hindu.com/news/national/prime-minister-narendra-modi-visit-to-uzbekistan/article/7392482.ece. Accessed on May 12, 2016.

49. “India to Accede to the Ashgabat Agreement,” at <http://pib.nic.in/newsite/printrelease.aspx?rclid=138309>. Accessed on May 12, 2016.

50. “Joint Statement between the Republic of Tajikistan and the Republic of India,” at pmindia.gov.in/en/news-updates/joint-statement-between-the-republic-of-tajikistan-and-the-republic-of-india/. Accessed on May 12, 2016

- A peaceful and secure neighbourhood amidst the threat of terrorism and extremism was the common concern of discussions between India and Kyrgyzstan. Discussions on broadening the defence cooperation were held and the defence agreement signed between the two countries included security, military education and training, conduct of a joint military exercise or an annual basis, exchange of experience and information, and exchange on military observers and instructors, etc.⁵¹
- In Ashgabat (Turkmenistan), Prime Minister Modi displayed India's interest in long-term investment in the energy sector and vowed to jointly combat terrorism in the region. Seven agreements in the fields of counter-terrorism, defence, connectivity, energy, tourism and the fertiliser sector, were signed. The agreement on defence cooperation was the most significant as it would provide a framework for intensifying bilateral defence and security cooperation through exchange of high and mid-level visits, training and dialogue between the ministers of defence of the two countries and other relevant organisations.⁵² In addition, both leaders emphasised on the need for the speedy completion of the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline, as the TAPI project forms a "key pillar" of economic engagement between India and Turkmenistan.⁵³ During the visit, Prime Minister Modi also hinted at the possibility of exploring the sub-sea route through Iran for the pipeline. Clubbing the two issues – lack of progress on the TAPI pipeline and lifting of sanctions on Iran—the above said option could be considered as more conceivable.⁵⁴

51. "PM Modi Signs Four Key Agreements with Kyrgyzstan", at www.dnaindia.com/india/report-pm-modi-signs-four-key-agreements-with-kyrgyzstan-2103867. Accessed on May 12, 2016.

52. "Joint Statement between Turkmenistan and India during the Prime Minister's Visit to Turkmenistan", at <http://www.mea.gov.in/bilateral-documents.htm?dtl/25456/joint-statement-between-turkmenistan-and-india-during-the-prime-ministers-visit-to-turkmenistan>. Accessed on May 10, 2016.

53. *Ibid.*

54. "With Iran Nuclear Deal, an Undersea Gas Pipeline to India Holds Promise", *The Economic Times*, July 20, 2015 at <http://economictimes.indiatimes.com/industry/energy/oil-gas/with-iran-nuclear-deal-an-undersea-gas-pipeline-to-india-holds-promise/articleshow/4814612>. Accessed on May 12, 2016.

Clearly, the prime minister's visit was focussed on security concerns, especially energy needs and connectivity requirements. Further, with the US drawdown from Afghanistan, the vulnerability to Islamic terrorism from the resurgent Taliban, and the emergence and spread of the Islamic State of Iraq and Syria (ISIS) is a common cause of concern for both India as well as the CARs.⁵⁵ Considering Central Asia's location next to the world's most unstable region—Af-Pak—the extremely porous borders provide easy access to militants as well as those engaged in drug-trafficking and weapons proliferation. Therefore, reaching an agreement on counter-terrorism operations was a priority during the prime minister's visit to the CARs.

This new beginning on a more secure footing with a clearer set of objectives would serve better if the existing projects could be brought to fruition. Therefore, an effective display of leadership on India's part in forging greater coordination and sustained diplomatic efforts are vital for the advancement of its interests.

This new beginning on a more secure footing with a clearer set of objectives would serve better if the existing projects could be brought to fruition. Therefore, an effective display of leadership on India's part in forging greater coordination and sustained diplomatic efforts are vital for the advancement of its interests. Here, the SCO would be an appropriate platform to engage the Central Asian Republics, regionally as well as bilaterally. This will provide an opportunity to Indian representatives to meet and interact with all their counterparts of Central Asia on a regular basis every year. One of the reasons for it not having been able to fully realise the potential of our relations with the CARs was that there have been few occasions for India to meet and interact with the leaders of these countries. Now, the annual SCO Summits will provide this opportunity to meet with the leaders of the CARs

55. India and the Central Asian Republics, both are victims of cross-border terrorism. See, Poonam Mann, "Fighting Terrorism: India and Central Asia", *Strategic Analysis*, vol.XXIV, no.11, pp.2035-2050.

The Central Asian Republics have raised concerns about two nuclear powers, which are in permanent conflict, joining the organisation. They fear that these nuclear powers may inject their bilateral issues and disputes into the organisation and divert the attention of the grouping from finding a solution to their issues.

on the side lines of the SCO meetings, and discuss issues of mutual interest in order to advance and promote bilateral relations.

Secondly, the SCO would be a useful platform for India to discuss challenges related to Afghanistan. Afghanistan lies in the heart of Asia and acts as a bridge, connecting not just Central and South Asia but also Eurasia and the Middle East. Most of the SCO members and observers are Afghanistan's neighbours. Hence, like India, SCO member states also have important stakes in peace and stability in Afghanistan.

The engagement between the SCO and Afghanistan started in 2005, when the SCO and the Afghanistan Contact Group protocol was signed. The main focus of this group was to enhance cooperation and to discuss peace related issues. In June 2012, Afghanistan was granted observer status in the organisation. However, the SCO has not made any substantial contribution to Afghanistan's security so far because of the divergent and contrasting geo-political interests of its member states.⁵⁶ But given the present turbulent regional security scenario, i.e. the resurgence of the Taliban and their increasing activities, and the rise and spread of the ISIS, the solution lies in regional cooperation. Therefore, the best option for the SCO is to energise its regional cooperation activities and work towards common projects and financial commitments. In this endeavour, India cannot be a mute spectator, watching from the sidelines—it has to be an active partner. Besides, India could gain from engagement with the SCO's Regional Anti-Terrorist Structure (RATS). On the issues of the fight against the three evils (terrorism, separatism, extremism), RATS assists its members in

56. Dr. Bawa Singh, "Geopolitics of Counter-Terrorism in Afghanistan: SCO's Strategy is in Question", *World Focus*, vol.XXXVII, no.2, February 2016, pp.97-99.

sharing information during conference preparations, summit meetings, VIP visits, public meetings, sports events, etc.⁵⁷

Thirdly, it is been argued that India's pursuit of full SCO membership would add to its diplomatic weight in the Chinese-led organisation. Though the Indian leadership is aware that it cannot reverse China-dominated multilateral initiatives, including Beijing's 'One Belt One Road' regional development plan, which probably would increasingly influence the SCO's internal discourse, for India, the best way to influence decision-making processes is by negotiating from as important stakeholder positions as it can attain within this organisation.⁵⁸

Fourthly, India can be welcomed as the third pillar of the SCO. Basically, China and Russia jointly play a leading and active role in the organisation – both are leveraging the SCO as a tool to strengthen their position in Central Asia. Therefore, an element of competitiveness and cooperation is inherent in the relationship. Moscow has traditionally been sceptical of Beijing's expanding influence in an area that it considers its own backyard. Its economic activities in Central Asia have helped increase China's presence in the region, while Russia maintains the advantage of having shared linguistic, historical and cultural ties with the Central Asian countries. However, it is believed that these traditional linkages are eroding as the younger generations are looking towards Beijing, not Moscow for opportunities.⁵⁹ Also, Russia is more interested in promoting the security aspects of the SCO, whereas China emphasises on economic issues. Further, while becoming increasingly isolated amidst stiff political tensions with the West and Middle East, Moscow has made a pivot to Beijing as sinking oil prices, a crumbling ruble and extended sanctions are damaging its crisis-hit economy. In turn, China

57. P. Stobdan, "Shanghai Cooperation Organisation", *Policy Brief*, July 14, 2014 at www.idsa.in/policybrief/shanghaicooperationorganisationandindia-pstobdan-140714. Accessed on May 13, 2016.

58. Jan Zalewski, "India In The SCO – Safeguarding Its Interests In Central Asia", at http://www.forbes.com/sites/riskmap/2015/06/12/india_in_the_SCO_safeguarding_its_interests_in_central_asia/. Accessed on May 9, 2016.

59. Jeffrey Reeves, *The Shanghai Cooperation Organisation: A Tenable Provider of Security in Post-2014 Central Asia?* (Asia Pacific Centre for Security Studies, June 2014), p.8.

is interested in accessing Russian energy and military research.⁶⁰ This fact raises questions on the role of the weaker Central Asian partners of the SCO. Although the Central Asian Republics are trying to use the SCO because of their political and economic interests, the possibility of transformation of the SCO to promote mutual control of the Russian-Chinese tandem over the Central Asian region will not benefit the Central Asian countries.⁶¹ Therefore, this inclusion of India into the SCO would act as a soft balancer against the two leading powers, as it would strengthen their multi-vector foreign policy.

CHALLENGES FOR INDIA

Although there are significant benefits for India in becoming a full member of the SCO, it has many concerns also, such as: firstly, since China, and Russia are the co-founders of the SCO, India will have to play second fiddle and its ability to assert itself in the SCO will be limited. One of the major reasons for this is that India has so far failed to invest the diplomatic capital that the Central Asian region demands.⁶² For example, India suffered a strategic setback in 2010 when it lost use of the Tajikistan Ayni air base to Russia. This happened despite India having spent around \$70 million between 2002 and 2010 to renovate the Ayni air base, extending the Ayni runway to 3,200 metres as well as installing state-of-the-art navigational and air defence equipment there.⁶³ Besides, in 2013, India's goal of developing long-term partnerships in energy development with the Central Asian Republics got a major blow, when it lost 8.4 percent stake in Kazakhstan's Kashagan oil field to the Chinese National Petroleum Company (CNPL), and again China prevailed over India in the Dauletabad gas field in Turkmenistan.⁶⁴

60. Nyshka Chandran, "Can China and Russia Co-operate in Central Asia?", at www.cnbc.com/2015/12/14/china-russia-ties-in-focus-as-shanghai-cooperation-organisation-kicks-off.html. Accessed on May 10, 2016.

61. Marat Nurgaliyev, *Development of the Shanghai Cooperation Organisation and Diplomacy of Japan Towards the Central Asia* (Tokyo: Japan Institute of International Affairs, 2008), pp.21-22

62. Harsh V. Pant, "Reality Check: India Needs to Take Central Asia Seriously," at <http://diplomat.com/2015/07/reality-check-india-needs-to-take-central-asia-seriously/>. Accessed on May10, 2016.

63. Ibid.

64. Ibid.

Besides China, has successfully strengthened its national security, geopolitical and economic interests in the Central Asian region ever since the inception of the SCO. It has made considerable inroads into the Central Asian markets through a mixture of trade, investment and loans.⁶⁵ Chinese companies have funded and built roads, bridges and tunnels across the region. A number of new projects like the Khorgos “dry port” on the Kazakh-Chinese border and the railway link connecting Kazakhstan with Iran, is helping trade across Central Asia. China’s ‘One Belt One Road’ project aims to make Central Asia more connected to the world.⁶⁶ Against this backdrop, India has to give much more attention to the region.

The second challenge would be Pakistan’s inclusion as a full member into the SCO, along with India, since China can use Pakistan as a counterweight to India in the SCO. Moreover, China and Pakistan have a long standing relationship and the former has also given overwhelming support to Pakistan which has posed a greater threat to India’s interest.⁶⁷ Further, some of the Central Asian Republics have raised concerns about two nuclear powers, which are in permanent conflict, joining the organisation. They fear that these nuclear powers may inject their bilateral issues and disputes into the organisation and divert the attention of the grouping from finding a solution to their issues.⁶⁸ Therefore, India needs to follow a very cautious approach in order to maintain its image as a friendly country.

Last but not the least, India’s entry into the SCO could be more demanding. Not only has India grown closer to the United States at a time when relations between Russia and the United States are souring, Russia’s decision to lift its arms embargo on Pakistan has compromised India’s security interests in the region.

65. See, “China’s Leading Role in the Shanghai Cooperation Organisation,” at [www.europarl.europa.eu/RegData/etudes/BRIE/2015/564367/EPRS_BRI\(2015\)564367-EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/564367/EPRS_BRI(2015)564367-EN.pdf). Accessed on May 5, 2016

66. Jack Farchy and James Kyngé, “Map: Connecting Central Asia,” *Financial Times*, May 9, 2016, at <http://www.ft.com/intl/cms/s/o/ee5cf40a-15e5-11e6-9d98-00386a18e39d.html#9x2248DhwevEo>. Accessed on May 10, 2016.

67. S.Y.Surendra Kumar, “India and the Shanghai Cooperation Organisation: Issues and Concerns”, *International Journal of China Studies*, vol.4, no.3, December 2013, pp. 353-354.

68. Dadan Upadhyay, “Importance of India Joining as a Full Member to the SCO,” at <http://in.rbth.com/articles/2012/05/29/importance-of-india-joining-as-a-full-member-of-the-sco-15870>. Accessed on May 13, 2013.

Despite these reservations, however, India clearly understands that its membership in the SCO represents a crucial chapter in its quest for forging closer links with the resource and energy-rich republics of Central Asia. Therefore, there is a serious need for India to display leadership in forging greater cooperation by developing new initiatives and the vision to work closely with the member countries in shaping a multilateral regional structure and incorporating Afghanistan in the broader framework. India needs to gear up its diplomatic channels more aggressively and show its physical presence in the region.

Even within multilateral cooperative structures, one may find several bilateral initiatives, which India can undertake with respect to the Central Asian Republics. Further, a lesson to be learnt from the history of the SCO: *“It is wiser to cooperate and have open relations with the adversary than find oneself in confrontation or competition with it”*, can be imbibed by India *in toto*.

EVOLUTION OF RUSSIA-CHINA BILATERAL RELATIONS

CHANDRA REKHA

The conduct of sovereign states in international relations is determined on several premises such as coexistence, interdependence, national priorities, competition, clash of interests, and struggle for superiority in global affairs. The very nature of these attributes leads to foreign policy goals through which a country either displays its competence, or addresses its inadequacies. This, in turn, leads to the traditional balance of power theory where nation-states develop strong comprehensive partnerships either at the bilateral level or the multilateral level, cooperating to limit the rise of adversaries/competitors, and to establish hegemony in regional/international geopolitics. The two World Wars comprise a classic example of how countries allied with each other to establish status quo in international politics. The post Cold War era, and the end of bipolar politics led to the emergence of a unipolar world led by the United States. Notwithstanding the dynamic nature of international relations, alliances among countries continue to exist to create a balance of power either to challenge the existing system or to preserve the status quo. In the current great game of world politics, the growing proximity between Russia and China finds a special mention as (a resurgent) Russia and China (an Asian power with global aspirations) with shared interests, common goals and mutual concerns have set out to change the global architecture much in their favour.

Ms. **Chandra Rekha** is an Associate Fellow at the Centre for Air Power Studies, New Delhi.

A resurgent Russia and an emerging world power, China, have reinforced their strategic partnership as a result of the developments that have taken place in the post Cold War era.

The two countries, based on their individual capabilities, have emerged as crucial economic, defence, and strategic actors in world politics. With Russia being isolated by the Western allies post Ukraine imbroglio and accession of Crimea, and sanction politics affecting its economic growth, Moscow realised the need for stable and long-term engagements and reliable partners for sustainable growth and influence in global affairs. Hence, the Kremlin announced the “pivot to Asia” strategy to further proliferate its influence in the region. Besides, Moscow is aware of the shifting global economic balance of power towards Asia, and understands that engaging in the geo-politics of the region is essential for Russia’s successful long-term development.

The current international relations moreover are witnessing a power transition which is taking place from West to East or North to South. Strategic thinkers have been presenting their arguments in this regard based on the developments taking place in the Asian region in particular. Many have gone to the extent of defining the current international system as the “Asian Century”. With China being one of the epicentres of the “Asian Century” concept due to its economic growth, military modernisation, huge global market potential, infrastructural development and global outreach, the current developments in relations between Russia and China are seen not as “pivot to Asia” but rather “pivot to China”.

A resurgent Russia and an emerging world power, China, have reinforced their strategic partnership as a result of the developments that have taken place in the post Cold War era. Additionally, the policies of the US-led Western allies have mostly signalled curtailing the rise and influence of both Russia and China in global affairs. However, much to the irony of the West, this has reassured the relevance of the bilateral relations with a clear-cut agenda i.e, form an alliance against the United States-led international system, establish a multipolar world order, promote global stability and security, and combat non-conventional

threats. Understandably, the rest of the world is reviewing and assessing this formidable partnership

Nevertheless, relations between the two countries have been vigorous yet filled with complexities and pervaded by asymmetries. *The Economist*, for example, refers to the strategic partnership between the two countries as “Frenemies”. Concurrently, many in the academic community are of the opinion that Russia-China bilateral relations in the current

international milieu comprise more a “Potemkin village”¹ than a true alliance because, although the bond is multifaceted, the relationship is defined by numerous ambiguities and contradictions in which positive engagement is consolidated with strategic competition and commonalities of policy counter-balanced by suspicions about ulterior agendas.² Moreover, there is a shifting trend in the strategic partnership as China is becoming aware of its global status in the 21st century and its progress in the international arena. Many believe that as China marches forward in its economic development, defence power and global outreach, there is a likelihood that it would lead to a ‘role reversal’ between the two countries.³ Nevertheless, the two strategic partners are balancing the partnership delicately between strategic convergence and suspicion. It is in this context that one has to investigate whether the partnership will survive the test of time or face an uncertain future. Hence, a thorough historical analysis is required to explore the relations between the two states from several standpoints as past events will assist in explaining

Many believe that as China marches forward in its economic development, defence power and global outreach, there is a likelihood that it would lead to a ‘role reversal’ between the two countries.

1. The phrase “Potemkin village” was originally used to describe a fake portable village, built only to impress. According to the story, Grigory Potemkin erected the fake portable settlement along the banks of the Dnieper river in order to fool Empress Catherine II during her journey to Crimea in 1787. The phrase is now used, typically in politics and economics, to describe any construction (literal or figurative) built solely to deceive others into thinking that some situation is better than it really is. Some modern historians claim the original story is exaggerated. Source: https://en.wikipedia.org/wiki/Potemkin_village

2. *Ibid.*, p. 3.

3. Bobo Lo, “The Long Sunset of Strategic Partnership: Russia’s Evolving China Policy”, *International Affairs*, vol.80, no. 2, 2004, pp. 295-309.

the current foreign policy interests, issues, conflicts, priorities, concerns and challenges that may emerge in the partnership in the future.

This article evaluates the evolution of Russia-China bilateral relations in the modern world, based on political ties, strategic interests, economic interactions, military dealings and domestic policies to determine the realities of choices and actions made in the past. The historical patterns of Russia and China are, thus, an important aspect for understanding the relations, taking into consideration whether there is scope for a repeat of differences that existed in the past and whether asymmetries or clash of interests impact the future prospects of the relations? If yes, then does history show the key to solve any future conflicts between the two countries? And, more importantly, what will the strategic relationship between Moscow and Beijing look like in the future?

Let us first explore the factors that have historically steered the foreign policy goals of Russia, as it is crucial to fully understand its aspirations, interests and goals in the global arena, and its engagement in contemporary international relations.

EVOLUTION OF RUSSIA'S FOREIGN POLICY

Russia as a country has had a unique history and identity which has influenced its behaviour towards its neighbours and also in international affairs. It was a decisive player in the Seven Years War, the land power that vanquished the Napoleonic Army, and a leading member of the Concert of Europe. Russia was the main protagonist in the Crimean War and subsequent crises that arose from the collapsing of the Ottoman Empire in the later 19th century. Russia's alliance with France in the 1890s is widely viewed as one of the first steps on the road to World War I. The October Revolution destroyed the Tsarist autocracy and paved the way for the creation of the world's first self-proclaimed socialist state and eventually the Soviet Union. The year 1917, thus, was the year of big changes in the Russian culture, economy, military, political and social spheres. The Soviet role in World War II was significant and post World War, Moscow ruled much of Europe

through the Soviet Union and the Warsaw Pact for half of the 20th century.⁴ One narrative of understanding the factors that has driven Russian foreign policy is by understanding the relevance of the “Heartland Theory”.

The Heartland Theory

The ‘Heartland Theory’ by Halford Mackinder in 1904⁵ led leaders to formulate foreign policy goals that revolved around the relevance of the Eurasian landmass. Mackinder’s theory stated that political history is a continuous struggle between land and sea powers, with the ultimate victory going to the continental power. The determining factor in this struggle was geography. The “world island” according to Mackinder comprised the landmass of Euro-Asia-Africa.⁶ One of his predictions was that there was an excellent chance that a nation which could gain monopoly over the Eurasian landmass could extend its political control over Eastern Europe which would be a prelude to domination of the world. The heartland, hence, gave rise to competition and conflicts between powerful countries to gain access and control of the region. The most evident of them all was during the Napoleonic Wars. The defeat of Napoleon by Tsarist Russia eventually led the landmass to become the ‘pivot states’ of Russia.⁷

Like all countries, geographical aspects such as geographical location, climatic conditions, demography, natural resources, etc, thus, played a major role in formulating Russia’s foreign policy goals. Geographical proximity that stretches across Europe and Asia has assisted Russia in vacillating

4. Olga Olikier, http://www.rand.org/content/dam/rand/pubs/perspectives/PE100/PE144/RAND_PE144.synopsis.pdf

5. Mackinder predicted that “Whoever rules East Europe, will rule the Heartland Whoever rules the Heartland, will rule the World Island.” Whoever rules the World Island, will rule the world.”

6. Ronald Hee, “World Conquest : The Heartland Theory of Halford J. Mackinder”, *Pointer: Journal of the Singapore Armed Forces*, vol.24, n.3, 1998. http://www.mindef.gov.sg/safti/pointer/back/journals/1998/Vol24_3/8.htm. Accessed on March 21, 2016.

7. Ronald Hee, “World Conquest : The Heartland Theory of Halford J. Mackinder”, *Pointer: Journal of the Singapore Armed Forces*, vol.24, n.3, 1998. http://www.mindef.gov.sg/safti/pointer/back/journals/1998/Vol24_3/8.htm. Accessed on 21 March 2016.

between periods of geo-political engagement between the two regions.⁸ It was this geographical perception that led the Soviet Union to take control of the Eurasian region to such an extent that it created 'satellite states' that remained under Soviet leadership for many decades. Hence, Russia's foreign policy towards Eurasia coincided with its economic policy and geo-political status and the space which it wanted to reclaim.

Historically and in the contemporary physical outlay, Russia's extensive border has created a natural strategic challenge as the nation has been vulnerable to external threats. Clash of interests and fear of penetration of their respective 'zones of influence' between the two imperial powers—the Soviet Union (Eurasia) and the British colonial power (South Asia)—became a 'bone of contention' during the 'great game politics'. Mackinder warned of the rise of Russia after the defeat of Germany in World War II, as a land power, for the first time, was in control of both Eastern Europe as well as the heartland. The fear of Soviet Russia magnifying its global outreach led the West to believe that the Moscow Administration had to be "contained" within the heartland; the notion being that the world island had to remain at least partially safe for democracy. In the 1980s, Zbigniew Brzezinski, once the National Security Adviser (NSA) under the Carter Administration, echoed the words of Mackinder; "Whoever controls Eurasia, dominates the globe. If the Soviet Union captures the peripheries of this landmass ... it would not only win control of vast human, economic and military resources, but also gain access to the geostrategic approaches to the Western Hemisphere—the Atlantic and the Pacific...."⁹

As for the influence of the international milieu in Moscow's foreign policy goals, the rise of threats during the Cold War politics between the two superpower blocs led to a clash of interests, hostility, an arms race, ideological confrontation, building up of the nuclear arsenal, and the struggle to establish status quo in Third World countries all exacerbated the Kremlin's security concerns. The Soviet Union feared that the expansionist policies of the US led North Atlantic Treaty Organisation (NATO) attempted to encircle

8. Olikier, n. 4.

9. Hee, n.6.

the socialist power in its 'sphere of influence'. If Russia did not enlarge its empire, the logic went, other states would do so at its expense, thus, the Soviet Union established the Warsaw Pact and also 'Russification' of the population in its satellite states.

Perhaps the most interesting aspect driving Russia's foreign policy is what George Kennan in his famous 1946 "Long Telegram" referred to as a "traditional and instinctive Russian sense of insecurity."¹⁰ Echoing Kennan, many Western scholars have argued that Russian (and Soviet) expansionism is driven by insecurity. Insecurity, especially in terms of physical turf which contributed to a tendency to view other states as threatening, regardless of whether they had hostile intentions (even despite limited capability) against Soviet or Russian interests. It has tended to view the greatest threats as those on the periphery. In doing so, this attitude became largely defensive. The collapse of the Soviet Union increased the Russian sense of insecurity by leaving many states that had historically been under its influence outside it—in addition to the diminishing Russian power overall on the world stage.¹¹

However, expansion cannot to be confined to the idea of insecurity alone as the struggle for 'identity' is another key aspect for Russia to carve a niche for itself in world politics, with a unique history, identity, culture, economic, ideology, social and political system. Elaborating further, Soviet Russia's identity was distinct from that of the rest of the European countries which made it pursue an autonomous identity after the Bolshevik Revolution. According to some scholars, the October Revolution caused Russia to create its own identity that included a new value system and ideology which was against the general value system of the rest of Europe which stood for democracy and liberalisation. Another argument presented in this regard is that the Soviet Union was not part of the events that led to the modernisation of Europe. For instance, Soviet Russia was untouched by the Renaissance, Reformation, Enlightenment and Industrial Revolution. Thus, Russia's involvement in the Eurasian geo-politics and its control in terms of social,

10 Olikier, n.4.

11. Ibid.

Any liberalisation movement in Eastern Europe aimed at compromising Soviet hegemony was responded to by the Soviet authority by an essentially defensive approach to preserve its ideology and also prevent threats from NATO's expansion.

political, economic, security and geo-politics led to the creation of the 'Eurasian' identity.

Ideology also played a crucial role in the formulation of Russia's foreign policy and creation of a unique identity. Since the Bolshevik Revolution, Soviet Russia adopted the Marxism-Leninism ideology that guided both its domestic and international affairs. The socialist ideology defined the parameters of its international behaviour and decisions that emphasised on ensuring national security, promoting economic well-being with equal opportunity and enhancing the

national prestige of the state. In fact, Soviet Russia had rigorously established an ideological base in all its periphery states. Moreover, the Soviet leadership also ensured that whenever and wherever socialism was under threat, the collective security interests of the Eastern bloc were put above the country's national objectives. Any liberalisation movement in Eastern Europe aimed at compromising Soviet hegemony was responded to by the Soviet authority by an essentially defensive approach to preserve its ideology and also prevent threats from NATO's expansion. Such efforts were also seen in Hungary, Cambodia, and Vietnam. The Brezhnev Doctrine, announced in 1968, retroactively affirmed the military invasion of Czechoslovakia. After Gorbachev came to power, his foreign policy called "new thinking" came up with three concepts, namely: (1) socialism with a human face; (2) the idea of a common European home; and (3) de-ideologisation of international relations. Thus, the new policy thinking introduced democratic principles in the socialist ideology across the Soviet Union. It led to democratisation of the entire Eastern Europe.

The Russian foreign policy was determined not merely to overcome the drawbacks of its geographical proximity in search for warm water ports or a desire to establish a world of Communism—rather, it stood for an interlocking and mutually reinforcing influence that manoeuvred the Russian leaders'

and policy-makers' behaviour, especially for the maintenance of status quo in the Eurasian region and preservation of its national interests. For, defining the international behaviour and engagement of Russia in global politics is mostly conditioned by the vision of the leaders in charge of the decision-making process. The Bolshevik Revolution opened a new chapter and the new foreign policy under the leadership of Lenin was based on anti-imperialism. The end of the Stalin era brought immediate liberalisation in several aspects of Soviet foreign policy thinking, as he confirmed a Soviet commitment to "peaceful coexistence" with the capitalist countries. For his part, Khrushchev wanted peaceful coexistence with the West, not only to avoid a nuclear war, but also to permit the Soviet Union to develop its economy. The main point of Brezhnev's foreign policy was the Brezhnev Doctrine, which stated that the Soviet Union had the right to intervene in its satellite countries whenever there was a threat to socialism, and relied heavily on military force. But, at the same time, a period of détente, or relaxation of tensions, between the two superpowers emerged under the leadership of Leonid Brezhnev. Although Brezhnev's aggressive foreign policy could be considered successful in maintaining order among the satellite nations, it caused the Soviet Union's economy to suffer as Brezhnev focussed much of the nations' money on building up a successful military and reaching the same level as the US in nuclear weaponry. This resulted in a poor economy during Brezhnev's leadership.¹² Gorbachev's new vision and ideas had implications for the Soviet foreign policy. As the Soviet Union was undergoing a massive economic crisis, Gorbachev believed that in order to continue economic reforms and implement his policies, namely, *perestroika* and *glasnost*, the Soviet Union needed the costly Cold War competition

The main point of Brezhnev's foreign policy was the Brezhnev Doctrine, which stated that the Soviet Union had the right to intervene in its satellite countries whenever there was a threat to socialism, and relied heavily on military force.

12. Matthew J. Ouimet, *The Rise and Fall of the Brezhnev Doctrine in Soviet Foreign Policy* (Chapel Hill: University of North Carolina Press, 2003), p.59.

between the superpowers to slow down. As long as it was engaged in an expensive arms race and supporting Third World revolutionaries, there could be no economic revitalisation at home. Therefore, he negated the Brezhnev Doctrine that pledged Soviet intervention where Communism was under threat, choosing instead to loosen Soviet control over the countries of the Eastern Bloc and allow them freedom to navigate their own futures, a policy that became known popularly as the "Sinatra Doctrine" because it allowed the Eastern European states to "do it their way".¹³ Although Gorbachev had set a new direction and forged new relationships, the foreign policy challenges facing Yeltsin presented a unique opportunity of defining a new national identity for Russia and establishing the basic concept for its national security. The primary aim of Yeltsin was similar to that of Gorbachev i.e, to create a non-threatening external environment that would be most conducive to the country's internal economic and political development. Post Soviet disintegration, the early 1990s produced a profound sense of national humiliation as Russia was a combination of a loss of national mission, wounded national pride, and a confused national identity. As the US became the leader of the unipolar world, the official foreign policy of Yeltsin was a 'pro-Western' one as he believed that no country was better positioned to aid and assist the new administration than the United States.¹⁴ Putin's assessment of national security interests is markedly different from Yeltsin's. Cooperation with the US, therefore, is not necessary for Putin to achieve Russia's long-term goals; it intends, instead to diversify its position, by reaching out to countries such as China, India, Libya, and Iraq. Since 2000, the change in Russia's view of itself and the rest of the world coincided with the transformation of Russian foreign policy priorities which became more open to international cooperation. The 2000 Concept declared relations with the European Union as its foreign policy priority. However, unhappy with the developments in the relations

13. "Gorbachev and New Thinking in Soviet Foreign Policy, 1987-88", US Department of State Archive, <http://2001-2009.state.gov/r/pa/ho/time/rd/108225.htm>

14. Robert H. Donaldson, "Boris Yeltsin's Foreign Policy Legacy", Presented to the 41st Annual Meeting of the International Studies Association, Los Angeles, California, March 18, 2000. <http://www.personal.utulsa.edu/~robert-donaldson/yeltsin.htm>

between Russia and the US, Putin stressed on reassertion of power in the international arena by Russia and a renewal of its attempts to reshape the international environment in accordance with its own vision of the world. Nevertheless, after Vladimir Putin ascended to power in 2000, the country undertook grandiose foreign policy projects in an attempt to delineate its place among the world's superpowers.¹⁵

The other key determinants of the Russian foreign policy have been the demonstrations of force, the arms race, competitive military research and development, and intelligence operations, for which the Kremlin allocated huge funds for the development of the defence sector. In the Cold War era, Western economists devoted serious attention to the Soviet economy in general and to the Soviet military expenditures in particular. The powerful military industrial complex had an overall positive effect on the economy of the Soviet Union during the Cold War period. Against this backdrop, it can be stated that the economic development of Soviet Russia was co-related with its military potential and arms exports.¹⁶ Profits from exports of arms and military equipment were put into the state budget and made up one part of state revenues.¹⁷

Then the efficiency of the defence industry of the Soviet Union slackened and the effectiveness of priority protection diminished and the defence industries experienced crises due to shortage of funding. Because the USSR was in effect a Military Industrial Complex (MIC) writ large with a militarised economy, since 1991, this sector consistently failed to deliver to Russian forces the needed weapons and technologies¹⁸ until the revival reforms and programmes introduced by the Putin Administration in 2000.

-
15. Robert Nalbandov, "Not by Bread Alone: Russian Foreign Policy under Putin", University of Nebraska Press, 2016, pp. 6-10. http://www.nebraskapress.unl.edu/Supplements/excerpts/Fall%2015/9781612347103_excerpt.pdf
 16. Paul Rivlin, "The Russian Economy and Arms Exports to the Middle East", Memorandum no. 79 (The Jaffee Centre for Strategic Studies, Tel Aviv University, 2005).
 17. KirshinYuriy, "Conventional Arms Transfers During the Soviet Period", in Ian Anthony, ed., *Russia and the Arms Trade* (Oxford: SIPRI, Oxford University Press, 1998).
 18. A Keenaway, Conflict Studies Research Centre, "The Military Industrial Complex", Federation of American Scientists C98 - March 1998 <http://fas.org/nuke/guide/russia/industry/docs/TheMilitaryIndustrialComplex.htm>

Russia Since 2000

In the 1990s, Russia, during its fledgling stage, plunged into deep internal political and economic crises. As a desperate initiative to ameliorate its deplorable condition, the Russian political elites underwent a radical transformation by adopting a democratic political system, a free market economy and a pro-Western foreign policy approach. Unfortunately, the tilt towards the West for financial aid and support to revive the country failed in reinvigorating the country's lost prestige. This was the third time (Krushchev's peace coexistence initiative, the detente in the 1970s during the Cold War period and the initial pro-Western foreign policy in the 1990s) that an effort to coexist with the US failed which left a deep scar on the psyche of both Russia's political elites and its people. Long-standing beliefs about Russia's rights within its region were exacerbated by a consistent post-Soviet view that Western efforts at integration comprised a mechanism for controlling and weakening Russia.¹⁹ Hence, Russia's behaviour has been in pursuit of its respective goals which are well-aligned with its historical interests. For instance, the Chechnya War, the Georgian conflict and the accession of Crimea reflect the trend of the Kremlin's national interests and foreign policy goals. Thus, the motives of Russia's foreign policy have been to challenge NATO's expansionist policy in the former Soviet space and the US-led international system.

Geographical impediments continue to haunt the Russian Federation among which access to warm water ports is seen as an unpleasant reality. The accession of Crimea has brought the region to a critical juncture in international affairs. Crimea has always been of prime importance as Russia's Black Sea naval fleet is based at Sevastopol and has been there for nearly 230 years and it is the only important warm water port for Russia.²⁰ This has also ensured Russia's naval control in the Black Sea. When the Russians annexed Crimea in 1783, they did so because of the enormous opportunity to project

19. Olikier, Olga, Christopher S. Chivvis, Keith Crane, Olesya Tkacheva, and Scott Boston. 2015. Russian foreign policy in historical and current context. Santa Monica, CA: RAND Corporation. <http://www.rand.org/pubs/perspectives/PE144.html>

20. Askold Krushelnycky, "Democracy Lab: Crimea's War of Nerves", 4 March, 2014, www.foreignpolicy.com/articles/2014/03/04. Accessed on 17 March 2014.

their power into the Black Sea region, and also because they could build warm water naval bases.²¹

Since the dissolution of the Soviet Union, the foreign policy priorities of Russia have stressed on the protection of ethnic Russians across the globe. Russia feared that the local ethnic conflicts could eventually lead to the targeting of Russian minorities in the region. In making this case, the Russian doctrine and official statements in the 1990s referenced dangers from “local conflict”. Putin also made clear how boundless this ambition might potentially be, pointing out that “when I speak of Russian people and Russian-speaking citizens I am referring to those people who consider themselves part of the so-called broad Russian world, not necessarily ethnic Russians, but those who consider themselves Russian people.”²² This foreign policy priority continues as the unrest during the breakaway movement in Chechnya, the Georgia conflict and Crimean accession (2014) justified Russia’s claim of protecting its ethnic Russians wherever they are under threat. Russia continues its insistence on influence in the near abroad that was crystallised in a speech in 2008 by President Dmitri Medvedev, who defined Russia’s interests in the neighbourhood as “privileged.” The speech came on the heels of a five-day war with Georgia (2008) over two breakaway regions, South Ossetia and Abkhazia, which have been supported by Moscow since the 1990s.²³

From the year 2000 onwards, the world witnessed a new period in Russia’s contemporary history—what the national elites call “the age of revival”. With the new-found confidence, some elites also believe that the prospect of marginalisation that the country faced during the 1990s has disappeared. Russia today, with a resurgent image, is experiencing a new society and new economic growth (though fragile and unstable) which is, in turn, shaping its global image. Currently, the Russian economy continues to be similar to the Soviet economy as the main resource of revenue is “one-

21. Askold Krushelnycky, “Democracy Lab: Crimea’s War of Nerves”, March 4, 2014, www.foreignpolicy.com/articles/2014/03/04

22. Bjorn Alexander Duben, “Can the China-Russia Warmth Last?”, *The Diplomat*, March 8, 2015, p. 2.

23. Olikier, n.4.

During Deng's period, the goals of his reforms were summed up by the Four Modernisations, those of agriculture, industry, science and technology, and the military.

dimensional", as rightly pointed out by Dmitri Trenin. He described the Russian economy as relatively progressive but "one-dimensional": oil and gas have replaced tanks and nuclear weapons. Moreover, a high share of national revenue from resource exports has time and again created the wrong incentives which has, in turn, impacted its foreign policy as well. Thus, Russia's revival so far lacks a solid basis as seen, post Crimea accession by Russia, which led to sanction politics and a fall in oil prices. The Russian economy has once again

nosedived and is struggling to recover from the impact of the fall in oil prices.

Let us focus on the factors that steered China's foreign policy and how far Russia has succeeded in shifting away from the historical components in contemporary world politics.

EVOLUTION OF CHINA'S FOREIGN POLICY

China is the second largest country by land area and borders extending to the East China Sea, Korea Bay and South China Sea. It shares borders with 16 countries, including Russia. It has 23 provinces, 5 autonomous regions which include Guangxi, Inner Mongolia, Ningxia, Tibet (Xizang) and Xinjiang. After the war of 1947, and the victory of the Communists, Mao Tse Tung, on October 1, 1949, established the People's Republic of China (PRC). His Marxist-Leninist theories, military strategies, and political policies are collectively known as Mao Zedong's Thought²⁴ which was widely applied as the guiding political, and military ideology of the Communist Party of China (CPC), and as the theory guiding revolutionary movements around the world. The main target of an independent PRC was to protect its national security with a strong defence force, reestablish its national power, and

24. The essential difference between Maoism and other forms of Marxism is that Mao claimed that the peasants were the real revolutionary class instead of industrial working "comrades".

promote strong and stable economic progress.²⁵ The history of the PRC is often divided distinctly by historians into the “Mao era” and the “post-Mao era”. His supporters argue that under Mao’s regime, China ended its “century of humiliation” and resumed its status as a major power on the international stage.

Deng Xiaoping, who was the paramount leader of China from 1978-92, became instrumental in China’s economic reconstruction following the Great Leap Forward²⁶ in the early 1960s. During Deng’s period, the goals of his reforms were summed up by the Four Modernisations, those of agriculture, industry, science and technology, and the military. The Four Modernisations, in fact, laid the foundation for China to emerge as a great economic power by the early 21st century. These reforms essentially stressed economic self-reliance. On the foreign policy front, he practised a pragmatic approach on how China ought to manage its international affairs: that is, “observe carefully, secure our positions, cope calmly, conceal our capabilities and bide our time, keep a low profile, never take the lead, and make a contribution”.²⁷ Deng’s “reform and opening” policies comprised a process of integrating China, for the first time, into the international system.²⁸

China has also gone from a position of receiving virtually no foreign investment and having a low level of international trade to one where it has begun to play a major role in the economic sphere globally.

25. *Towards the End of Isolationism: China’s Foreign Policy After Mao* by Michael Yahuda, Reviewed by Donald S. Zagoria, *Foreign Affairs*, <https://www.foreignaffairs.com/reviews/capsule-review/1984-06-01/towards-end-isolationism-chinas-foreign-policy-after-mao>

26. The Great Leap Forward of the PRC was an economic and social campaign by the CPC from 1958 to 1961, led by Mao Zedong and aimed to rapidly transform the country from an agrarian economy into a socialist society through rapid industrialisation and collectivisation. “Great Leap Forward Explained”, http://everything.explained.today/Great_Leap_Forward/

27. Peter Ferdinand, “Sino-Russian Relations: An Analytical Overview”, in Arkady Moshes and Matti Nojonen, eds., *Russia-China Relations Current State, Alternative Futures, and Implications for the West* (The Finnish Institute of International Affairs), p. 26.

28. Erwin Blaauw et. al., “The Driving Forces Behind China’s Foreign Policy: Has China Become More Assertive?”, This is the outcome of an internship by Myrthe van der Stelt at the Country Risk Research team at Rabobank Nederland. October 23, 2013. <https://economics.rabobank.com/publications/2013/october/the-driving-forces-behind-chinas-foreign-policy-has-china-become-more-assertive/>

Over a period of time, China's foreign policy became closely linked to its self-perception of self-superiority/self-inferiority dualism.²⁹ This also brings us to the concept of the 'Middle Kingdom' on which China has promoted its foreign policy interests, territorial claims, counter-claims and priorities. Based on this concept, there was no distinction between domestic and foreign affairs mainly because the outer world was seen as an extended internal world, with the same rules and responsibilities. This is where the argument of self-superiority dualism comes in, i.e., China has the mentality of being superior, being the "Middle Kingdom" with the natural right of ruling the world. Not just the Chinese foreign policy thinking but its territorial claims are closely linked to this core of perception of the superiority identity.

As the Chinese supremacy began to recede, the question of Chinese identity and the course in which it should evolve became a constant theme as China lost its centrality in Asia, from being the centre of power to which others paid tribute, to becoming a semi-colonial country in the mid-19th century. In fact, some scholars argue that China's rise has gone hand in hand with a confusing multitude of overlapping ideas and principles about what China is and what it should be.³⁰ During the initial stages, the key element of China's foreign policy thinking in the Communist Party of China (CCP) sought to regain for it the respect and dignity of being a great nation that had been lost after what the Chinese perceive as a "century of humiliation," when external powers dominated the region. Furthermore, post its independence, China was not in a position to play a decisive role in regional geo-politics, especially in Asia. In fact, after Deng Xiaoping assumed power in 1978, there was an awareness that China's military and economic capabilities lagged behind those of the superpowers the US and the Soviet Union.³¹ Due to this, the country had to look up to either of the two superpower blocs during the Cold War period and decided on the Soviet Union which played the role of a 'big brother'. As it gained momentum in regional geo-politics, especially gaining

29. Mikael Weissmann, "Chinese Foreign Policy in a Global Perspective: A Responsible Reformer 'Striving For Achievement'", *Journal of China and International Relations*, vol. 3, no. 1, 2015, pp. 151-154. <http://www.diva-portal.org/smash/get/diva2:817328/FULLTEXT01.pdf>

30. Blaauw, n.28.

31. Ibid.

hegemony in Asia, China began to see India as its potential competitor, as India too was emerging as an influential actor in Asia. The end of the bipolar world saw the unipolar movement led by the US which caused anxiety to China. Overall, China's participation in the global system was extremely limited. The idea of sharing space, inter-dependence or coexistence with other players in regional and international politics in a way led China to develop the perception of self-inferiority dualism.

In the 1980s, compared to the years earlier, under Chairman Mao Zedong, the idea of reform and opening up of the country after the 3rd Plenary Session of the 11th Central Committee of the Communist Party in December 1978 represented the mainstream of China's economic and development strategy, as well as its foreign policy. The economy changed from a field in which market forces were virtually non-existent in organising economic activity to one in which these started to play a larger role. China has also gone from a position of receiving virtually no foreign investment and having a low level of international trade to one where it has begun to play a major role in the economic sphere globally.³²

In recent years, the over-arching driving factor behind the foreign policy in China, and the common denominator to most of its global activities, is its economic development. China has emerged as a key actor in the world economy through its geo-economic foreign policy. As the country's economic power increased, China's foreign policy too has become more assertive and visible to the outside world. Some countries and a few in the strategic community have even looked fearfully at future developments in this regard. China, today, has moved from being an isolated country to having become one of the world's major powers. It has also shifted from an ideology driven foreign policy to a more pragmatic way of international behaviour, aims and engagements.

China has spread its tentacles of engagements for a comprehensive development and also to succeed in its aspiration of becoming a global power. In the early years of the 21st century, China actively developed foreign policy

32. Ibid.

concepts that would comply with the traditional core principles, namely, non-intervention and non-conditional behaviour and promoting the idea of the country's peaceful intentions. The first concept, "the peaceful rise of China" (*Zhongguo heping jueqi*), was launched in 2003. The concept was publicised in the same year in a speech given in the Boao Forum for Asia by Zheng Bijian, the then vice principal of the Central Party School. Zheng pointed out in his speech that, historically, the rise of new powers often caused major changes in the global political structures, even through warfare. He reaffirmed that the PRC was pursuing a peaceful foreign policy and would not take the hegemonic path. The Premier of China, Wen Jiabao, used the same concept in 2004 in his speech, thus, giving it the official seal of approval. Nevertheless, the term "rise" proved to be too controversial and it provoked critical responses from neighbouring countries and international observers alike. Consequently, Beijing reacted quickly and changed the term in 2004 to the more neutral "peaceful development of China" (*Zhongguo heping fazhan*).³³

China, which often remains passive in addressing international security challenges or global governance issues, does not, however, keep a low profile on issues that may directly or indirectly impact the troubled autonomous regions in China—Tibet, Xinjiang and including Taiwan, human rights and its maritime territorial claims.³⁴ In the past years, China's foreign policies have become more assertive on a range of issues such as the maritime border disputes along China's periphery, and other major foreign policy drivers, such as maintaining the dominance of the Communist Party, to defend sovereignty and territorial integrity and ensure the maintenance of economic development, have remained unchanged. In 2010, China's foreign policies became more forceful in regard to relations with countries in the region and relations with the US. This has triggered strong reactions in the region, and some remain 'hotspots'. The conflict with Japan about the disputed Senkaku/Diaoyu Islands has increased tensions. And since China has also become economically important to the region, the existing tensions

33. Matti Nojonen, "Introduction: Adjusting to the Great Power Transition", in Moshes and Nojonen, eds., n.27, , p. 11.

34. Blaauw, n.28.

may not be alleviated in the coming years either.³⁵ On the international front, the desire has, thus, become to keep things stable in and around China's territorial space, including the maritime region.

As a global power, being a permanent member of the UN Security Council and a member of the G20, China, as an emerging global power, seeks alliances and partnerships with other dissatisfied international actors, most clearly seen in the BRICS (Brazil, Russia, China, India, South Africa). In fact, it is also seen as a quasi-superpower, second in the global system only to the United States – a position that creates expectations. It is also clear that China is already a regional power, closely watched and a key focus point for its regional neighbours' foreign policy strategies and security concerns. Not surprisingly, an extensive debate has evolved about China's foreign policy strategy.³⁶

One important point to be noted here is that the aspiration of the Chinese administration during the Cold War period was confined to establishment of its hegemony in the Asian region. However, though China's immediate objective was to become the hegemonic power of Asia, with sustainable economic prosperity and defence capabilities, its ambitions in the current world system are no longer confined to the Asian region but have a global connotation, and it is keen to challenge the preeminence of the US and achieve influential status in world politics in parity with the US. Maritime security has also gained relevance which can be seen in its aggressive posturing in the South China Sea.

After achieving regional dominance, China has gone to great lengths to prevent other great powers from controlling its 'pivotal regions', especially the US. However, in Southeast and Southwest Asia, Beijing is at a disadvantageous position as it has (a) long standing territorial disputes with many of these states; (b) its aggressive posturing in the South China Sea has caused anxiety

35. Erwin Blaauw and by other authors, "The driving forces behind China's foreign policy - has China become more assertive?", This Special is the outcome of an internship by Myrthe van der Stelt at the Country Risk Research team at Rabobank Nederland. October 23, 2013. <https://economics.rabobank.com/publications/2013/october/the-driving-forces-behind-chinas-foreign-policy-has-china-become-more-assertive/>

36. Ibid.

Similar to Russian worries, Beijing is also concerned about the global supremacy of the US, especially with regard to its 'rebalancing strategy', aimed primarily to halt Beijing's global ambitions. This has given way to inevitable competition between the US and China.

among these nations towards China; and; (c) the presence of the US and its engagement with the countries of these regions have all led to Beijing looking towards the South Asian region and the Central Asian region, 'the heartland' in particular to create a 'comfort zone' to sustain its growth and to achieve its perennial goals.³⁷ Some of these include internalising the task to create an image of China as a "responsible great power", or "responsible stakeholder" while facilitating for continued regional and global economic prosperity.³⁸

After years of focussing heavily on Europe and the broader West, Russia's strategic posture is currently undergoing a fundamental reorientation towards Asia. Russia has announced plans to 'turn East' but on this occasion, however, the circumstances are different. First, an Asian pivot has become an imperative for Russia rather than a choice. Russia like many other countries and policy-makers believes that the 21st century is clearly Asian in character, with a centre of gravity located around Beijing and New Delhi. The motives behind Russia's rebalance to Asia consist of both 'push' and 'pull' factors that include the fact that a rebalance is necessary for the Kremlin to secure a place in the 'Asian Century'. The relative transfer of influence and power from West to East means that Russia must establish a stake in the evolving regional order if it is to benefit from new power configurations.³⁹ The Kremlin is, thus, in need of a partner that shares similar concerns and has the capability to counter the preeminence of the US in the existing global order. Hence, it has begun reviewing its focus on the Asian region, more importantly, towards China, which has made remarkable growth in international relations. Similar to

37. John Mearsheimer, "Why China's Rise Will Not Be Peaceful", September 17, 2004, <http://mearsheimer.uchicago.edu/pdfs/A0034b.pdf>

38. Weissmann, n.36.

39. Mathew Sussex, "Russia's Asian Rebalance", Lowy Institute for Foreign Policy, December 2015. <http://www.lowyinstitute.org/files/russia-asian-rebalance.pdf>

Russian worries, Beijing is also concerned about the global supremacy of the US, especially with regard to its 'rebalancing strategy', aimed primarily to halt Beijing's global ambitions. This has given way to inevitable competition between the US and China. In this context, the Sino-Russian relations possess great geo-political weight in the current international relations.

In order to understand the current strategic partnership between Russia and China, interpretation of facts and events that took place historically would add value to the arguments presented in determining whether the partnership will survive the test of time in the future.

China began to question the de-Stalinisation process and peaceful coexistence movement initiated by Khrushchev and raised questions on the ideology, security, and economic development of the Soviet Union and saw these principles as a betrayal of Stalin's vision of the USSR and a means to appease the West.

PROGRESSION OF RUSSIA-CHINA BILATERAL RELATIONS

In its nascent stage as a new republic, unlike India, China did not opt to stay away from bloc politics during the Cold War period. Although some of the Chinese leaders believed that balancing the Sino-Soviet close relationship with some ties with Washington was possible, Mao Zedong knew that China had no choice, but to "lean on one side" i.e, with the Soviet Union, as close as possible. Thus, Beijing took the Kremlin as the model for development in which Soviet design, equipment and skilled labour was set out to help industrialise and modernise the PRC. In 1950, the two countries negotiated the "Sino-Soviet Treaty of Friendship, Alliance, and Mutual Assistance" which gave the Soviet Union the right to continue the use of a naval base at Luda, Liaoning province, in return for military support, weapons, and large amounts of economic and technological assistance, including technical advisers and machinery. Additionally, China's participation in the Korean War (1950-53), especially after the UN-sponsored trade embargo on China, further strengthened the Sino-Soviet relations. Although there was a Sino-Soviet split in the late 1950-60s, the

alliance appeared to unite Moscow and Beijing after the Soviet dissolution in 1990. China became more closely associated with, and dependent on, a foreign power than ever before.⁴⁰

Trouble in Paradise

After Stalin's death, the bilateral relations between the countries began to deteriorate as Nikita Khrushchev, who took over the reins from Stalin, formulated a foreign policy that aimed at "peaceful coexistence" with the Western world, which China refused to accept.⁴¹ China began to question the de-Stalinisation process and peaceful coexistence movement initiated by Khrushchev and raised questions on the ideology, security, and economic development of the Soviet Union and saw these principles as a betrayal of Stalin's vision of the USSR and a means to appease the West. By 1964, Mao was asserting that there had been a counter-revolution in the Soviet Union, and that capitalism had been restored such as the disavowal of the Marxist-Leninist tenet developed by Stalin regarding the dictatorship of the proletariat,⁴² thus, announcing the end of the Cominform and (most troubling to Mao), de-emphasising the core Marxist-Leninist thesis of inevitable war between capitalism and socialism. Mao and his supporters argued that traditional Marxism was rooted in an industrialised European society and could not be applied to Asian peasant societies. Relations between the Chinese Communist Party and the Communist Party of the Soviet Union broke off, as did relations with the Communist Parties of the Warsaw Pact countries.⁴³ The Sino-Soviet split in the 1960s was a result of an ideological dispute which lasted almost until the collapse of the Soviet Union. But the main reason for China opposing the Soviet Union was somehow deeper: it was the time when real competition between Moscow and Beijing started; competition over influence in the Third World and

40. Robert L. Worden, et.al, *China: A Country Study* (Washington: GPO for the Library of Congress, 1987), <http://countrystudies.us/China/>. Accessed on October 12, 2014.

41. n.25.

42. Liu Yunhai, <http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?lang=en&id=108648>, June 2005

43. "Sino-Soviet Split", <http://www.ibiblio.org/chinesehistory/contents/03pol/c05s04.html>. Accessed on September 25, 2014.

the International Communist Movement. China was, thus, attempting to displace the Moscow regime as the ideological leader of world Communism. The USSR had a network of Communist Parties it supported; China created its own rival network to battle it out for control of the left in numerous countries.⁴⁴ By the end of the 1960s, China, in the Soviets' official view, turned into a bitter enemy, and the Moscow leadership began to think about a possibility of an outright war with its former ally. Beijing too saw an inevitable confrontation with the Soviet Union, probably even a nuclear confrontation. A large Soviet military group was deployed in the Russian Far East.⁴⁵

In 1963, the boundary dispute had come into the open when China explicitly raised the issue of territory lost through "unequal treaties" with Tsarist Russia. After unsuccessful border consultations in 1964, Moscow began the process of a military build-up along the border with China which continued into the 1970s.⁴⁶ On March 2, 1969, there was a violent confrontation on the Ussuri river, where dozens of Russian border guards were killed by Chinese soldiers. The Russians retaliated on March 15, with an artillery barrage that left the landscape on the Chinese side of the border looking like the Moon's surface.⁴⁷ Over the next decade, relations stabilised in an implacable confrontation. There was always a danger of renewed border clashes over disputed territory escalating into more serious conflict. The Soviet Army massively expanded its forces in Siberia and the Far East, posing a continuous threat to Beijing. Until at least the mid-1980s, the official line in Beijing remained the inevitability of war, with the Soviet Union seen as the most likely adversary.⁴⁸

44. Harold P. Ford, "[https://www.cia.gov/csi/studies/winter98_99/art05.html Calling the Sino-Soviet Split]", *Studies in Intelligence*, Winter 1998-99.

45. Alexander Lukin, "Perceptions of China Threat in Russia and Russian-Chinese Relations", Written for the International Conference "China Threat Perceptions from Different Continents," Hong Kong, January 11-12, 2001.

46. Worden, et. al., eds., n.40.

47. Keith Suter, "1969: Russia and China- The War That Did Not Happen", *Global Directions*, <http://global-directions.com/Articles/Global%20Politics/China-Russia.pdf>. Accessed on September 27, 2014.

48. Ferdinand, n.27, pp. 31-34.

With Pakistan as the mediator, Mao responded to overtures from President Nixon and turned towards the US for hard balancing against the Soviet Union. In connection with Nixon's visit to China, the Soviet Union severely attacked the "Sino-American rapprochement". With Nixon's visit, most anti-American propaganda disappeared in China. The US was still criticised for imperialism, but not to the degree it had been before 1972. Instead, Soviet revisionism and "social imperialism" were now seen as China's main enemy. Furthermore, the triple alliance among Islamabad-Washington-Beijing against India forged the proximity between India and the Soviet Union as New Delhi received unqualified support from the Soviet leadership. The 1971 Bangladesh Liberation War resulted in a significant shift in the Cold War power balance in the South Asian region and the Soviet Union faced an alliance which was a force to reckon with in the South Asian security landscape. This further accelerated the tension between Beijing and Moscow.

The divide in the partnership fractured the international Communist movement and opened the way for the warming of relations between the United States and China under Nixon in 1971. Moreover, Soviet intervention in Afghanistan exacerbated Chinese concerns about possible Soviet expansion in Asia and kept them on high alert.

Post Cold War Relations

The second half of the 1980s brought a 'wind of change' in the relations between Russia and China. Mikhail Gorbachev, last secretary of the Party understood that maintaining a good relationship with China would work in favour of the Soviet Union and, thus, announced the "China First" policy and, hence, in 1986, the Soviet Union decided to fully reestablish ties with the PRC. Gorbachev proposed agreements on a border railroad, joint hydropower development of both countries and even cooperation in space.⁴⁹

By 1989, the process of rapprochement was complete when Gorbachev visited Beijing which resulted in a steady strengthening of relations. As a

49. Ibid.

gesture of extending support to its ally, Gorbachev refused to involve the USSR in the sanctions the Western powers imposed on China following the Tiananmen disturbances.⁵⁰ Gorbachev was the first to seek détente, and proposed mutual withdrawals of troops from the border, and this quite quickly evolved into relieved reconciliation. However, this process was disrupted by the collapse of the Soviet Union, but as early as 1992, China and Russia signed an agreement on friendly relations, and this was consolidated with a Treaty for Good Neighbourliness, Friendship and Cooperation in 2001.⁵¹

Post the Soviet collapse, Boris Yeltsin, the first president of the Russian Federation, too remained a firm advocate of good relations with China and worked to build on the breakthrough achieved in the 1980s despite the strong pro-Western orientation of his government. In 1998, the two countries acted for the first time openly in concert in the Security Council to oppose the US bombing of Iraq (“Operation Desert Fox”). Subsequently, both countries strongly opposed the US-led attacks on Yugoslavia in 1999 and on Iraq in 2003. Since then, their cooperation in political, economic and security matters has intensified.⁵²

In the early 1990s, however, it briefly appeared that the Chinese were becoming concerned as Moscow could become Washington’s strategic ally, which was being interpreted as an engineered encirclement of the PRC by the US. Fortunately for the Beijing Administration, the failure of the Russo-American strategic partnership became evident over the dispute over NATO enlargement in the former Soviet space, the war in Kosovo, and the development of national missile defence capability. In 1996, Moscow and Beijing agreed on a formula for a long-term partnership.⁵³ Since 1991, a series of agreements has been signed which led to the delimitation, demarcation and partial demilitarisation of the border. Of its entire length, only three

50. Dmitry Trenin, “Russian-Chinese Relations: A Study in Contemporary Geopolitics”, http://www.bundesheer.at/pdf_pool/publikationen/03_jb00_46.pdf

51. Ferdinand, n.27, p. 22.

52. Anatoly Karlin, “A Very Brief History of China-Russia Relations”, *Da Russophile*, May 2014, <http://darussophile.com/2014/05/a-very-brief-history-of-chinese-russian-relations/>

53. Trenin, n.50.

The most visible manifestation was the Shanghai Cooperation Organisation (SCO) which emerged out of President Yeltsin's impulsive offer of "strategic partnership" with China in 1996 when he felt that the West, especially the US, was not granting Russia the respect and equality that it deserved.

river islands currently controlled by Russia, remain contested. Beijing is no longer raising claims to some 1.5 million sq km of territory annexed in the 19th century by Tsarist Russia through "unequal treaties".⁵⁴ The rapprochement was, thus, based on a number of mutually shared solid strategic interests:

- Sufficient trust had emerged to enable Moscow and Beijing to tackle the complicated border and security issues.
 - The countries acknowledged their different modernisation paths and understood that closer economic and strategic cooperation would benefit them both.
- The geo-political and security constellations were changing for both countries. Moscow witnessed how the previous Eastern bloc and the newly independent states of the old Soviet Union were actively engaging with the European Union and NATO. After Yeltsin's short-lived dalliance with the West and NATO failed, Russia turned to China in the East which was seen as a reliable partner. China was simultaneously facing the growing presence of the US in the Asia-Pacific region. Furthermore, as Beijing analysed the impact of high-tech weapon systems and war technology deployed by the US in the first Iraq War, China understood that it needed to quickly upgrade its military capabilities. Due to the post-Tiananmen arms embargo imposed by the Western powers, Russia was the only potential source for the purchase of military high-tech.
 - Post Cold War era, Beijing and Moscow became concerned about the hegemonic position and influence of the US and strongly opposed the unipolar world order of the Western countries.⁵⁵ Thus, the establishment

54. Ibid.

55. Nojonen, n. 33, p.14.

of a new world order and the new situations made China and Russia reshape their foreign policies.

Both countries, therefore, looked to each other for a stable regional environment, economic cooperation and strategic pay-offs. The most visible manifestation was the Shanghai Cooperation Organisation (SCO) which emerged out of President Yeltsin's impulsive offer of "strategic partnership" with China in 1996 when he felt that the West, especially the US, was not granting Russia the respect and equality that it deserved. This struck a chord among Chinese leaders who were also concerned about

the security threat to Xinjiang from Afghanistan and possibly the rest of Central Asia. They initiated a process of regional cooperation at a meeting in Shanghai, which attracted most Central Asian states that were worried about the potential threats to their new-found independence. In 1998, this was turned into a formal diplomatic mechanism, and in 2001, they held the inaugural meeting of the SCO.⁵⁶

The other important factor that led to strengthening of ties between the two countries was China's need of Russian defence equipment. Due to the deplorable condition of Russia post the Soviet break-up due to the huge economic crisis, and the crippling of the defence industrial complex, Russian military enterprises were constrained to sell their products to China as Russian military exports plummeted after 1991, and China became the most important client.

Russia's and China's displeasure with the unipolar movement led the two countries to declare that the new international order should be based upon "mutual respect for sovereignty and territorial integrity, mutual non-aggression, non-interference in each other's internal affairs, equality and mutual advantage, peaceful coexistence and other universally recognised principles of international law."

56. Ferdinand, n. 27, p.20.

Relations Since 2000

Post President Yeltsin's resignation, his successor Vladimir Putin's foreign policy initially was seen more as Europe and America centred, but he did not forget about the relevance of China in Russian foreign policy interests. In 2001, one of the most significant treaties was signed, the Treaty for Good Neighbourliness, Friendship and Cooperation between the PRC and the Russian Federation. This 25-Article document outlined the basis of Sino-Russian cooperation for the next 20 years. The treaty highlighted that there are no more territorial demands between the states, and that the countries will hold negotiations over the final demarcation of some common border areas set up already in 1991. For future existence and for the international scene, the most important were Articles 8 and 9 in the scope of the treaty. Article 8 guarantees peaceful cooperation between the two states: "Neither party will participate in any alliance or bloc which damages the sovereignty, security, and territorial integrity of the other party, and will not adopt any similar action, including not concluding a similar treaty with any third country. Neither party to the treaty will permit a third country to use its territory to damage the national sovereignty, security and territorial integrity of the other party". Article 9 is the core of Sino-Russian cooperation: "If one party of the treaty believes there is a threat of aggression menacing peace, wrecking peace, and involving its security interests and is aimed at one of the parties, the two parties will immediately make contact and hold consultations in order to eliminate the threat that has arisen". At the turn of the century, Russia signed a treaty with China which was the most significant as the term "strategic partnership", was used to describe the late 1990s and 21st century Sino-Russian relations.⁵⁷

Convergence of Interests

The contemporary relations between Russia and China have strengthened due to the convergence of interests and mutual concerns. Thus, the factors that have led to the rapprochement between the two countries are based on a number of mutually shared strong strategic interests. Russia's and

57. Ibid., p. 24.

China's displeasure with the unipolar movement led the two countries to declare that the new international order should be based upon "mutual respect for sovereignty and territorial integrity, mutual non-aggression, non-interference in each other's internal affairs, equality and mutual advantage, peaceful coexistence and other universally recognised principles of international law." This underlying overlap of views on international affairs was crystallised in 1997 when China and Russia signed a "Joint Declaration on a Multipolar World and the Establishment of a New International Order". The two countries have also reaffirmed the intention to work towards the strengthening of the UN and along with India, Brazil and many other countries, anticipate the emergence of a more multipolar world, to which an increasing number of developing countries would also contribute.⁵⁸

The Russia and China borders are on a potentially very unstable region of the former Soviet Central Asia. The new states in the region are all too fragile, with the post-Soviet regimes remaining vulnerable to domestic unrest that may result in ethnic and religious conflicts. In addition, like Moscow, Beijing sees the growth of Western influence, intra-state rivalry, and the spread of political extremism, coupled with the exponential growth of drugs trafficking in Central Asia as a cause for concern or even a threat. However, the Western geo-political "trespassing" in Central Asia and its participation in NATO's Partnership for Peace programme, including the staging of joint exercises, is being read as a sign of growing American and European political and security attention being given to the region.

The other main factors bolstering Russia-China relations in contemporary global politics are: (1) Russia is an export oriented country which depends mainly on the energy and defence markets for sustaining its economic growth; (2) China is a huge market as the country is 'imported oriented', especially in terms of energy and defence markets. Therefore, China's demand for energy resources will enhance Russia's energy security as Moscow is in search of geo-political diversification of energy markets, apart from the European

58. Ibid.

Union nations. Moreover, China's growing infrastructural development and economic prosperity has, in turn, led to growing energy demands. The Russian energy market is the key to China's energy consumption. Conventional wisdom holds that a potential Sino-Russian deal could raise the impulse on both sides to form a robust Eurasian continental energy-centred entente.⁵⁹ Additionally, as both countries are permanent members of the UN Security Council, the veto power holds key importance to each other which can be manoeuvred in their favour in the future.

Inferences

In order to advance their strategic cooperation further, China and Russia have realised very well that historical baggage such as border disputes should be resolved. Therefore, the two countries have overcome impediments which could have otherwise caused a dent in the durability of the strategic partnership. Currently, the Russian political elites perceive that their main security challenges emanate from Western Europe, the US and the Middle East. China is not regarded as a genuine military threat to Russia and vice-versa.

Both China and Russia believe that they were unfairly treated in the past, and in the contemporary geo-political architecture, the Western allies' policies aim at curtailing their growth and influence. Hence, the two countries are pushing for national rejuvenation and global image building, at the individual as well as bilateral level, to emerge as powerful global actors.

Although the countries are inter-dependent on each other, they also have alternative sources as they both understand that over-dependence means potential vulnerability as was seen during the Sino-Soviet split phase.

Tellingly, Richard Weitz stresses that the relations have not blossomed into a "formal military alliance" or into closely coordinated policies on regional security matters. It is a partnership of convenience wherein both remain competitors rather than true partners as national interests may lead to opposing views in the international realm, as seen historically.

59. Morena Skalamera, "Pipeline Pivot: Why Russia and China are Poised to Make Energy History", This policy brief is based on "Booming Synergies in Sino-Russian Natural Gas Partnership: 2014 as the Propitious Year," published May 2014 by the Belfer Centre for Science and International Affairs, p.4.

Nevertheless, let us explore these arguments based on a few hypothetical scenarios, taking into consideration the historical engagements and challenges that existed in Russia-China relations and how they may impact the core mutual interests which, when compromised, may justify the predictions of the academic community. Some hypothetical situations are:

Scenario 1: China Becomes Self-Reliant and is No Longer Dependent on Russia

China has become stronger than Russia and is leaving no stone unturned to be less dependent on Russia and become more self-reliant in spheres such as defence cooperation. In its efforts, China has made great advances in developing its own military equipment since 2005, with the indigenisation of its defence industries. If and when China reaches enough independence from Russia in military technology, Beijing might well 'dump' Russia as a 'strategic' partner. The answer is: the interaction between the two countries is limited to mainly three items: oil, gas and arms, apart from the strategic aspect in which Russia clearly has an upper hand. For China to completely decamp itself from Russian dependency for advanced military technology is improbable in the foreseeable future, at least until the Europeans or the Americans remove their boycott on arms sales to China, as this would, over time, undercut Russian companies' dominant position as suppliers.

Scenario 2: Russia Loses Control in the Eurasian Space to China

Russia is aware that the Central Asian states are more dependent on China. Central Asia is the strategic backyard of Moscow but China is becoming the decisive player through the SCO. However, as China has outperformed Russia in many spheres, especially in economic development, Moscow sees the presence of China in Central Asia more as a 'caretaker' as it is the major economic investor and market in the region and, more importantly, the presence of China as a major player will keep the US at bay in the region which Russia for now is unable to do.

Scenario 3: The Equation With the US Changes

The future of Sino-Russian relations still depends largely on the policies of

the United States and Europe towards China and Russia at the individual level. Although Russia and China see the US as anathema, China would continue to coexist with the US in the international system as long as the US respects Chinese interests and gives scope to its growth in global politics. As for Russia, historically, its preferred option is to lean towards the West. Moscow has made efforts and continues to make efforts, to strengthen its ties with Washington. In other words, although both China and Russia may despise the West, China cannot sacrifice the US market, and Russia will not give up on a reset of relations with the US.⁶⁰ However, threat perceptions regarding the US policies to encircle the growth of China and Russia in global politics will continue to push China and Russia to form a “soft alliance” against the US. For instance, fear of a US-China military conflict over Taiwan, or countries of the former Soviet space becoming members of either NATO or the European Union or a more aggressive US posture which confronts Russian interests in the post-Soviet space.

Scenario 4: Demographic Asymmetry and the Rise of a Border Dispute

In fact, the problems with a Sino-Russian alliance run even deeper. With its economic, military, and demographic heft, China generates considerable unease in Russia. Consider the demographic situation in Siberia which is now Russia’s new frontier. Siberia floats on an ocean of gas fields.⁶¹ Its eastern provinces are very sparsely populated while China has 10 times the population of Russia. What is worse, the Russian population is declining while the Chinese is growing. Many are afraid that illegal Chinese immigrants will simply settle in Siberia and the Far East, and that it is simply a matter of time before China will want to grab official Russian land. An ascending China is certainly a problem for, and a rival to, Russian influence in that area, but military adventurism by China in the Russian border territories holds too little of value to even consider going to war over it.⁶²

60. Huiyun Feng, “China and Russia vs. the United States? Just How Likely are China and Russia to Ally Against the U.S.?” , *The Diplomat*, March 2, 2015

61. Suter, n.47.

62. <http://www.city-data.com/forum/history/943542-china-russias-historical-relationship-ancient-war.html#ixzz415mzazH8>

Another important driver in the Russian-Chinese strategic relationship will be the development of the Russian oil and gas sector. China, the fastest growing petroleum consumer in the world, has viewed Russia as an important alternative source of oil—and to a lesser extent, gas—for the past decade or so.

Undoubtedly, the China-Russia strategic relations today are better than ever. Both countries, despite sharing common factors in the past, pursued different paths in terms of ideology, national interests, diplomatic ties, economic relations, etc until the disintegration of the Soviet Union. Currently, the partnership is united by wide-ranging mutual interests and mutual concerns with a common goal to challenge the preeminence of the US and establish a multipolar world, enhance global security, and combat non-conventional threats. The partnership is also one of mutual suspicion and competition.

Based on their past behaviour, and the historical developments in the bilateral relations between the two countries, in the context of contemporary international politics, the strategic community has submitted various outcomes of the strategic partnership between Russia and China, one of which is the 'role reversal' argument in which Russia will play the junior partner in the alliance. Another argument presented is that the partnership is here to stay, while some predict that relations between the two countries are transitory as it is a partnership of convenience, and the mutual interests and mutual concerns are in response to the current developments in international politics and based on the national interests and global aspirations of the two countries.