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IN PURSUIT OF NATIONAL SECURITY

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CENTRE FOR AIR POWER STUDIES

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To be an independent **centre of excellence on national security** contributing informed and considered research and analyses on relevant issues.

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To encourage independent and informed research and analyses on issues of relevance to national security and to create a pool of domain experts to provide considered inputs to decision-makers. Also, to foster informed public debate and opinion on relevant issues and to engage with other think-tanks and stakeholders within India and abroad to provide an Indian perspective.

DEFENCE AND DIPLOMACY

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EDITOR'S NOTE

The global geostrategic action remains centred around South and East China Sea and Afghanistan. US President Joe Biden met Chinese President Xi Jinping virtually on November 15, 2021. The two leaders discussed the complex nature of relations between the two countries and the importance of managing competition responsibly. As per the press release, the exchanges were candid and straightforward and covered areas where their interests align, and areas where interests, values, and perspectives diverge. President Biden underscored the need for free, open, and fair international system. Concerns about China's human rights issues in Xinjiang, Tibet, and Hong Kong were highlighted. Also, unfair trade and economic practices, and need for free and open Indo-Pacific were conveyed. On Taiwan, while the USA was committed to the "one-China" policy, but guided by the Taiwan Relations Act, the United States strongly opposed unilateral efforts to change the status quo or undermine peace and stability across the Taiwan Strait. The importance of managing strategic risks emerged clearly. The two leaders also exchanged views on other regional challenges, including North Korea, Afghanistan, and Iran.

After the withdrawal of the US troops from Afghanistan, the Taliban took control from August 15, 2021. President Ghani fled Afghanistan. The initial resistance by Amrullah Saleh and Ahmad Massoud was crushed and the Panjshir province came under Taliban control by mid-September. The resistance leaders fled to neighbouring Tajikistan, for a possible regroup later. The supreme leader Hibatullah Akhundzada and acting Prime Minister Hasan Akhund, took office on September 7, 2021. Like in the previous Taliban rule from 1996 to 2001, the United Nations has not recognised the current

regime. Western nations have suspended most humanitarian aid to Afghanistan following the Taliban's takeover, and the World Bank and International Monetary Fund also halted payments. More than half of Afghanistan's 39 million people are currently facing acute food shortage, as they approach winter. Also, Afghanistan was facing widespread famine due to a collapsed economy and broken banking system. Pakistan has finally allowed India to send a humanitarian shipment of 50,000 metric tonnes of wheat to Afghanistan through its territory after the finalisation of the transit modalities. Last year too India assisted Afghanistan with 75,000 metric tonnes, as part of its developmental and humanitarian support. Beijing's primary focus for now is to ensure stability on its western border and sustain its relationship with the new Taliban government in Kabul. China has pledged 200 million yuan ($31 million) aid to Afghanistan, including food supplies and Coronavirus vaccines. China will try and close up with the Taliban, and also become the biggest spender and investor in Afghanistan, but would extract its price. With the Taliban back in power in Afghanistan, Pakistan may have come closer to achieving its long-sought "strategic depth" with respect to India. But the Taliban's victory is also seriously testing Pakistan's long fraught bilateral relationship with America. For the last 20 years, US-Pakistan relations have been defined by the needs of the US war in Afghanistan. With that war having ended, and with the Taliban in control, the relationship is at a clear crossroads. A bill moved in the US Senate seeking to assess Pakistan's alleged role in Afghanistan before and after the fall of Kabul has set alarm bells ringing in Pakistan. Meanwhile, Pakistan was retained on the FATF 'grey list' for failing to effectively implement the global FATF standards and over its lack of progress on investigation and prosecution of senior leaders and commanders of UN-designated terror groups. Pakistan also continues to face multiple sources of internal conflict. Extremism and intolerance of diversity has grown. The armed groups active in Pakistan include Taliban-affiliated groups in the Federally Administered Tribal Areas and independence fighters in Baluchistan. Tehreek-e-Labbaik Pakistan (TLP) is known for its protests in opposition to any change to Pakistan's blasphemy law. Most of the party's members belong to the Barelvi movement and

it secured over 2.2 million votes in 2018 elections. Despite being banned TLP was allowed to contest the elections and secured third place in Karachi by-elections. The party organised the 2021 Pakistani protests. On November 7, 2021, Government of Pakistan lifted the ban on TLP's proscribed status and rehabilitated its status. This is viewed as the Pakistan Army's means of using the group to keep in check the civilian government.

The 13th round of the India-China Corps Commander Level Meeting was held at the Chushul-Moldo border meeting point on October 10, 2021. There was no resolution of the remaining areas. Both China and India continue to strengthen infrastructure along the border. The troops on both sides are preparing to hold ground during the forthcoming harsh winter. Meanwhile China has reportedly built 628 "xiaokang" villages along the 3,488-km Line of Actual Control (LAC), stretching from eastern Ladakh to Arunachal Pradesh. A United States Department of Defence report mentioned that China had built a 100-home civilian village inside India's Arunachal Pradesh state. The Himalayas have now become a dangerous flashpoint.

India is currently celebrating the Golden anniversary of the victory in the 1971 India-Pakistan war that resulted in the liberation of Bangladesh. 'Swarnim Vijay' events are being held across the country. We in CAPS published a book, *The 1971 Indo-Pak Air War—Reflections and Projections*, and organised a National Seminar.

This issue of *Defence and Diplomacy* has three articles covering important aspects of air war of 1971 Indo-Pak conflict. There is an overview of the air war as seen by the then Air Chief P. C. Lal and covers details of the ground situation and prosecution at macro level. Air Marshal Diptendu Choudhury covers the operational role, training, perceptions, and psyche of Pakistan Air Force, and how they tried surmounting the challenges during the 1971 war while facing a very formidable Indian Air Force.

Air Marshal Bharat Kumar writes on "The Battle of Longewala: The Quick Response and Decisive Impact of Air Power". The Battle of Longewala was one of the most significant air actions, and perhaps brought victory and laurels to India in the shortest possible time. It put paid to the Pakistani plan of launching a Corps-level offensive supported by the entire Pakistan Air Force in the central sector. What

got reaffirmed was that "Airpower may or may not ensure your victory, but its lack will certainly bring you to defeat." AVM Anil Golani writes on the military diplomacy and the role of the soldier diplomat, and how military diplomacy could be effectively utilised as a tool of statecraft to further national interests in the 21st century. Technology has allowed an environment of "No war no peace" and this in turn requires a new approach to military diplomacy. Group Captain Anand Rao looks at Indo-US cooperation in Space Situational Awareness (SSA). Space is the ultimate enabler for many civil and military applications. With congruence of geostrategic interests, critical emerging technologies like space are areas of joint work between the two nations. As a major space power, India has a great contribution to make in global SSA.

Wg Cdr Swaim Prakash Singh writes on the possible revival of SAARC, and explains why it may not be held hostage to India-Pakistan relations. He feels that stronger cooperation between members could slow the Chinese inroads into the region.

Dr. Uday Pratap Singh writes about Maoist insurgency in Nepal, and its security challenges for India. Of special concern is the increasing Chinese influence in Nepal. Also of concern is the possible coordination between Maoists in India and Nepal, and the need to contain it.

The world is focusing on green energy. We in CAPS are looking at nuclear programmes of all the countries. Zoya Akhter traces the development of Bangladesh's civil nuclear power programme. Bangladesh is scheduled to have its first reactor go critical by 2023, and has targeted to generate about 9 per cent of its electricity from nuclear energy by the next decade. India is likely to have a significant role as part of India-Bangladesh-Russia tripartite nuclear cooperation.

Anand Rao has analysed the Indo-US cooperation in Space Situational Awareness, and its necessity. During Indian Prime Minister Modi's visit to the United States in September 2021, among the many technology and security related issues that were discussed, space was a key area of interest. It was decided to work towards the finalisation of a Space Situational Awareness (SSA) Memorandum of Understanding (MoU) that will help in sharing space object data and services towards ensuring the long-term sustainability of outer

space activities. There are tens of thousands of objects in Earth orbit, including operational space assets, that pose a potential threat to satellites and launches. SSA refers to keeping track of objects in orbit and predicting where they will be at any given time. India has a Space Situational Awareness Control Centre at Peenya, Bengaluru. The control centre would host a range of activities pertaining to protection of Indian Space assets from inactive satellites, pieces of orbiting objects, near earth asteroids and adverse space weather conditions.

Defence and Diplomacy is a journal that covers contemporary geostrategic subjects. Geostrategy is where a state concentrates its efforts by projecting military power and directing diplomatic activity. Geostrategy is about the exercise of power, and about crafting a political presence over the international system. It is aimed at enhancing one's security and prosperity, and about shaping rather than being shaped. It requires military power and presence, and also requires global and regional friends.

Through our journals, we in CAPS encourage strategic thinking and writing. We also encourage reading and imbibing strategic thought. Acquiring knowledge makes one more aware and in turn increases self-confidence. Thirst for knowledge has to be inculcated. Make your reading time your favourite time of day. We also request all our readers to inculcate the habit of analytical writing, and CAPS will be happy to support such endeavours.

Enjoy Reading!

Air Marshal **Anil Chopra**
Director General, CAPS

1971 WAR: THE VIEW FROM THE TOP

ANIL CHOPRA

The 1971 Indo-Pak war was fought between two major combat ready armed forces. The Indian victory was decisive, and a new nation, Bangladesh was created. The Indian Air Force (IAF) played a very significant role. Achieving air supremacy in the east allowed a lightning blitzkrieg campaign for the ground forces. IAF also decimated a large part of Pakistan Air Force (PAF) in the West. In its support to the Indian Army (IA), it helped contain and destroy large parts of the Pak Army and greatly cut Indian losses. Air Chief Marshal Pratap Chandra Lal, Padam Vibhushan, Padam Bhushan, DFC was at the helm of the IAF from July 16 1969 to January 15, 1973, precisely 3 years, 184 days.[1] Earlier he had been the Vice Chief of the IAF, directly running the operations in the 1965 Indo-Pakistan war. He not only oversaw the build-up to the 1971 Indo-Pakistan war, but also had time for reflection and to imbibe lessons of the conflict. The professional standards, capability and flexibility of the much-expanded IAF had been put to the acid test. For Lal, it was the culmination of a long and distinguished career of an outstanding professional, an able leader, yet a very modest, unassuming, and

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1. Air Chief Marshal Pratap Chandra Lal, at http://www.bharat-rakshak.com/IAF/Database/1567. Accessed on May 11, 2021.

gentle human being. In his book *My Years with the IAF*,[2] he penned his lifetime experiences and memoirs.

LAL—A TRUE PROFESSIONAL LEADER

Lal was commissioned into the IAF in May 1940. Later, Squadron Leader Lal commanded the 7 Squadron, from July 1944 to September 1945 operating from Peshawar/Imphal. He was awarded with Distinguished Flying Cross (DFC) for flying reconnaissance sorties over the Irrawaddy plains in Burma (now Myanmar).[3] Lal was a graduate of the RAF Staff College. He held important posts like Senior Air Staff Officer (SASO) of the No. 1 Operational Command (later Western Air Command), and the Military Secretary to the Cabinet. He was leader of the evaluation team which led to the induction of the Folland Gnat. Later he took over as the Air Officer Commanding Training Command in Bangalore. In 1957, Lal was appointed General Manager of the Indian Airlines Corporation (IAC). He stayed there for six years. Lal held the prestigious posts of Air Officer Maintenance, Air Officer Commanding-in-Chief Western Air Command, and was the Vice Chief during the 1965 war. In September 1966, Lal took over as Managing Director of Hindustan Aeronautics Limited (HAL), a post he held till July 1969. During his tenure, HAL began the production of MiG-21 and Gnat fighters, and the HS 748 medium transport aircraft. Lal became the seventh Chief of the Air Staff on July 16, 1969.

THE LESSONS FROM 1965 INDO-PAK WAR

In 1958 Pakistani General Ayub Khan had taken over through a military coup. He ran a "Crush India" campaign, and began building an international Muslim block, and courted the USA. After the 1962 Sino-Indian war he began praising the Chinese. By 1965, Pakistan had got the top end F-86 Sabres and F-104. On the other hand, India had got just about 12 MiG 21s, and mostly had Mystères, Hunters and Gnats. So PAF's technical fighter superiority had somewhat neutralised India's numerical superiority.

2. Air Chief Marshal P. C. Lal, *My Years with the IAF* edited by Ela Lal (Lancer International, First Edition, 1986).
3. Pratap Chandra Lal, Padam Vibhushan, Padam Bhushan, DFC, CAS, IAF Website, at https://indianairforce.nic.in/content/pratap-chandra-lal-padam-vibhushan-padam-bhushan-dfc-cas. Accessed on May 13, 2021.

The 1965 Indo-Pakistani War began following Pakistan's Operation Gibraltar, which was designed to infiltrate forces into Jammu and Kashmir from August 1965. India retaliated by launching a full-scale military attack on West Pakistan. On September 1, IAF was given the go-ahead by the government. IAF used Vampires and Mystères to attack Pakistan Army. The Gnats provided cover for the strikes, and early successes against Sabres in air combat greatly increased IAF confidence. PAF launched a massive attack on IAF airbases in the western sector at 5 p.m. on September 6, destroying some MiGs and Mystères on the ground. On 7th morning at first-light, IAF made a retaliatory strike on most major PAF airbases. Pakistan started running out of supplies by the end of the first week. Pakistani military installations were far from the border, so the IAF had to strike deep. PAF had acquired powerful radars and concentrated more on Air Defence assets. India believed that offensive was the best form of defence.

The 17-day war witnessed the largest tank battle since World War II. Hostilities between the two countries ended after a ceasefire was declared through UNSC Resolution 211 following a diplomatic intervention by the Soviet Union and the United States, and the subsequent issuance of the Tashkent Declaration. India had the upper hand over Pakistan when the ceasefire was declared. Lal linked this kind of hand back of Indian gains after the 1965 war and also the 1971 war as lack of Indian strategic firmness and excessive use of "good faith".

Some of the lessons learnt, including need for hardened aircraft shelters at forward airbases, better joint procedures and link-up between Army-IAF at all levels, and IAF needed an integrated air defence system of anti-aircraft guns, surface-to-air missiles and radars. Lal felt that the lack of a joint Naval Air plan[4] was a serious deficiency. Pakistan Navy could bombard Indian Naval base in Saurashtra under the very nose of IAF base in Jamnagar. This was prevented in 1971 through better joint planning and coordination. IAF also felt the serious shortcoming of operational airbases in Rajasthan sector. After the war, the Air Force Academy

4. Air Chief Marshal P. C. Lal, n. 2, pp. 164-65.

at Jodhpur was moved out and airfields built at Barmer (Uttarlai) and Jaisalmer.

1965—POOR INITIAL HIGHER LEVEL COORDINATION

Lal felt, like many others in the IAF, that Indian Army often seemed to plan all its battles on its own, as if IAF and Indian Navy (IN) were to be treated as add-on bonus. Pakistani designs were known by early 1965. The Army Chief General Chaudhuri was discussing the ground situation with the political leadership.[5] The Air Chief was given only informal briefings. The Naval Chief was not kept in the loop. Navy's role was not expected to be a very big one.[6] In the guise of security, the Army Chief applied the "need-to-know" principle to such an extent that even the Chiefs of Staff Committee (COSC) and the joint intelligence and planning staff were not kept in the picture. Therefore, joint contingency plans were not made, and the three services were never clearly asked to plan for war. Things changed only when the Army was on the defensive in Chhamb and desperately needed IAF support. Things changed thereafter. No service can fight a war alone.

BETTER OPERATIONAL PREPAREDNESS—THRUST OF THE NEW AIR CHIEF

Immediately on takeover as the Air Chief, Lal began building and preparing the IAF for better warfighting capability. He reorganised various aspects of IAF's training and logistics. He also visited many army formations to clearly understand the needs of air support at different levels. He emphasised improved tactics, operational training and careful planning. These contributed to making the IAF one of Asia's most effective air arms. His efforts did not go unrewarded.

PLANNING FOR 1971 OPERATIONS

Lal felt that the armed forces were blessed to have two outstanding leaders in Prime Minister Indira Gandhi,[7] "whose ability to understand complex situations, identify major problems, and define clear cut lines of action."[8] Defence Minister Jagjivan Ram was cool,

5. National Security Lectures, USI 1973, p. 13.
6. Ibid., p. 44.
7. Air Chief Marshal P. C. Lal, n. 2, chapter 11, p. 167.
8. Ibid., pp. 166-67.

unflustered, quick-witted, cheerful, and he did not talk down to people. The period between March and December 1971 was well spent in good coordination between the three services and Ministry of Defence. There were adequate intelligence inputs. Pakistan's confidence to threaten India was bolstered by US and China support.

The objectives defined by COSC were to gain as much ground in the east as possible, and create conditions for early establishment of the possible state of Bangladesh. In the West, the target was to prevent Pakistani forces from making any gains.

The IAF prioritisation was air defence of homeland first, support to the Army and the Navy next, counter air bombing third, and para-drops, etc., came thereafter. Commands could change priorities for short periods. While the Western (WAC) and Eastern Air Commands (EAC) looked after their sectors, the Central Air Command (CAC) was tasked for all bombing, transport missions and support to the Navy. The Advanced HQ with each army command were strengthened, down to TAC and FAC level. The Indian Navy was doing its first operation. They decided to employ an offensive role, attacking Karachi in the West and using Vikrant in the East.[9]

FIGHTER OPERATIONS IN EASTERN FRONT

In March 1971, East Pakistan (now Bangladesh) declared independence from Pakistan, starting the Bangladesh Liberation War. Pakistan Army unleashed brutal suppression in an effort to curb the Bengali nationalist movement through Operation Searchlight. India continued to tacitly aid and prepare the Mukti Bahini. Indo-Soviet Treaty of Peace, Friendship and Cooperation was signed in August 1971. Pakistan by now realised that Indian armed intervention in East Pakistan was imminent. By November, both sides were known to be violating each other's airspace. The first real aerial combat between the two airforces took place on November 22. Regular Indian Army troops engaged and mauled Pakistani armour at Garibpur. At 1449 hrs, four Pakistani Sabres[10] attacked Indian and Mukti Bahini forces in the Chowgacha Mor area. Four IAF Gnats of 22 Squadron which

9. Ibid., p. 173.
10. The War of December 1971, IAF Website, at https://indianairforce.nic.in/content/1971-ops. Accessed on November 29, 2021.

were operating at Dum Dum Airport, Kolkata were launched. They reached the area of action when PAF was carrying out the third strafing run. In the air combat that followed, three Sabres were shot down. All Gnats returning safely. The first round in this air battle over Boyra had clearly gone in favour of IAF. It was a fair duel, 4 vs. 4. The Pakistan President declared national emergency on November 23, 1971. He announced that "Pakistan would we at war with India in next 10 days."[11] It actually happened that way.

Gnat squadrons were used for air defence duties and also for strikes against river boats and some other small targets. Young Flying Officers and Flight Lieutenants posted as sector directors in ADDCs handled some classic interceptions. MiG 21 strikes on Kurmitola and Tejgaon runways near Dhaka grounded the only 14 Sabres that were in the East and IAF achieved air superiority and gave freedom for action to both the Army and Navy. The Hunter aircraft didn't need escorts, so flew both strike and AD missions[12] flying from Hashimara to strike Dhaka.

JOINT OPERATIONS IN THE EAST

The IAF worked very closely with IA's 2 and 4 Corps. The 4 Corps under Lt. Gen. Sagat Singh became a highly mobile strike force.[13] Their mobility was to a large extent due to very intelligent and bold use of IAF helicopters. It was a great example of jointmanship, and contributed a great deal to the collapse of East Pakistan. Station Commander Group Captain Chandan Singh at Jorhat interacted with the 4 Corps GOC. Two MiG squadrons at Guwahati and Hunters at Kumbhigram flew offensive support missions, all supported by ground FAC. No. 2 Para was selected for possible air drop at Tangail on December 11 at 1600 hrs. Tangail had the advantage of friendly population. A force of 50 transport aircraft (22 Dakotas, 22 Packets, six An-12s, and two Caribous) was marshalled. Gnats gave the fighter escort. Only one An-12 was hit and damaged by ground fire. It greatly helped that the GOC of the Corps was himself a paratrooper, and had lived and operated with the IAF for long.

11. Air Chief Marshal P. C. La, n. 2, Chapter 10, p. 154.
12. Ibid., Chapter 12, p. 195.
13. Ibid., Chapter 11, p. 177.

General Sagat made some valid points[14] about air support. He felt that the Army's training did not sufficiently factor in air support, as if it was to be treated as a bonus. The two needed to train much more together to understand strengths and limitations to be able to exploit to advantage.

PAF PRE-EMPTIVE STRIKES—OPERATION CHENGIZ KHAN

President and Martial Law Administrator, Yahya Khan chose to use the old Pakistani doctrine—"The defence of East Pakistan lies in the West". Pakistan Army had created a myth of invincibility, and propagated obsessive hostility towards India, with total disregard for ground reality. Pakistan Army Chief, Gen. Tikka Khan had expected the PAF to create a local limited period air dominance. The PAF thus launched pre-emptive strikes code-named Operation Chengiz Khan on the IAF western forward airbases, radar installations, railway stations, Indian armour concentrations, and some other targets on the evening of December 3, 1971. The Indian air defence radars were taken by surprise. Having learnt its lessons from a similar air strike in the 1965 war, India had secured its aircraft and airbase assets. The damage was minor and all airfields were back into full action within hours.

IAF'S OFFENSIVE OPERATIONS IN THE WEST

The IAF Canberras struck back that night, and bombed eight Western Pakistani airbases, inflicting heavy damage. Fighter strikes followed the next morning. Within days, India was able to achieve air superiority. Thereafter concentration was on interdiction missions, to disruption of Pakistani communications, the destruction of logistics nodes and fuel and ammunition dumps. It was also to target Pak Army ground force bridgeheads and concentrations to thwart any offensive action. IAF also bombed the retreating Pakistan Army. In a very important air action in the Western desert, four Hunters of the OCU,[15] operating from Jaisalmer airbase, destroyed an entire Pakistani armoured regiment at Longewala, thus stopping major armour thrust into the desert.

14. Ibid., Chapter 12, p. 216.
15. Ibid., Chapter 14, p. 280.

IAF carried out many other strikes deep in Pakistan territory. Targets were airfields, Karachi harbour, Sui gas plant, Attock Oil refinery, Mangla hydroelectric power plant, among others. Attacking the lines of communications paid good dividends.

AIR SUPERIORITY IN THE WEST

Since IAF was flying much larger offensive missions, and PAF was mostly on the defensive, IAF was bound to suffer some losses. Most of IAF losses during the war were from the intense anti-aircraft fire. The IAF came out a clear winner in aerial combat. The MiG-21s got a chance for the first time to engage their famous old opponent, the F-104 Starfighter, in air combat. In all four recorded dogfights, the IAF MiG-21s outclassed them. Flying Officer Nirmal Jit Singh Sekhon, flying Gnats with No. 18 Squadron from Srinagar, single-handedly engaged six Sabres, and shot down two. He was posthumously awarded the Param Vir Chakra.[16] The fact that PAF could not interfere with our surface forces operations in both sectors was indicative that IAF enjoyed clear superiority.

COUNTER SURFACE FORCE OPERATIONS IN THE WEST

Like in the East, there were great examples of jointmanship in the West at field level. IAF's immediate air support from Jaisalmer to the Company Commander Major Chandpuri, who was understaffed and overwhelmed by Pakistani tank regiment attack, at Longewala was a classic case of air support. IAF Hunter aircraft destroyed nearly 40 tanks, and Pakistani threat in the region was thus neutralised. HF-24s were used for both counter-air missions and also air interdiction across Rajasthan sector. HF-24s also got air-to-air kills. As Gen Fazal Muqeem Khan Said: "Mercifully the Indians did not pursue."[17]

Another event that played a decisive part was the IAF support to the IA in Chhamb. 191 brigade was continuously under attack west of Munawar Tawi River. IAF came in quickly, and offered 45 close support sorties a day. The front in Chhamb was just 10 miles long. IAF did a great job and saved near annihilation.

16. Ibid., Chapter 12, p. 227.
17. Gen Fazal Muqeem Khan, *Pakistan's Crisis in Leadership* (Islamabad: National Book Foundation, 1972), p. 212.

In Shakargarh area, on IA's request, IAF bombed the minefields. A high tonnage of bombs was dropped. Pakistan Army had planned a massive Armour thrust in Fazilka and Suleimanke headwork areas. Indian defences were overwhelmed by Pakistani forces. IAF stepped in. Over 300 sorties were flown by day. IAF targeted Pak armour, fuel and ammunition dumps, and communication lines in Fort Abbas, Bhawalnagar and Haveli general area.[18] Mystéres destroyed a train carrying 50 tanks between Okara and Montgomery. The area was also struck by Sukhois. IAF intercepted many trainloads of tanks, and other critical war supplies in Western Sector to immobilise Pakistani Army by isolating battlefields. Clearly, IAF made the difference. Even the Vampire and Harvard aircraft were used more effectively for Counter Surface Force Operations (CSFO). The Army used to ask for sorties by numbers, IAF insisted that the Army define the task.

THE CANBERRA[19] AND AN-12 BOMBING[20]

Canberras were at Gorakhpur, Agra and Pune. Canberras were used for bombing from the first night itself, and bombed in every sector of Pakistan. Bombing attack over Karachi on December 9 was coordinated with the Navy's attack on the harbour. While Navy claimed to have set Karachi on fire, actually it was Canberras which launched the first attacks on the oil storage in the harbour. Yes, Navy did its attacks, too. The Canberras of 106 Squadron were engaged in strategic reconnaissance.

On the night of December 3, six An-12s armed with 12 x 500 lb bombs each, including some napalms, struck the POL dump in Changa Manga Forest. On December 6, An-12s dropped 40 tonnes of old 500 lb bombs over artillery positions near Kahuta. Later they flew bombing missions to attack 18 Division HQ at Fort Abbas, and Bahawalpur. They also bombed the Sui gas plant. The bombing of Skardu by An-12s on the last day of the war was staged from Chandigarh. Out of the 36 bombs dropped on Skardu, 28 fell on the runway.[21] An-12 missions were all flown at low-level, adopting shallow glide bombing.

18. Pushpinder Singh, *Aircraft of Indian Air Force 1933-1973* (New Delhi: English Book Store, 1974), p. 110.
19. Air Chief Marshal P. C. Lal, n. 2, Chapter 15, p. 295.
20. Ibid., p. 298.
21. Ibid., p. 303.

LITTLE OR DELAYED INTELLIGENCE

Both the Army and IAF found the intelligence about Pakistani forces lacking. Indian armed forces fought the Pakistanis with little idea of the force levels and capability pitted against them. Inputs from civil intelligence agencies had little military value. This was a weak area. Despite many photo-reconnaissance missions, the post mission processing was very slow. The films were developed manually at station level, interpretation was at Air HQ, and the assessment sent to Army HQ.

NEED FOR SOUTH WESTERN AIR COMMAND

The area of responsibility of Western Air Command was rather large. Learning from the 1965 war, it was clear that there was a need for a South Western Air Command (SWAC). Finally, SWAC was formed in 1981. Rajasthan sector had been strengthened by converting Jodhpur from a training to operational base. Two more airbases came up at Jaisalmer and Uttarlai. Jaisalmer earned its laurels in Longewala. MiGs in Uttarlai finally shot down two F-104 Starfighters using K-13 missiles.

FAILING AT COSC LEVEL

Army HQ was most reluctant to discuss its plans in detail with the Air HQ, before or during the war. While the broad scope of the defensive operations was briefed, the contingency plans either in case of offensive or reverses were never shared. This was a failing at the Chiefs of Staff Committee level.

SUMMARY OF AIR EFFORT—1971 WAR[22]

The fortnight-long war ended with unconditional surrender by Pakistan in the east and in the creation of Bangladesh. More than 90,000 Pakistani soldiers were taken prisoner. Pakistan suffered 6,000 casualties against India's 2,000. The IAF flew 7,346 sorties in the 14 days. Averaging more than 500 a day, 5,400 were combat missions. Gnats flew the most sorties at 1,275,[23] followed by MiG-21s, Canberras, Sukhois, Hunters and Mystéres. As per the government

22. Ibid., Chapter 16, p. 319.
23. Ibid., p. 320.

press release on December 17, IAF lost 42 aircraft, against PAF's 86. A large percentage of IAF aircraft on strike missions were damaged by ground fire.[24] Many were hit by own bomb debris. In the East every airfield was attacked by IAF. In the Western sector all major airfields were attacked, many repeatedly. Around 50 Pakistani trains were destroyed through air interdiction. IAF maintained aircraft and systems serviceability in excess of 80 per cent.

War in the east was a classic example of inter-services cooperation and the importance cannot be under emphasised. Inter-service personal contacts and friendships work wonders. Clearly brought out the importance of National Defence academy and inter-service courses.

The two times US Ambassador to India, Chester Bowles, wrote in *Washington Post*, of January 30, 1972, he believed that "… naïve, weary and poorly informed (US) President was charmed off his feet by a succession of Pakistani Generals with British accents and taste for golf, polo and dry martinis."[25] PAF lacked aggression and determination, and most attacks were inaccurate and seemed insufficiently planned. A good many technicians were Bengalis and that brought in maintenance issues.

ARMY'S—WE CAN HANDLE ALL SYNDROME

Indian Army being the largest service always likes to take the credit for all successful operations, as was the case in Bangladesh. There appeared a general thought among the Indian Army that IAF should be part of the Army and Navy reduced in size or liquidated. Maj Gen Habibullah made such a case in his book *The Sinews of Indian Defence*.[26] Ever since, the Army has been pushing the case of Chief of Defence Staff (CDS). Even though, by chance, Manekshaw was the Chairman, Chiefs of Staff Committee, he was one among equals. In the COSC meetings he gave out much less information about the Army action, than he sought from the other two services. The Naval Chief Nanda and Lal did not want to make an issue at that sensitive time.[27]

24. Ibid.
25. Ibid., Epilogue, p. 338.
26. Ibid., Summing Up, p. 325.
27. Ibid., p. 326.

CASE FOR CDS

On March 24, 1972, the Principal Secretary to the Prime Minister, P. N. Haskar, called Lal[28] who was visiting airbases in Assam, and asked his views about appointing General Manekshaw as the CDS in recognition of the way he had directed the Bangladesh war. Lal wrote back his views, clearly stating that all the three Chiefs and each service had contributed in its own way in the victory. Undoubtedly, the army did a good job and Manekshaw as the Chairman, Chiefs of Staff Committee did coordinate well, but there was no case for CDS. In fact, there were risks of having an overbearing CDS who could run roughshod over other services. Also, if the Service Chief did not agree with the CDS, that Service will not push through the implementation of orders or will underperform. Therefore, all the service Chiefs must function as equals. He fully deserved the recognition of being made a Field Marshal, Lal said. Lal also felt that on points of inter-service friction, the Chiefs must display greater understanding, tolerance and good faith.

LAL LEAVES BEHIND A GREAT LEGACY

Immediately after retirement, Lal was appointed full-time Chairman and Managing Director (CMD) of Indian Airlines Corporation (IAC). Lal also served as the Chairman of the Indian Tube Company, a part of the Tata Group. In February 1978, Lal was appointed Chairman of Air India also. Lal lived his life for the service and the country. He played a commanding role in both India's major wars with Pakistan, as the Vice Chief in 1965 war and as the Air Chief in the 1971 war. His contribution in both the wars was most suitably acknowledged and awarded by the nation. Lal died of a heart attack while visiting London on August 13, 1982. His body was flown to India in an Air India flight. He was just 65. He was cremated with full military honours. Among the pall-bearers were the former Chief ACM Arjan Singh and the serving chief ACM Dilbagh Singh.

28. Ibid.

OPERATIONAL APPROACH AND PSYCHE OF PAKISTAN AIR FORCE

DIPTENDU CHOUDHURY

The Pakistan Fiza'Ya (Pakistan Air Force) plays a role in the psyche of its nation unmatched by any Air Force in the world except that by the Israeli Air Force. The PAF's motto, loosely translated from Persian is 'Lord of All I Survey'. It calls itself 'The Pride of the Nation', and is exactly that.

– Pushpindar Singh[1]

The Pakistan Air Force (PAF), the "pride possession of Pakistan",[2] has since its birth been inexorably entwined with the Indian Air Force (IAF). Twenty days after the imperial legacy of the decision on partition of the subcontinent, the Armed Forces Reconstitution Committee (AFRC) was set up under the chair of AVM Perry Keene, for the PAF "*to be created as such on the 15th August 1947*."[3] The distribution of the eight fighter and two transport squadrons of the IAF between the two dominions, became a contentious

Air Marshal **Diptendu Choudhury** AVSM VM VSM (Retd) was the former Commandant of the National Defence College, New Delhi.

1. Pushpindar Singh, Ravi Rikhye and Peter Steinmann, *Fiza'Ya: Psyche of the Pakistan Air Force* (New Delhi: The Society of Aerospace Studies, 1991).
2. Syed Shabbir Hussain and Sqn Ldr M Tariq Qureshi, *History of Pakistan Air Force, 1947-1982* (Karachi: PAF Press Masroor, 1982), p. 1.
3. Ibid., p. 16.

issue. The Indian side insisted on the 80:20 ratio, eight squadrons to India and two squadrons to Pakistan, based on the manpower composition of the basis of partition. The AFRC Chairman, on the other hand, opined, that in view of the operational requirements of 'watch and ward' duties in the tribal areas of the North-West Frontier Province, Pakistan should be allotted five squadrons. With both sides entrenched on their stands, Lord Mountbatten intervened asking the Commander-in-Chief (C-in-C) of the IAF to look into the feasibility of raising an additional fighter squadrons from the reserves. On his confirmation of the feasibility, the final distribution agreed was of seven fighter and one transport squadrons to India, and two fighter and one transport squadrons to Pakistan.[4] The overarching vision of the Quaid-e-Azam Mohammed Ali Jinnah was to serve as a beacon light for the PAF, when in his address at the Flying Training School at Risalpur, he said, "There is no doubt that any country without a strong Air Force is at the mercy of any aggressor. Pakistan must build up her Air Force as quickly as possible. It must be an efficient Air Force, second to none and must take its place with the Army and the Navy in securing Pakistan's defence."[5]

LIVING IN THE ARMY'S SHADOW

Despite his words, the British leadership came in the way of a three Services concept which was "opted and enforced with variable results. Thus, were sown the seeds for lack of joint inter-Service planning from almost the start."[6] The division of the armed forces, set the stage for the selection of six heads of the Services. Both Prime Ministers (PMs) were happy to let Lord Mountbatten select them, except for the choice of Air Mshl Sir Thomas Elmhirst, who was the only exception having been specially chosen by Pandit Nehru—a choice which was to be fortuitous for the IAF as Air Mshl Elmhirst's first mandate with the PM was that "*the Indian Air Force would be an independent fighting service*."[7] The IAF which was from its birth an independent Service due to the enactment of Clause 4 of the Annual

4. Air Mshl Bharat Kumar, *An Incredible War* (Second Edition) (New Delhi: KW Publishers, 2014), pp. 15-21.
5. Ibid., p. 40.
6. Ibid., p. 114.
7. Ibid., p. 14.

Army and Air Force Bill[8] in 1932, was, therefore, able to continue as an independent service. The PAF was not so lucky, and due to the relatively low seniority profile of its original officers, was destined to remain under the shadow of the Pakistan Army.

The first PAF C-in-C was AVM Perry Keene, and the seniormost Pakistani officer was Wg Cdr MK Janjua, who had been a part of the AFRC, and went on to become the senior officer-in-charge administration as a Group Captain on August 15, 1947. The fifth PAF Chief and the first Pakistani officer to assume the mantle, Air Mshl Muhammad Asghar Khan, was a Wing Commander when the PAF was formed. The less seniority of the PAF's original officers defined its relations with the Pakistan Army, which till today plays a dominant role, continuing to keep the PAF out of the loop in planning and decision-making on matters of national security. In Pakistan, the military has the final say in all matters of national security, and all security related decisions for all services rest with the Chief of the Army Staff (COAS).[9] Even today, PAF policy decisions are also determined by the COAS, with inputs from the Chief of the Air Staff (CAS). Therefore, the final decision-maker for air power policy is not the CAS, but the COAS.[10]

Post-Independence and after the first round of war in Kashmir, Pakistan sought to strengthen its military and especially its Air Force. Underpinned by the Cold War, the US geopolitics was driven by prevention of the perceived Communist expansionism in the region from the USSR and China. In May 1954, Pakistan signed a Mutual Defence Assistance Agreement with the US which provided significant economic and military aid, in return for the use of PAF bases for launching reconnaissance flights into the Soviet Union. Based on the Communist threat, the PAF's expansion plan was prepared by Gp Capt Asghar Khan, Gp Capt Nur Khan and Wg Cdr A. Qadir in March 1954. The plan called for a 768 aircraft and 44 squadron

8. "CLAUSE 4. - (Relations between Royal Air Force and Indian Air Force, and attachment of personnel.)," April 3, 1933, at http://hansard.millbanksystems.com/commons/1933/apr/03/clause-4-relations-between-royal-air. Accessed on May 17, 2021.
9. Jonah Blank, Richard S. Girven, Arzan Tarapore, Julia A. Thompson, Arthur Chan, and Vector Check, *Prospects of US and Pakistan Air Power Engagement* (Santa Monica: RAND, 2018), p. 6.
10. Shuja Nawaz, *Crossed Swords: Pakistan, Its Army, and the Wars Within* (New York: Oxford University Press, 2008).

strong Air Force, comprising ten day-fighter squadrons, five night-fighter squadrons, six bomber squadron and one reconnaissance squadron, twelve fighter-bomber squadrons, six tactical light bomber squadrons, two twin-engine and one four-engine transport squadron and two maritime squadrons, over ten years from 1954-1964.[11]

By mid-1957, the US agreed to provide six fighter-bomber squadrons, one day-interceptor squadron, one light bomber squadron, one transport squadron, one jet conversion school, one air rescue flight and one recce flight, one flying training academy, radars and navigational aids, and various other maintenance, logistics and administrative aid.[12] In Pakistan's 'aid-era' between 1954 and 1965, the US provided military assistance worth $619 million, and cash or commercial basis purchases worth $55 million.[13] Air power expansion began in earnest almost immediately, with the first lot of the 120 F-86F Sabre fighters, followed by 26 B-57B Canberra bombers in 1959, and 12 F-104A in 1962. Though technologically these were the best aircraft available, their size always remained an area of serious concern to the PAF. This not only shaped its operational philosophy, but also became the overarching reason for it to 'preserve' its strength in its wars.

PAF ROLE: PERCEPTIONS AND DIFFERENCES

The consequences of being in the Army's shadow impacted the PAF's operational role. The second PAF C-in-C AVM Atcherley, was of the firm opinion that the PAF should first take on the enemy Air Force, then try to isolate the battlefield, and after that give direct support to the ground forces.[14] The seeds of discord were sown when Gen Sir Douglas Gracey, the C-in-C of the Pakistan Army, in a paper on "First Lessons From Korea", wrote: "The small Pakistan Air Force should be trained primarily for tactical support of the Pakistan Army and Navy, and be equipped to carry out this task with suitable aircraft."[15] Atcherley, wrote back: "I am not inferring that you don't know your job, I'm saying that you don't know mine. Air must be left

11. Hussain and Qureshi, n. 2, pp. 95-96.
12. Ibid., p. 100.
13. Gp Capt Khalid Iqbal, Pakistan Air Force, "The United States-Pakistan Security Relationship," Research Report No. AU-AWC-86-115, Air War College, March 1986, at https://apps.dtic.mil/dtic/tr/fulltext/u2/a177769.pdf. Accessed on May 17, 2021.
14. Ibid., p. 120.
15. Ibid., pp. 115-116.

to the airman; even Monty preaches that." And with regard to joint planning, he continued: "I feel we are only paying lip-service to Joint Service Planning, when you issue a paper on air strategy without even a formal reference to your colleagues."[16] This Army dominant approach continued through the 1965 war under President Ayub Khan, who according to Air Mshl Asghar Khan, "understood little of air operations" and "preferred to see the Air Force as an arm of the Army, an airborne form of artillery whose role should be to clear the way for the infantry and armour."[17]

Asghar Khan, groomed by the independent minded initial Royal Pakistan Air Force (RPAF) British C-in-C, was very clear on the role of the PAF. He emphasised that its main role was the air battle from which it could not be diverted, and till achievement of its primary aim, could only provide limited close support at any time, *"which should be treated by the Army as bonus"*. Gen Muhammad Musa Khan, the Pakistan Army C-in-C countered that consequently in the training and operational planning of the Army, it was assumed that air support might not be forthcoming, to the extent that "the Army's main counter-offensive was planned without air support."[18] He also goes on to state that after Air Mshl Nur Khan took over, he "altered Asghar's concept, and rightly decided that ground support was also an important function which the PAF could and should take on besides its main commitment."[19]

The differences in the perception of the role of the PAF and its divide with the Army showed itself in the 1965 War. Musa is scathingly critical of Asghar Khan, who he claims shocked the Army by contacting his IAF counterpart, in trying to keep the PAF out of the conflict in the Rann of Kutch. He writes that even the Supreme Commander was unaware of Asghar's actions while the Defence Secretary was,[20] indicating the divide in the senior leadership. Sajjad Haider, in defence of the action by Asghar Khan, writes: "Had the Indians committed their Air Force in support

16. Ibid., p. 117.
17. Air Mshl M Asghar Khan (Retd), *The First Round: Indo-Pakistan War 1965* (New Delhi: Vikas Publishing House, 1979), pp. 4-5.
18. Gen Muhammad Musa (Retd), *My Version: India Pakistan War 1965* (New Delhi: ABC Publishing House, 1983), pp. 74-78.
19. Ibid., p. 79.
20. Musa, n. 18, pp. 74-79.

of their Army, our troops would have been attacked from the air and destroyed with impunity, bringing our land operation to a halt. The PAF would have been relatively ineffective as the battle area was too far from Mauripur, the only PAF base in the south."[21] In Operation Gibraltar, the second phase of the war involving infiltration in Kashmir, Asghar Khan was kept out of the loop by the General Headquarters (GHQ).[22] The PAF history also brings out that its government wanted to keep it out of war operations, and that in spite of desperate calls for air support in Poonch, it was not used.[23] When the third phase of the war finally kicked in with Operation Grand Slam, from the PAF's perspective, it was to have started with Asghar Khan's *coup de grace*—preemptive strikes.

Three facts emerge clearly: the *fait accompli* acceptance of the air battle as the main role of the PAF; the inter-service divide in the senior military leadership; and the absence of joint operational planning. It illustrates that gaining air superiority was considered fundamental by the PAF, and that close support to the Pakistan Army would be low key. The leaderships of the PAF and Pakistan Army were divided, taking decisions and acting independently of each other. And, finally, the absence of joint planning is underscored by the fact that the Pakistan Army plans neither included PAF participation, nor was any role assigned to it. This trend was to continue even in Kargil, in 1999, where, according to Nasim Zehra, the civilian leadership, and the air and naval chiefs were briefed on Operation Koh Paima for the first time on May 16, 1999,[24] after the operation, planned secretly by the clique of four generals, had already begun. It was only after the plan had started to unravel with the IAF getting engaged offensively, that the involvement of the PAF was sought, which the CAS opposed.[25]

GEOGRAPHY DECIDES EVERYTHING

Pakistan's security approach and military thinking which have led to four wars with India, are not easy to understand, but as Robert

21. S Sajjad Haider, *Flight of the Falcon* (Lahore: Vanguard Books, 2009).
22. Khan, n. 17, p. viii.
23. Hussain and Qureshi, n. 2, p. 141.
24. Nasim Zehra, *From Kargil to the Coup: Events that Shook Pakistan* (Lahore: Sang-e-Meel Publications, 2018), p. 151.
25. Ibid., p. 213.

Kaplan explains, "Geography offers a way to make at least some sense of it all."[26] Pakistan's mountainous northern areas lie across the much-coveted Kashmir, and is a region through which the Indus flows into the country. The capital city Islamabad which lies on the Pothar plateau, is on the West of the Pir Panjal range that separates it from India's Kashmir Valley. Below it the five rivers —Indus, Jhelum, Chenab, Ravi and Sutlej—flow into the fertile Punjab, the heartland and power centre of Pakistan. Lahore, a historical and cultural epicentre is the capital of Punjab and lies just 50 km across Amritsar. On the West, Pakistan is bounded by the Suleiman and Kirthar ranges which border Afghanistan by the unsettled Durand Line. Between the mountains in the West and the Indian border on the East, in a Northeast to Southwest orientation, the Pakistan plains are neatly bisected by the mighty Indus. The plains are about 200 km across in the Punjab region in the north and Sindh region in the South, and in the middle, the Jaisalmer salient of the Indian Thar desert juts into Pakistan, squeezing it to less than 100 km. The Sindh region lies on the East of the Baluchistan region and is divided by the Kirthar range. At its base and on the Eastern tip of Pakistan's East-West coastline lies Karachi, its major port, the largest city and the capital of Sindh.

The turbulent Khyber-Pakhtunkhwa in the Northwest, the volatile Baluchistan in its Southwest and the relatively narrow plains, drive Pakistan's desire for strategic depth. The major road and railway lines of Pakistan, and, therefore, all its major communication and logistics networks, are also aligned with the river Indus, running in a Northeast-Southwest direction. The major PAF air bases in 1971 of Peshawar, Murid, Mianwali, Sargodha, Risalewala, and Rafiqy were located in the Punjab region in the North, Jacobabad in the Central Sector, with Talhar and Mauripur in the South. Given the PAF's smaller size and orientation towards self-preservation, despite having a front tier of airfields, it chose to operate from its depth bases in an effort to keep its aircraft away from the easy reach of IAF bases. Pakistan's geography and the deployment pattern of the PAF defined its operational strategy and psyche.

26. Robert D. Kaplan, *Revenge of Geography* (New York: Random House Inc., 2013), p. xxii.

OPERATIONAL APPROACH: MYTHS AND REALITIES OF 1965

The 1965 War is important to assess the PAF's operational approach as it provides the necessary context of its mindset, and serves as a lead-in to the subsequent 1971 War. Both wars have, over the years, been built into a myth of Indian misadventures, defeated by the numerically inferior but professionally superior and aggressive PAF. The myth was perpetuated by the absence of official war records in the public domain and the partisan writings of John Fricker in his book *Battle for Pakistan*. It thrived due to the pro-PAF narratives built up amongst the Western strategic community, air power practitioners, academia and media in a Cold War milieu, where Pakistan was a member of the US driven Southeast Asia Treaty Organisation (SEATO), and India was not. Interestingly, the story goes that Fricker had offered to write for India initially and was turned down, which is a pity as it would have then won the war from the beginning! Thankfully, over the years, balanced and mature narratives have emerged from India and some from Pakistan, allowing for more objective assessments. So, what was the most likely PAF operational approach in 1965?

PAF Strategy and Execution

Pakistan planned to start the operations with preemptive dusk counter-air strikes against the major Indian air bases and key radars, with the aim of reducing the IAF's numerical superiority. Subsequently, night counter-air would continue with the bombers to keep the IAF under pressure, and inhibiting its air operations. The focus thereafter would be air superiority over Pakistani territory, while providing support to the ground battle. Haider avers that the PAF's preemptive was originally planned in the last week of June 1965, where Asghar Khan stressed that India's preponderance in numbers was cardinal in determining the PAF's tactically offensive strategy. It comprised the attacks on IAF bases to reduce its numerical superiority and create a more equitable balance of air power; prevent an enemy surprise attack as it could render the PAF ineffective and enable air superiority, leaving the Pakistan Army vulnerable. Preemption was, therefore, an imperative, and not a contingency. Six enemy forward airfields and three radars were to be struck 15

minutes before dusk.[27] Nur Khan, who took over the PAF just prior to the 1965 War, it appears, was initially more circumspect about the plan, but came around subsequently.[28]

In the final outcome, the PAF commenced with Combat Air Patrol (CAP) missions well before the air war actually commenced in the last light on September 1, when the IAF committed its Vampires and Mysteres in Chhamb. The PAF counter-air strikes, no longer preemptive, finally commenced five days later in the evening of September 6. It, however, capitalised on the opportunity provided by the absence of any Indian counter-air effort by carrying out the original plan, with mixed success. Asghar Khan writes:

> We were puzzled as to why the Indians, having started what amounted to a general war, had limited the offensive to the West only and why, having decided to start an offensive against West Pakistan alone, they had not used their Air Force against our vital installations, such as airfields and radar. By not doing so, they had given us a chance which we had never counted on—the chance to deliver the first aerial attack.[29]

The IAF paid dearly for its inadequacy of passive air defence measures, especially at Pathankot and Kalaikunda. But the failed strikes against Adampur, Halwara and Jamnagar were not launched as per the original plan, and Haider is critical of the leadership at Sargodha and Mauripur for the failure to do so. He writes: "The failure of the preemptive strategic offensive on 6th September was no less than a debacle, especially considering that the PAF operational readiness was at the optimum with missions fully rehearsed."[30] The PAF also carried out around 481 sorties of essentially pre-planned Close Air Support (CAS),[31] and given the limited expectations of the Pakistan Army, was considered effective. Its Canberras played an unsung and significant role in bombing operations, and "their performance was stunning".[32]

27. Haider, n. 21, ch 7.
28. Khan, n. 17, p. 16.
29. Ibid., p. 15.
30. Haider, n. 21, ch 10.
31. AVM AK Tiwary, *Indian Air Force in Wars* (New Delhi: Lancer Publishers and Distributors, 2012), p. 134.
32. Haider, n. 21, ch 10.

David and Goliath

Its smaller size has been used effectively to its advantage in the PAF's history and the accounts of some writers, to build the image of a heroic 'David' fighting against a much larger 'Goliath' and emerging victorious. The PAF's 1965 narrative is bolstered by somewhat over-enthusiastic claims: "The IAF planes came in waves, and with a numerical edge of 5:1, the Indians took a well calculated risk." There is no doubt the IAF was larger in size but 5:1 it was not. While there are minor differences depending upon the source, the reliably estimated figures are that the IAF had 290 aircraft (including 80 Mysteres and 48 Vampires) against the 187 of the PAF in the West.[33] The claim that *"the IAF planes came in waves"* while attempting to highlight its small size, actually indicates the persistence of IAF offensive missions and negates the PAF claims of air superiority. Also, while the phrase *"the Indians took a calculated risk"* is aimed to indicate the PAF's air combat prowess, it actually highlights the courage of the Indian pilots, who flew to the limits of the tactical Radius Of Action (ROA) and combat endurance, in a CAP intensive environment.

According to Hussain and Qureshi, "By the end of the fourth day of the war, the IAF had lost heavily in aircrafts and pilots, and the PAF had achieved the impossible—air supremacy all over Pakistan." Factually, out of its total 59 losses, the IAF lost 35 aircraft on the ground to the air raids.[34] Attrition is always measured in terms of the proportion of the quantum of air effort and the losses. Pakistan lost 43 aircraft in the 2,364 sorties flown, and, therefore, had an attrition rate of 1.82 per cent. India lost 59 aircraft in the 3,937 sorties flown and, therefore, had an attrition rate of 1.50 per cent. In his book, *Defence from the Skies*, Air Cmde Jasjit Singh cites that the PAF rate of loss was nearly three times in air-air engagements, losing 1.78 aircraft every 100 sorties, compared to .66 aircraft lost by the IAF. Therefore, despite the superior, technologically advanced inventory, and the claimed superiority of PAF pilots in training and motivation, the IAF pilots displayed better air combat performance.[35] Notwithstanding the

33. Ibid., p. 119.
34. BC Chakravorty, D Phil and Chief Editor SN Prasad, D Phil, *History of the 1965 War*, (New Delhi: History Division, Ministry of Defence, Government of India, 1992), p. 170.
35. Air Cmde Jasjit Singh, *Defence from the Skies* (New Delhi: KW Publishers, 2013), pp. 250-260.

same, the courage, commitment, professionalism and performance of the PAF pilots has never been in question from the IAF's perspective.

The issue of PAF air supremacy needs a closer look. According to Philip Mellinger, air superiority is defined as being able to conduct air operations "without prohibitive interference by the opposing force." Air supremacy goes further, wherein the opposing Air Force is incapable of effective interference.[36] As per the unpublished official history of the 1965 War, of a total of 3,937 sorties flown by the IAF, 1,568 were fighter-bomber and bomber sorties towards offensive missions; 1,352 CAP sorties were flown over IAF bases; and the balance 1,017 missions are simply recorded as fighter sorties.[37] These fighter sorties could not have all been CAP missions, and, therefore, if a conservative estimate of 400 sorties (roughly 40 per cent) were flown towards ground attack, the total offensive effort goes up to 1,968 sorties. A majority of these were multiple pass attacks, and in the case of counter-air missions, at the extremes of their Radius of Action (ROA). In both cases, it significantly increased their vulnerability to the 1,303 PAF CAP sorties, which amounts to 55 per cent of its total of 2,368 sorties flown.[38] Therefore, the nearly 2,000 IAF offensive missions executed with evident combat persistence, and a total of just 15 air combat losses,[39] would not have been possible if the PAF had actually gained air supremacy, as claimed. This is endorsed by Tony Mason who wrote, "In the war between India and Pakistan, air superiority was never contested."[40]

The *History of the PAF* which claims, "The PAF pilots were in a state of high morale bordering on ecstasy, its aircraft inventory was intact" and "a whimpering and prostrate enemy got a new lease for life",[41] is contrived rhetoric towards the myth of PAF superiority and victory. Haider gives a more sober perspective:

36. Phillip S. Mellinger, "Supremacy in the Skies", *Air Force Magazine*, February 2019, at https://www.airforcemag.com/PDF/MagazineArchive/Magazine%20Documents/2016/February%202016/0216supremacy.pdf. Accessed on May 23, 2021.
37. Chakravorty and Prasad, n. 34, p. 269.
38. Sobia Nissar, "PAF and Three Wars" *Defence Journal*, September 2001, at http://www.defencejournal.com/2001/september/wars.htm. Accessed on May 22, 2021.
39. PVS Jagan Mohan and Samir Chopra, T*he India-Pakistan Air War of 1965* (New Delhi: Manohar Publishers, 2009), Appendix B.
40. AVM Tony Mason, *Air Power: A Centennial Appraisal* (London: Brassey's, 1994), p. 64.
41. Hussain and Qureshi, n. 2, pp. 171-172.

> In spite of the fact that more than four decades have elapsed since the 1965 war, the real truth is not common knowledge and hence the truth must remain the biggest casualty in the tragedy of errors played out by the leaders of that period. Like most wars, the 1965 war was an avoidable catastrophe. It was horrendously senseless and falsely contrived to appear as a victory. Only those martyred and their neglected, ravaged kin had to pay the terrible price for this farce. The legacy of the 1965 tragedy perpetrated 'a bigger watershed' in 1971.[42]

1971: 'A BIGGER WATERSHED'

Drivers and Strategies

The Pakistan military high command held the belief that East Pakistan could not be threatened, as long as India was convinced that there would be major reverses on its Western border if its military were split up to engage both wings simultaneously.[43] Thus, the strategy of defence of East Pakistan lay in a reciprocal counter-attack by West Pakistan. Since Pakistan could not afford separate defence forces for the two wings and could not force its choice of time and place of war, the PAF was constrained to mould its plans accordingly.[44] The PAF examined all its war-fighting options, from launching an offensive on IAF bases, providing intensive ground support to the Pakistan Army, to a defensive battle to sort out the IAF over its own skies. It assessed that it could not go on the offensive due to its force levels, as counter-air meant higher attrition rates given the high-performance IAF Air Defence (AD) aircraft, SA-2 Surface-to-Air Missiles (SAMs) and AD guns, and radars. Intensive ground support was ruled out due to the need for air superiority. Therefore, the only viable option was to destroy the IAF in air battles over Pakistani skies a la 'Battle of Britain', and then, the situation permitting, launch an offensive.

The key drivers which governed the PAF's planning[45] were:

- Except for limited Mirage IIIs, it did not have aircraft capable of deep penetration.

42. Haider, n. 21, ch 10.
43. Ibid., ch 13.
44. Hussain and Qureshi, n. 2, p. 178.
45. Ibid., pp. 179-180.

- The removal of the Bengalis from the PAF led to some shortages in aircrew and ground crew.
- The MiG-19 were assigned for the AD and CAS roles. But not all were modified for air-to-air missiles, limiting their air combat capability. Also, the limited ROA restricted their employment in CAS.
- The concept of CAS had not received sufficient attention in the joint Air Force-Army planning level. The *History of the PAF* records it as "*only a vague option open to the PAF*."
- The PAF had established satellite bases but did not have assets for their AD. The limited presence would dissipate their meagre resources.
- Their limited inventory obviated commitment to any major role without knowing the designs of the enemy, because once committed, losses were natural; this was considered too high a risk against an enemy with a big fleet.
- The enemy's ground moves were not known. Given the Indian Army's large size, it could open any number of fronts, thus, stretching the Pakistan Army. This made it difficult for the PAF to determine its CAS—offensive roles.
- The Pakistan government's war policy was not known, and its likely reaction was not communicated to the PAF. The likely duration of the war, its objectives and the extent of commitment not being defined, left PAF very little room to manoeuvre.

It was with these constraints and full knowledge of the IAF's strengths that the PAF prepared itself for the 1971 War. India's July 1971 Treaty of Friendship with the USSR played heavily on its mind, being acutely aware that it was taking on a much stronger, better prepared and trained IAF. Therefore, the broad strategy[46] of the PAF can be summarised as:

- It assumed a role of offensive-defence.
- Self-preservation to be a high priority consideration.
- It prepared for an elusive war the dimensions for which were not known.

46. Ibid., pp. 180-181.

- It adopted a defensive war strategy, with steady offensive probes.
- It adopted a policy of survival against all odds in a hostile air environment.
- The East Pakistan element of the PAF was pretty much left on its own, like in 1965, as it hoped to tilt the tables by the actions in the West.

Counter-Air Strategy

Since all the combat aircraft in IAF airfields would be in concrete pens, and camouflaged targets such as fuel tanks, ammunition dumps and command centres could not be readily identified or accurately attacked, like in 1965, the targeting choice once again was on runways and radars. The bombing of airfields was to deny their availability for certain periods, as this would reduce the availability of IAF assets against the Pakistan Army's campaign. Unlike the past, given the SAMs and AD guns at the airfields, multiple pass attacks would not be possible. The strikes on forward airfields were aimed at provoking retaliatory strikes, so that IAF fighters could be engaged over Pak territory like in the Battle of Britain. Meanwhile strikes to depth IAF airfields would be taken on by PAF bombers at night.

Offensive Strategy

Pakistan's grand strategy was to launch a massive offensive by II Corps under Lt Gen Tikka Khan, to capture large swathes of Indian territory. This would provide the vital leverage for Pakistan to not only save the East, but also put it in control of post war negotiations. The over-riding priority was to give maximum support to this offensive, and every other PAF objective was subordinated to it. The estimated 'cost' of this commitment was gamed by the planning staff at PAF HQ in July 1971, and a loss of 100-120 combat aircraft and pilots over the likely 7-10 days, was assessed. Air Mshl Rahim Khan was aware that this would amount to losing one-third of his Air Force. According to Haider, he had the full support of his senior commanders when he directed them to prepare their units accordingly in August, to ensure the success of the Pakistan Army's offensive.[47]

47. Haider, n. 21, ch 13.

D-Day

For the first time, the PAF HQ had managed to convince the GHQ that any offensive would be coordinated with the PAF's opening strikes, and the mutually agreed D-Day was December 3, 1971.

Air Superiority

The pervasive primary mission meant air superiority would have to be achieved in the form of a moving umbrella over the Army's deep thrust. Beneath the AD umbrella, some direct offensive support by the PAF would be executed, to soften the Indian Army's resistance. The protective cover would continue until the Pakistani forces could dig in and secure their protection. Control of the air, even in the limited areas of Pakistan's counter-attack, involved not just the prevention of IAF interference, but attacks against its four to five bases around Gen Tikka Khan's offensive.

CAS Strategy

The PAF air staff decided that losing its limited resources and endangering multi-million-dollar aircraft for destroying tanks and other weapons was not acceptable, until the main offensive. Instead, the PAF was to maintain pressure with sustained strikes against some of the forward and rear Indian bases, in order to inhibit the IAF's offensive air support, interdiction and counter-air efforts. During this same period, the PAF was also to provide whatever air support was needed for the Pakistan Army's 'holding' actions along the entire 3,700-km border from Kashmir to Kutch. These relatively shallow-penetrating actions were meant to tie down as many of the enemy's resources as possible and to try to achieve a favourable tactical posture in the process. As the war progressed, the PAF was also to provide whatever air support it could to the Pakistan Navy within the limits of its maritime support capability which, in real terms, was near zero.[48]

The Final Outcome

The breakdown of the total PAF air effort of 3,027 sorties was: 1,748 AD sorties, 951CAS sorties, 290 counter-air (day/night) sorties,

48. Ibid.

and 38 other missions. The daily average was 201 sorties.[49] The unpublished official Indian Ministry of Defence (MOD) history estimates 44 confirmed and six probable PAF losses in the West and 19 Sabres and three T-33s in the East (10 Sabre losses in combat, and balance 9 Sabres and 3 T-33s written off by the PAF to prevent capture).[50] Tufail claims that only 27 aircraft were lost (22 in the West and 5 in the East),[51] which definitely does not add up. In the absence of reliable assessment, this remains a grey area. According to the PAF, the outcome of the war in the East is referred to as a "heroic struggle" for a single squadron in a "no-win" situation,[52] which it definitely was. On the West, its history states that the IAF counter-air had no operational effect as it lost a large number of aircraft to the "hot reception" by the PAF CAP. It stuck to its aim: defence and preservation of its fighting capability.

In view of the large area of surface operations, the PAF could not be there all the time, and it was impossible for it to commit itself completely to ground support; it had to keep its guard up. Its history covers up the IAF strategic strikes on the oil and power facilities as bombardments on civilian areas of Lahore and Karachi. It, however, admits that the IAF attacks in support of the Indian Army and the Pakistan's lines of communication were well performed. It also says, "The Indian attack strategy was based on strong support from the air as a part of their concept of joint Army-Air operation."[53] As per Haider:

> Unlike the realistic planning and execution by the PAF, planning at the highest tiers of the national and Army leadership, including the President and the GHQ, was intrinsically flawed, to say the least. Not launching the punch of the Army, the No. 1 Armoured Corps, and the senseless assault by an unprepared force without air cover

49. Nissar, n. 38.
50. SN Prasad, "Chapter X: IAF in the West," and "Chapter XIV; IAF in the Eastern Theatre" in S. N. Prasad et al. eds., *History of the 1971 India Pakistan War,* (New Delhi: History Division, Ministry of Defence, Government of India, 1992), pp. 455, 614.
51. The Print Team, "An Indian Admiral & Pakistani Air Commodore Debate the Finer Points of the 1971 War," The Print, February 23, 2018, at https://theprint.in/opinion/kaiser-tufail-arun-prakash/37662/. Accessed on May 25, 2021.
52. Hussain and Qureshi, n. 2, pp. 188-189.
53. Ibid., pp. 190-193.

> against Ramgarh in the south (hoping to capture Jaisalmer in a blitzkrieg) was an amazing blunder which caused incalculable loss of precious lives and equipment.[54]

THE PSYCHE OF THE PAF PILOT

Since it is the man behind the machine who drives the ultimate outcome in war, the mindset and psyche of the PAF pilot need a mention. In a country where the military is held in high esteem and is considered a prestigious career, the PAF fighter pilot is perhaps the most privileged person—well paid, highly regarded and the subject of national adoration.[55] Kaiser Tufail writes that PAF pilots have flown in Algeria, Egypt, Iraq, Jordan, Kuwait, Libya, Qatar, Saudi Arabia, Sri Lanka, Syria, Turkey, UAE, UK, and Zimbabwe. Its pilots gained extensive experience on a wide range of fighters including the Gnat, Hunter, MiG-21FL/M, and Su-7. According to him, "First-hand knowledge about adversary aircraft, as well as well-honed flying skills of PAF's pilots were key factors in their remarkable performance during various conflicts."[56]

The PAF maintains skill-based posting to fighter types and younger age profile Squadron Commanders.[57] In the words of Asghar Khan, who had been the C-in-C for eight years:

> After Station Commanders, or perhaps even more important than them, is the selection of Squadron Commanders. They are the people who command the combat units of the Air Force. Their number in a small Air Force is necessarily small and their importance, therefore, all the greater. It is my belief that these few commanders must be above the average in their own spheres. I was prepared to overlook some human failings so long as they commanded respect in the air. They must be professionally sound and superior to those they are required to lead. No other quality, however great, can compensate for these essential requirements in the eyes of subordinates.[58]

54. Haider, n. 21, ch. 14.
55. Singh, et al., n. 1, p. 185.
56. Kaiser Tufail, "IAF's Balakot Disaster Two Years On," *Aeronaut*, February 26, 2021, at http://kaiser-aeronaut.blogspot.com/. Accessed on May 25, 2021.
57. Singh, et al., n. 1, p. 185.
58. Khan, n. 17, p. 69.

The squadron commanders mandatorily undergo the Flight Leaders School which was instituted by Asghar Khan in 1958. This continues even today under its new avatar of Combat Commanders School, which is geared primarily towards the mid-career advanced air combat training of PAF fighter squadron commanders, air defence controllers, and instructors and for the development of advanced fighter weapons tactics.[59] In the PAF, the seniormost Air Marshal does not necessarily get to be the Chief. On the contrary, the exception has been the rule.[60]

A fairly clear picture of the pilot's psyche emerges when in addition to the above, the martial race stereotype and ascendancy as a superior combat pilot comprises a part of their regular grooming. Pushpindar Singh wrote in the concluding paragraph of his book:

> There is little doubt as to which of the prime air arms of the Indian subcontinent is more conscious of the importance of image building and intelligent public relations. The PAF has many friends and admirers amongst the world's aerospace media, not the least because of its sustained effort to 'put its best wing forward'. The PAF has had innumerable articles, features and books written about it, covered by international writers, journalists and photographers. This boosts morale.[61]

Essentially, most of the PAF narrative of victory has been built around its few successes in counter-air and air-air victories. This is probably because of the preponderance towards AD in its orientation. Its force composition, ethos and training are fundamentally focussed towards the air battle—air combat and fighting the enemy Air Force. It has a history of reticence towards support of the Army operations, which is reciprocated by the inadequate understanding of air power of its generals! It tends to dissociate itself from the legacy of the military

59. Bilal Khan, "Pakistan Air Force: Combat Commanders School (CCS)," *QUWA*, October 16, 2016, at https://quwa.org/2016/10/16/pakistan-air-force-combat-commanders-school-ccs/. Accessed on May 25, 2021.
60. Singh, et al., n. 1, p. 184.
61. Ibid., p. 186.

defeats which it attributes to the Army, and has tried to perpetuate the myth that it won all the air wars and, thus, saved Pakistan. But since a military victory is not a bean count of inventory losses, but one of outcomes and achievement of national objectives, it is time to put some myths to rest. In the final outcome, the adversary is not ten feet tall, but a worthy foe.

THE BATTLE OF LONGEWALA: THE QUICK RESPONSE AND DECISIVE IMPACT OF AIR POWER

BHARAT KUMAR

Some of the most significant and decisive events of the Indo-Pakistan War of 1971 were the Battle of Boyra on November 22, (when the intruding Sabres were promptly shot down by the midget Gnats airborne from Dum Dum); the bombing of Dacca and the attack on the Governor's House in particular, and the establishment of air supremacy over the then East Pakistan; the Meghna helibridge, the Tangail paradrop, the sinking of the PNS *Ghazi*, the aerial attack on the Karachi oil farms, the attack on Karachi harbour by the Indian Navy missile boats; and the Battle of Longewala. It would not be wrong to say that amongst these events, what brought victory and laurels to India in the shortest possible time was the Battle of Longewala and which, perhaps, put paid to the Pakistani plan of launching a Corps-level offensive supported by the entire Pakistan Air Force (PAF) in the central sector. It would, therefore, be worth examining the background and the actual conduct of the battle.

The Battle of Longewala was between the Indian Hunter aircraft operating from the newly constructed airfield at Jaisalmer and a

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Pakistani thrust comprising two armoured regiments supported by two infantry brigades. This historic battle lasted just over two days during which the enemy was decimated.

One of the lessons learnt during the Indo-Pak conflict of 1965, was the paucity of airfields in the Punjab and Rajasthan sectors. Accordingly, Utterlai, Jaisalmer, and Nal airfields were constructed, and Care and Maintenance Units (C&MU) established there with very limited manpower at each of these bases. At Jaisalmer, it was 14 C&MU with one officer and 17 airmen. With the probability of a conflict between India and Pakistan increasing, it was decided to activate these bases in September 1971. At that time, Jaisalmer had just the runway, taxi tracks, and hardened aircraft shelters besides a make-shift Air Traffic Control (ATC) building. It did not have the other basic infrastructure to support air operations—no bulk petrol installation for storage of fuel, no electrical runway and taxiway lighting, etc. Wg Cdr MS Bawa, who was nominated as base commander in September 1971, had to motivate the men and supervise the work with the augmented manpower that was inducted from numerous units as part of Air Heaquarters' (HQ's) Manpower Augmentation Plan. He ensured that the base became operational within a short time. For its air and ground defence, Jaisalmer was given a P-30 radar, a troop of six L-60 anti-aircraft Bofor guns and a company of the Territorial Army. Six Hunter aircraft of No. 122 Squadron (Hunter Operational Training Unit or OTU had been rechristened for the duration of the war) were inducted from Jamnagar, with allotted tasks of air defence of the airfield and close air support to 12 Infantry Division. In addition, No. 12 (Independent) Air Observation Post (AOP) Flight was deployed at the airfield initially but moved near HQ 12 Infantry Division when hostilities became imminent. The base was fully operational by the third week of October, 1971.

The Thar desert, of which Rajasthan is a part, extends into Pakistan. The surface lines of communication, especially West of Jaisalmer, were scanty and consisted of a few tracks, with a metalled road from Jaisalmer to Longewala via Ramgarh. Pakistan's only railway link between its lone port of Karachi and Lahore and beyond ran opposite the Jaisalmer sector. Rahim Yar Khan was the most prominent place in the sector. Pakistan had

also not built any roads East of this railway line and just a few tracks existed up to the international border. The area was full of sand dunes – their height and frequency increasing as one moved West from Jaisalmer.

Pakistan's 18 Infantry Division deployed in Rahim Yar Khan sector consisted of two cavalry regiments (22 Cavalry was equipped with the Chinese T-55 tanks and 38 Cavalry had antiquated World War II era and somewhat unreliable Sherman tanks), three infantry brigades and the usual other elements. The Indian 12 Infantry Division's appreciation was that 18 Division would be deployed in a defensive role mainly to protect Pakistan's vital lines of communication, with little possibility of any offensive tasks. 12 Infantry Division had been tasked to capture Rahim Yar Khan and then exploit the situation further. It planned to achieve this objective by launching an offensive through Kishangarh. Hunters from Jaisalmer were to support this offensive. The division had been allotted 12 Hunter sorties per day with an assurance that, if required, the air effort would be stepped up from D+2 onwards.

The Pakistan General Headquarters (GHQ) had a different plan for its 18 Infantry Division. Besides safeguarding the vital lines of communication in the sector, it was ordered to undertake an offensive with both its armour regiments along with two infantry brigades on the night of D-day with the objective of capturing Jaisalmer airfield the following morning. The entire offensive was planned by the GHQ. The order stated that D-day would be conveyed subsequently. The distance from the international border to Jaisalmer is nearly 140 km. It was an ambitious target as the Pakistani force would have to stick to the desert track till Longewala, followed by metalled road onwards to Ramgarh and Jaisalmer. The division had also not been trained in desert warfare and did not have specialised 4 × 4 wheeled vehicles to traverse the sandy desert terrain.

On receipt of these orders, the General Officer Commanding (GOC) 18 Division discussed the plan with the commanding officers of his two cavalry regiments who agreed on the viability of the plan and the high probability of its success. This was subject to availability of air support during at least the first three days of the operation. This requirement was conveyed to the GHQ which

seemed to have been assured by Pak Air HQ of this support, provided a warning of a fortnight was given to them to activate Jacobabad airfield.

While officers of 38 Cavalry did carry out a recce of their axis of advance up to the international border, 22 Cavalry did not initiate any such step.

The GOC 18 Division received a hand-written order on the morning of December 2, 1971, to launch the offensive the following evening to capture Jaisalmer by December 4 morning—hostilities between India and Pakistan had not commenced at that time. During the briefing for the operations, the PAF representative in the meeting dropped a virtual bombshell when he stated that air support would not be available as a fortnight's notice to Pak Air HQ for activation of Jacobabad had not been given. The brigade commanders pointed out the inherent dangers in launching the land offensive without air support and suggested that the operation be either postponed or cancelled. The GOC referred the matter to the Chief of the General Staff (CGS) at the GHQ who ruled that since very little air action was expected from the Indian Air Force (IAF), the operation must go through in 'the national interest' even without air support. The GOC did not agree to the brigade commanders' suggestion to refuse to undertake the operation as he feared that he would be marked a coward and that would be the end of his career. However, commander 51 Brigade was able to convince the GOC to change his objective from Jaisalmer to Ramgarh. The GOC ordered that the operation would go ahead as planned even without assistance from the Pakistan Air Force. Pak 51 Infantry Brigade and 22 Cavalry were to be in the lead and 206 Infantry Brigade with 38 Cavalry were to follow. H-Hour was set as 2130 hrs on December 3, when the force was to cross the international border.

Pakistan launched Operation Chengiz Khan on the evening of December 3, when the PAF attacked numerous IAF airfields and radars—Jaisalmer was, however, not targeted. The Pakistani ground offensive, however, faced various organisational and logistics problems and could not kick-off. The GOC revised the H-hour to 0200 hrs on December 5, and later ordered that the force was to cross the border at last light.

Pre-planned air operations from Jaisalmer were launched on December 4, and supported the Indian Army offensive through Kishangarh.

The Pakistani column commenced its move from its launch pad around midnight of December 4. The noise of the tanks and vehicles was picked up by an Indian patrol at around midnight. This information was conveyed to 'A' Company of 23 Punjab that was located at Longewala post. The patrol was instructed to get back as soon as the tank column was sighted. However, when the patrol did sight the tanks, it could not pass the message due to communication problems. The information finally reached the Divisional Headquarters at 0230 hrs on December 4. The GOC was taken aback by this sudden and totally unexpected move as it had been appreciated that the desert terrain would not allow Pakistan to intrude along that axis. There were just no reserves to counter this intrusion. Unable to think of any solution, he rang up the base commander, Jaisalmer, and informed him about the Pakistan thrust, with Jaisalmer as its likely objective. The GOC also informed him that he was trying to send a small contingent of tanks to Longewala to intercept the Pakistanis and beef up the Longewala post, as required. He requested the base commander to launch aircraft to locate and engage the enemy armour and infantry. While the base commander accepted the commitment, he stated that the aircraft could be launched only at first light as the Hunters did not have the wherewithal for night operations. Then onwards, there was a frenzy of activity at Jaisalmer to reconfigure the aircraft to carry T-10 rockets—the ideal weapon for the task. Two pilots were detailed to get airborne at first light, reconnoitre the road Jaisalmer-Ramgarh-Longewla and then the track therefrom to the border and engage enemy tanks wherever they were sighted.

The first pair of aircraft taxied out when it was still dark and took off even before first light, flew low along the Jaisalmer-Ramgarh-Longewala road, trying to spot any movement but there was none. All this changed when they approached Longewala. By this time, there was greater light and what they saw ahead of them made their heartbeat faster and their adrenaline shoot up. What looked like lots of matchboxes from a distance, now clearly stood out as a body of

tanks! The enemy tank column had arrived at Longewala a little earlier. The lead Hunter pilot counted 32 of them and then stopped any further count. They did not see any enemy aircraft in the area. The leader observed one of the tanks moving towards the Longewala post apparently to attack it. He immediately went in for an attack and blasted it with his rockets. His wingman, in turn, knocked out the second tank. By this time, the pilots developed doubts about whether the tanks they had attacked were, in fact, Pakistani—the doubt arose as they had been briefed that some Indian tanks would be sent to the area to intercept the Pakistani column. Fratricide is the worst thing that can happen. Fortunately, for them, one AOP aircraft that was to perform the role of airborne Forward Area Controller (FAC) arrived and confirmed the identity of the tanks. With their fears allayed, the Hunter pair resumed their hunt by carrying out as many as 13 more passes between them (instead of the normal 1-2 passes and then getting back to base), destroying five tanks and damaging another ten. During these attacks, they came under intense anti-aircraft fire from the tanks. The lead aircraft was hit, its hydraulics and radio were knocked out, but it managed to land back safely. The Pakistani tanks carried two 100 gallon barrels full of diesel just behind the cupola of each tank. The fuel caught fire when hit by the 30 mm rounds of the Hunters, engulfing the tank in flames. This made the pilots' job that much easier, giving them greater opportunity for more kills. The Pakistani tanks played every trick in the book to protect themselves. They fired with their machine guns at the attacking aircraft and also tried to create additional problems for them by moving around in circles and raising a lot of dust. These tactics did not appreciably deter or distract the attackers and they kept scoring hits. Not a single pass went without getting a victim.

The second Hunter pair soon appeared on the scene and continued the unfinished task of the first pair of aircraft. During one of the attacks, the tank gunner became so desperate that he opened up at the diving aircraft with his main 100 mm gun. Fortunately, the round failed to score a direct hit but whizzed past so close to the aircraft as to disturb its aerodynamics. Consequently, the aircraft continued to mush in during the pullout manoeuvre and scraped the sand dune during its recovery from the dive. The pilot was lucky to

pull out though his aircraft was badly damaged and could not build up speed beyond 250 knots. The skilful pilot managed to land the aircraft safely.

The base commander now faced the dilemma of whether to wait for the damaged aircraft to be repaired or send out the other aircraft singly, a practice not recommended for tactical reasons. Any delay would have given breathing space to the intruders and time to regroup and may be withdraw—a totally unacceptable situation. The base commander took a calculated risk and approved single aircraft missions, if the aircraft in pairs were not available. Thus, the Pakistani tanks remained under attack till sunset. The pilots continued to be directed by the AOP pilots. One of them had to force-land at Jaisalmer helipad but continued his direction by using the aircraft radio on the ground. The Auster was temporarily repaired that night and flown out early the next morning. In the meanwhile, the Hunter pilots extended their 'area of interest' right up to the international border and accounted for many vehicles. By the end of the day, 17 sorties had been flown, with some of the aircraft flying as many as five sorties, while a few pilots flew three sorties. The claimed enemy losses were 22 tanks destroyed, another 30 damaged, besides accounting for vehicles and trains. An intercept that evening summed up the havoc caused by the Hunters. The translation of the communication intercept was as follows: "The enemy Air Force is playing hell with us. As one aircraft goes away, another comes and dances, remaining overhead for twenty minutes. Forty per cent of our Army (personnel) and equipment have been destroyed. What to speak of going forward, turning back has become very difficult. Send the Air Force for help quickly; otherwise, it is impossible to return." It certainly boosted the morale of all the personnel at Jaisalmer.

Jaisalmer came under an aerial attack by a Pakistani C-130 transport aircraft but did not suffer any damage as the entire bomb load was dropped just outside the airfield. To add to the base's problem, the GOC warned that night that he feared that some elements of the armour and infantry column might be headed towards Jaisalmer and Bawa should try and protect his assets as the Army was in no position to augment Jaisalmer's resources. Bawa was entirely on his own. The Hunters were, once again airborne at first light and

recced all possible approaches to Jaisalmer but did not find a single enemy vehicle. It was a false alarm. The aircrew got back to their task of massacring and decimating whatever was left of the attackers. During the day, additional Hunters had flown in from Jamnagar and had joined the fray. The squadron flew 18 sorties and the wreckage of 37 tanks could be seen around Longewala that evening. The Battle of Longewala was practically over! The Pakistanis had been mauled by the relentless attacks by the Hunters, their morale was shattered and they were in no position psychologically to offer any resistance. But this was not the end of the IAF's exploits as the Pakistanis were to get more bashing during their retreat and the IAF's mopping up operation.

Air operations continued against the retreating forces. In addition, Hunters from Jaisalmer provided support to both 11 and 12 Infantry Divisions, and carried out interdiction against the Pakistani lines of communication besides delivering a knockout punch to the Sui gas plant which took over a year thereafter to get back into action.

No. 122 Squadron flew 222 operational sorties during the entire war, averaging 16 sorties per day. It could have flown many more but for lack of close air support demands and paucity of targets. The squadron had decimated a massive armour and infantry thrust entirely on its own, without the loss of a single aircraft. It also goes to the credit of the squadron that it maintained nearly 100 per cent serviceability thanks to round-the-clock voluntary toiling by the ground crew who exhibited very high technical skill.

It must be conceded that Pakistan's plan for the capture of Jaisalmer was just brilliant, with a high probability of success if it had been executed properly as also if the timeframe of its attainment of the assigned objective had been more realistic. The pitfalls in the plan would have been evident to enable their rectification and modification if the plan had gone through the normal staff scrutiny and been war-gamed. The timing of the launch of the offensive and the axis of advance had not been anticipated by the Indians and caught the Indian 12 Infantry Division absolutely unprepared, leaving it with no option but to call the IAF to its rescue. It is to the credit of the IAF that it did not let its sister Service down. Imagine the scenario wherein Pakistani armour under the PAF's cover had advanced along its axis,

unopposed by Indian 12 Infantry Division and had captured either Ramgarh or, more importantly, Jaisalmer within a day or so. It would have been reminiscent of the German *blitzkrieg* of World War II. But this was not to be. While Pakistan had an ace up its sleeve, it had not anticipated the Indian hand and their ace got trumped by the Indian Air Force and, thus, they lost the battle. The Pakistan Army brass did not realise the impact of air power in modern warfare. They had apparently either forgotten, or decided to ignore, the lessons of history. It so happens that it was in India that the role of air power in future conflicts was first propounded way back in 1920. After the Third Afghan War and the Waziristan Campaign, it had become an accepted doctrine in the British Indian Army that no major operation could sensibly take place without the availability of air support. "Air power would not guarantee success, but it would hopefully prevent defeat."[1] Over a period of time, this dictum has altered somewhat to "Air power may or may not ensure your victory, but its lack will certainly bring you to defeat." This doctrine has stood the test of time and remains valid even more today, especially when one considers the increasing lethality of air power. The other characteristics of air power viz quick response, flexibility and ability to strike at vast distances add to the cost that air power can impose on an adversary. The IAF exhibited all these characteristics except for the vast distance, as the flying time from Jaisalmer to Longewala was a mere ten minutes.

Since the quality of the leadership plays a significant part in any operation, it would be only right to have a look at the quality of leadership at Jaisalmer vis-à-vis that of the invading force. Wg Cdr MS Bawa had successfully commanded a fighter squadron and was the chief instructor at the Armament Training Wing. He was reputed to be a 'go-getter' and he displayed this trait by the speed with which Jaisalmer became operational, with the personnel drawn from a plethora of units and gathered at Jaisalmer temporarily. He motivated them and they delivered the goods in an environment that was anything but conducive. He was totally involved with the aircrew, shared their feelings and paid great heed to their suggestions. When

1. Brian Robson, *Crisis on the Frontier: The Third Afghan War and the Campaign in Waziristan 1919-1920* (UK: Spellmount, Staplehurst, 2007), p. xiv.

the aircraft were damaged by the enemy ground fire on the first day of the battle, he did not refer the matter to the higher authorities and decided to launch single-aircraft missions—it was a calculated risk and if things had gone wrong, he would have been held responsible for a decision which was tactically speaking wrong. He did not leave this decision to the detachment commander and told him that he would answer to the authorities if so required. The aircrew were motivated and experienced, and exhibited a high quality of leadership, flying skills and initiative, resulting in extremely good results. On the opposite side, the Pakistani commanders were not motivated, and their morale took a further beating once they were told to launch the offensive without air support. They also had not motivated their personnel as was evident from a large number of desertions that took place once the force crossed into India.

The second characteristic of air power that needs to be looked into is rapid response. Aircraft on air defence missions are normally ordered to be either on two or five-minute readiness and get airborne well within this period. If the situation so warrants, aircraft on ground attack missions can also be ordered to standby on 15 or 30-minute readiness by housing the aircraft and the aircrew not far from the take-off point. In this case, it was night time and no aircraft was on standby. The base commander, Jaisalmer, was informed of the Pakistani intrusion at about 0230 hrs. It was not possible to launch the aircraft immediately as the aircraft did not have the wherewithal for night vision and had to wait for daylight. Besides, the two aircraft that were earmarked for air defence operational readiness, the other aircraft had been configured the previous evening according to the missions that had been assigned by the Army. It was realised that T-10 rockets were the most suitable weapon for engaging the tanks. The ground crew—their number was extremely limited as the majority of the squadron's assets were at Jamnagar—had to now fit the rocket rails and load the rockets which is a time-consuming task. Every person pitched in and the aircraft were ready well before first light. The aircrew proceeded to the aircraft when it was still dark and taxied out, groping their way, as the Hunters did not have any landing lights and Jaisalmer did not have an electrical runway and taxiway lighting system installed. It was just about first light when

the aircraft got airborne. Could one have responded any faster?! Obviously not. Almost the same scenario played out the next day except for the fact that the aircraft were already configured for the carriage of T-10 rockets. The aircraft were turned round quickly and repairs were carried out wherever required. The ground crew were working at the aircraft almost round the clock to ensure that the allotted tasks could be executed. Had it not been so, it would not have been possible to launch 17 sorties on the first day.

The biggest impact of air power lies in its lethality. It is based on weaponry (sophistication and payload) and the accuracy of its delivery. When the doctrine of the inevitability of air support was propounded in 1920, an aircraft normally had just a few 20lb, and still fewer 120lb bombs, besides .303 machine guns. Delay fuzes were in use and the heavier bombs came into use a decade or so later. Even though the lethality of such aircraft was rather low and totally non-effective against houses and other structures made of mud, they still had an impact on the morale of the tribesmen. Now compare this to the armament of the Hunter aircraft that entered service in the early 1950s—four 30 mm cannon and 12 T-10 rockets—a quantum jump indeed. Of course, the Hunters could also carry 2 × 500lb bombs or two napalm containers, but these were not the ideal weapon for the task. The gyro gunsight permitted armament delivery with a fair amount of accuracy. The lethality of the Hunters becomes evident when one notices the ease with which Pakistani tanks succumbed to the T-10 rockets and 30 mm rounds. The sophistication in aircraft weaponry has since then increased manifold and there is just no target that cannot be engaged and neutralised with a suitable aerial weapon. Today is the age of precision-guided munitions using various devices like lasers, inertial navigation systems, Global Positioning System (GPS), etc. besides various types of seekers to ensure pinpoint accuracy. Rockets and cannons are fired at fairly close ranges and the attacking aircraft are vulnerable to the anti-aircraft guns and shoulder-fired surface-to-air missiles. However, modern weapons can be launched from greater distances, providing the requisite safety to the aircraft. The decision of the CGS of the Pakistan Army to brush aside the likely impact of a small force at Jaisalmer air base proved fatal. This lapse was not something new but in the absence of

joint planning and lack of full understanding on the lethality of air power, such mistakes are bound to be made. It is unfortunate that in most cases of planning by the ground forces' commander, the role of the Air Force figures in the end and as an adjunct, not as the decisive, contributory element. Ideally, he should initiate his planning by asking his Air Force counterpart about how the Air Force can make the surface forces' task easier.

No. 122 Squadron's performance must be gauged from the fact that with just five aircraft for the task and quite a few becoming unserviceable, as many as 17 sorties were flown on December 5, with some aircraft flying six sorties in a little over ten hours of daylight. This was possible due to factors that are normally not fully appreciated. Firstly, the dedication and the technical skill of the ground crew in turning round and rectifying the aircraft in the shortest possible time. The few personnel of the R&SU (Repair and Salvage Unit) who were at Jaisalmer ensured that the aircraft that had suffered battle damage was restored to flying status at the earliest. These ground crew were highly motivated and their morale went really sky high once they came to know that their efforts had borne fruit and the invaders had been dealt a mortal blow. The efficacy of this small force was enhanced by these factors and resulted in the decimation of the invaders.

The lethality of air power in the modern age can be gauged by the happenings in Operation Desert Storm (January 17, 1991-February 28, 1991) in which the coalition Air Forces pounded the Iraqis for 42 days after which the ground forces had a practically free run to a quick victory. It was again evident during Operation Iraqi Freedom in which the *"shock and awe"* bombing campaign in 2003 helped overthrow Saddam Hussain. However, in both these operations, though the main destruction was caused by the aerial campaigns, the mopping up operations were carried out by the land forces. Similarly, in Kosovo during March-June 1999, the Serbs were bombed day in and day out; it is different that they succumbed only under the threat of a ground invasion and a ceasefire came into being.

However, there are at least two land battles in which victory was won by air power alone, without any role played by the ground forces. It so happens that both these battles took place in India. The first of

these was the Pink's War of 1925. It was a 54-day aerial campaign (March 9-May 1, 1925) in Waziristan in which five Royal Air Force (RAF) squadrons forced the Waziris to accept the British terms. Normally, a ground-based campaign would have involved at least two brigades and around one to two years, with lots of casualties. In this case, the war lasted just 54 days in which the British lost just one aircraft and two pilots and that too in an accident. The ensuing peace lasted much longer. The Pink's War should have been a trend-setter and the RAF should have been given a free hand from then onwards but glory to another Service was not acceptable to the British Indian Army brass and they never permitted the RAF to undertake the operations again. While the Pink's War lasted 54 days, the Battle of Longewala, which was the showpiece of the responsiveness of air power and its lethality, lasted just two days—strictly speaking, the back of the Pakistani offensive was broken by the evening of the first day. Not a single aircraft was lost despite some desperate but intense ground fire by the Pakistani tank crews. One can speculate about the duration of the battle and its outcome if the Pakistani intruders had been engaged by the Indian 12 Infantry Division on its own. It must be brought out that there was no major engagement between the Pakistani and Indian forces except for a few artillery attacks on the Pakistani gun positions after the intruders had retreated into their own territory. It was solely the effort put in by the Hunters from Jaisalmer that brought about this resounding victory.

The Battle of Longewala thus, remains a unique one in the annals of aerial warfare where the intruding armour forces were decimated by air power alone. It will always be remembered as one of the proudest moments in the history of the Indian Air Force.

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MILITARY DIPLOMACY: THE ROLE OF THE SOLDIER DIPLOMAT: AMERICAN CASE STUDY AND INDIA'S OPTIONS

ANIL GOLANI

INTRODUCTION

Armed Forces all over the world are trained to kill and destroy, this being their raison d'être since time immemorial. Their efficacy, efficiency and worth have been measured by the degree of success they have enjoyed in defeating and decimating their enemies. A soldier is incomplete without a weapon. In addition, ironic though it may seem, money has always been made from war in one way or another, a fact that holds true even till today. From the industrial age through the world wars till today, defence and ancillary industries have not only fuelled intense competition but also forged alliances between nation states, at times manipulating and propelling them to go to war. Most leaders responsible for the security, peace and prosperity of their people have used the Armed Forces as but one tool to ensure the same, and have reasoned that if peaceful means and persuasion do not succeed in resolving conflict and competition against an adversary who might engage in aggression, then the use of

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force as an important tool of statecraft is justified. The modern period has witnessed profound changes in technology and communication, a globalised interdependent economy, growing influence of non-state actors, growth of civil society, increasing inequality, etc., which have challenged modern statecraft and international diplomacy.

The word Military Diplomacy comes across as an oxymoron. 'Militaries' are trained and equipped to wage war while 'Diplomacy' utilises everything other than force to achieve national policy objectives. According to Kautilya, who was a realist in his approach, every state acted in order to maximise power and self-interest. Moral principles or obligations therefore had little say in their actions against other nations. While it would be prudent to have an ally, the alliance would last only as long as it was in mutual self-interest, because "an ally looks to the securing of his own interests in the event of the simultaneity of calamities and in the event of the growth of the enemy's power."[1] Why do we need diplomacy, and why Military Diplomacy? While Carl von Clausewitz had argued that war was just an extension of domestic politics,[2] Kautilya had prophesied that diplomacy was actually subterfuge that involved taking actions that would lead to weakening the enemy, while gaining advantages for your own self, all done with the aim of an eventual victory. A nation's foreign policy should therefore always consist of preliminary movements toward war: "In this way, the conqueror should establish in the rear and in front, a circle (of kings) in their own interest. … And in the entire circle, he should station envoys and secret agents, becoming a friend of the rivals, maintaining secrecy when striking again and again. The affairs of one, who cannot maintain secrecy … undoubtedly, perish, like a broken boat in the ocean." [3] As the foreign policy of a nation is geared towards national interest, it should not be to end conflicts, but to preclude defeat and to ensure victory in subsequent conflicts. As far as Kautilya was concerned, all ambassadors were potential spies, cloaked with diplomatic immunity.

1. Boesche Roger. "Kautilya's Arthasastra on War and Diplomacy in Ancient India" *The Journal of Military History*, vol. 67 no. 1, 2003, pp. 9-37. Project MUSE, at https://muse.jhu.edu/article/40432#authbio. Accessed on August 15, 2021.
2. John Keegan, *A History of Warfare* (New York: Alfred A. Knopf, 1993), pp. 3-24.
3. Boesche Roger, *The First Great Political Realist: Kautilya and his Arthashastra* (United States: Lexington Books, 2003), p. 80.

The military capabilities of nations across the world are increasing either by force accretion or by making existing forces more potent and agile. This takes place despite reducing defence budgets in the western world which in some cases are accompanied by force reductions. What remains a *sine qua non* is the fact that the Armed Forces are here to stay and would continue to play an important and leading role, not only in nation building but in the ability of nations to further their interests in an increasingly integrated world which paradoxically is fraught with increasing inter and intra-regional conflicts. The aim of this paper is to assess how Military Diplomacy could be effectively utilised as a tool of statecraft to further national interests in international diplomacy. During the research a case study has been carried out of the use of the military by the USA towards furthering national interests, what are the challenges faced by India and how could they be addressed.

Ever since the advent of Naval power the term 'Gunboat Diplomacy' was coined to further the interests of colonial powers in pursuit of their foreign policy objectives through the conspicuous display of force. There have been numerous occasions wherein military force has been used peacefully in international diplomatic relations leading to the term 'Military Diplomacy' which can be defined as "all diplomatic activities relating to national security and military diplomatic activities." The distinction between diplomacy and military diplomacy essentially arises from the practitioners and the departments/ministries to which they belong even though their objectives remain the same. The goal of diplomacy as defined by Britannica Concise Encyclopaedia is to further the state's interests as dictated by geography, history and economics. Safeguarding the state from external aggression and protecting its sovereignty is equally important. Diplomacy seeks to achieve maximum national advantage without using force and without causing resentment. Viewed in isolation, diplomacy would not be able to achieve what it seeks to do without a strong and powerful military. UK's defence diplomacy is defined by Anton du Plessis, in a narrow sense, as the "use of military personnel, including service attaches, in support of conflict prevention and resolution. Among a great variety of activities, it includes providing assistance in the development of

democratically accountable armed forces". Du Plessis goes on to give a broader definition of military diplomacy as "the use of armed forces in operations other than war, building on their trained expertise and discipline to achieve national and foreign objectives abroad". He also gives Cottey and Foster's inclusive definition of defence diplomacy (alternatively, international defence diplomacy) as "the peacetime use of armed forces and related infrastructure (primarily defence ministries) as a tool of foreign and security policy" and more specifically the use of military cooperation and assistance.[4] The usage of the words 'military' and 'defence' can be freely interchanged.

THE CASE FOR MILITARY DIPLOMATS

The importance of diplomacy in the domain of security and military relations in the nuclear age, with increasing disaffection of the civil society (with the ruling elite) and increasing radicalisation and extremism cannot be overemphasised. The ability to mediate, manage and resolve conflict through communication and negotiation has been instrumental to the survival of polities since the dawn of civilisation, but what changed after the nuclear strikes on Hiroshima and Nagasaki in August 1945 was the relative significance of the consequences of failure to achieve the needed diplomatic mediation.[5] Diplomacy with the intention to prevent future conflict has been the response to successive outbreaks of multilateral conflict with increasing severity since the eighteenth century. What has made the last two centuries different from the preceding period is that diplomats have sought to institutionalise the diplomatic mechanisms for representation and communication in a new and more formal way in order to facilitate regular consultation, mediation and, when required, negotiation to avoid or resolve conflict.[6]

The successful mediation during conflicts of interest at the broader level requires more than just an effective mechanism through which diplomats can communicate with one another in the event of

4. Anton du Plessis, "Defence Diplomacy: Conceptual and Practical Dimensions with Specific Reference to South Africa", *Strategic Review for Southern Africa*, November 2008.
5. Geoffrey Allen Pigman, *Contemporary Diplomacy* (Cambridge UK, Polity Press, 2011), p. 161.
6. Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), pp. 1-34.

a prospective or actual crisis. The ability to communicate effectively requires that diplomats have a familiarity with one another and with each other's governments and their positions, even in advance of the need to address a particular bilateral or multilateral issue.[7] It is here that military officers of different nations who have had joint training in the past, conducted bilateral and multilateral exercises/exchange visits, would be able to communicate effectively on the basis of mutual trust that has been developed over the years. Hence regular bilateral and multilateral meetings for the purpose of getting to know one another, and formal confidence-building measures can be just as important in avoiding conflict as institutional structures for communication themselves.[8] Modes of communication in bilateral security diplomacy have also evolved through establishment of dedicated channels such as 'hotlines' between the Military HQ of traditional adversaries, India and Pakistan, to ensure that unintended actions do not inadvertently signal the intention to initiate a conflict that could result in a nuclear Armageddon in South Asia. In addition, senior foreign policymakers also need to be able to communicate effectively with their own senior military officers, who are responsible for creating and implementing military strategy about other states, about their capabilities and their interests. It is in this aspect that India lacks a dedicated framework to facilitate dialogue to further national interests.

AMERICAN CASE STUDY

In the case of the USA, which functions through its geographic combatant commanders, military diplomacy synergises and brings all instruments of national power to bear on nations and partnerships across the world. The purpose being to develop relationships and form alliances. While reflecting on his command, General Zinni remarked: "As my experiences throughout the region in general and with [Pakistan's President] Musharraf in particular illustrate, I did not intend to sit back and say, 'Hey, my job is purely military. When you're ready to send me in, coach, that's when I go in.' When I assumed

7. Lars G. Lose, "Communicative Action and the World of Diplomacy", in Karin M. Fierke and Knud Erik Jorgensen (eds.), *Constructing International Relations: The Next Generation* (Armonk. NY: M.E. Sharpe, 2001), pp. 179-200.
8. Dana Priest, *The Mission: Waging War and Keeping Peace with America's Military* (New York: W.W. Norton, 2004), pp. 11-57.

command of CENTCOM and had the ability to choose between fighting fires or preventing them, I chose prevention. If there was any possible approach to making this a less crisis-prone, more secure and stable region, I wanted to try it through shaping operations."[9] With all the instruments facilitating security cooperation, General Zinni segued the entire Near East and Central Asian region through strong security relationships and capabilities by having regional conferences and enhancing the professional military education of all the regional military leaders. The other geographic combatant commanders also conducted similar activities. The PACOM Commander, Admiral Blair was apprehensive of collaborating with China after the 2001 air collision between an EP-3 and a Chinese F-8 aircraft. Subsequently many commanders of EUCOM facilitated the entry of nine countries into NATO while ensuring that relations with Russia were not adversely affected over this NATO enlargement. "The current norm of 'Been there, done that' visits should be transformed into persistent, personal, and purposeful contacts that yield results."[10]

The involvement of the military in diplomacy cannot be done in isolation; the involvement of the Foreign Service is an essential prerequisite in articulating the national strategy/objectives in the region. Conflicts occur when competing bureaucracies jostle for their share of the pie in the absence of unambiguous and clearly articulated vision and strategy at the national leadership level. The support provided by the Military to Public Diplomacy is an essential component of the American strategy and is defined as "the ability to understand, engage, influence and inform key foreign audiences through words and actions to foster understanding of U.S. policy and advance U.S. interests, and to collaboratively shape the operational environment." The Department of Defence support to US Government public diplomacy consists of many activities that include open-source international public opinion which aims to foster US foreign policy objectives by making an attempt to have an understanding, thereafter informing and influencing foreign audiences and opinion makers. This support could be furthered by increasing the scope of dialogue

9. Tony Zinni, "Military Diplomacy," in Derek S. Reveron (ed.), *Shaping the Security Environment*, (Newport, RI: Naval War College Press, 2007), p. 5.
10. Joint Forces Command and European Command, Draft Military Support to Shaping Operations, Joint Operating Concept, June 2007, p. 13.

between American citizens, its institutions and their compatriots abroad. Even though this is primarily the role of the State Department, the Defence Department is quite active in this area. The US Regional Commands, for example, sponsor professional military education conferences to discuss regional security challenges and the strategic outlook apart from capabilities-based planning. By assembling important leaders from a particular region or country, the Regional Commands facilitate dialogue not only between the United States and other countries, but also among countries across the world, which would only help and facilitate in combating regional conflicts and humanitarian operations. Geographic combatant commands are also represented in US embassies through offices of defence cooperation and military liaison offices.[11]

LIMITATIONS OF MILITARY INVOLVEMENT

There has been increasing criticism of the Western intervention in Iraq and Afghanistan. It has led to a groundswell of adverse public opinion in the world against the US. While the reasons for American intervention are not being debated, the manner in which the countries have been attempted to be changed and the military nature of the intervention is what has caused the adverse public opinion. By their own admission, erstwhile US Deputy Secretary of Defence, Gordon England had remarked, "The US Military is not sufficiently organised, trained, or equipped to analyse, plan, integrate and coordinate the full spectrum of capabilities available to promote America's interests."[12] Subsequently the US embarked on a policy of Security Cooperation defined as "the ability for DoD to interact with foreign defence establishments to build defence relationships that promote specific U.S. security interests, develop allied and friendly military capabilities for self-defence and coalition operations, including allied transformation, improve information exchange, and intelligence sharing to help harmonize views on security challenges, and provide U.S. forces with peacetime and contingency access and en route infrastructure."[13] The main objectives for doing this spanned

11. Derek S. Reveron, "Shaping and Military Diplomacy", US Naval War College, September 2007.
12. Ibid.
13. Ibid.

various themes from combating terrorism, transforming alliances and building coalitions for the future, influencing the direction of major powers, cooperating with parties to regional disputes, deterring and isolating problem states, combating weapons of mass destruction, and realigning the global military posture. While making efforts to wage war against the global terror threat, security cooperation provides training for indigenous forces.[14] The Foreign Military Training Unit was created by the Marine Corps in 2006 to "train, advise, and assist friendly host-nation forces—including naval and maritime military and paramilitary forces—to enable them to support their governments' internal security and stability, to counter subversion, and to reduce the risk of violence from internal and external threats."[15]

With increasing global challenges and dwindling defence budgetary allocations, the US Navy has incorporated security cooperation as its primary agenda. Senior Navy strategists Vice Admiral Morgan and Rear Admiral Martogolio wrote, "policing the maritime commons will require substantially more capability than the United States or any individual nation can deliver."[16] To ensure this, the United States has been seeking partnerships with international navies to create the proverbial 1,000-ship navy, which could respond to smuggling, piracy and other nefarious activities, while protecting the global commons or important SLOCs. The Chief of Naval Operations reinforced this message, stating that: "wherever the opportunity exists, we must develop and sustain relationships that will help improve the capacity of our emerging and enduring partners' maritime forces."[17] This effort, which has been exemplified by Task Force 150 and NATO's Operation Active Endeavour, represents an example of a 1,000-ship navy to promote international maritime security. The prerequisite to building a successful maritime partnership globally is to build partners' capability and capacity.

US Foreign policy had become dangerously dependent on its military. The reliance on the military fed an unfortunate trait: the tendency towards unilateralism. It had become too easy for the military to believe that this superiority would carry over into post-

14. Ibid.
15. USMC, "Foreign Military Training Unit", at http//www.marsoc.usmc.mil/FMTUHome.htm. Accessed on August 24, 2021.
16. Derek S. Reveron, n. 11.
17. Ibid.

conflict operations. After all, the United States had the transportation, communications, and logistics that no other power possessed. The military was the go-to organisation, of course, and its soldiers and leaders responded to an unpredicted situation with all the skills and capabilities in their command. For all their versatility, however, they lacked the knowledge, skills, staying power and scale to really manage a large nation on a continuing basis. They were unable to create deep-rooted political development. They lacked the skills and experience to revise constitutions and work methodically to bore into the deepest aspects of the societies.[18]

Whenever diplomatic levers are neglected and military action taken unilaterally it invariably becomes counterproductive, as has been proved time and again. US Ambassador Ryan Crocker's perspective, which was shaped by more than four decades of experience in respect of the actual scope and influence of American power, is realistic and pragmatic. He puts it this way: "*we're a superpower, we don't fight on our territory, but that means you are in somebody else's stadium, playing by somebody else's ground rules and you have to understand the environment, the history, the politics of the country you wish to intervene in*."[19]

Clausewitz, in his well-known quote "war is nothing but the continuation of policy with other means" firmly establishes that the military needs to function as both, a tool of warfare, and a tool of policy implementation. Keeping this relationship of the military and policy in mind he identifies the need for the military leader to be a soldier-statesman.[20] In other words, the military commander must be able to clearly discern the policy objectives of the nation-state and be able to apply the appropriate resources at his disposal to achieve the ends sought. Clausewitz, in his argument states that true military genius is marked by the ability to understand "exactly how much can be achieved with the means at his disposal" while keeping in mind the "entire political situation."[21] Elucidating further on war and

18. Wesley K. Clark, *Winning Modern Wars: Iraq, Terrorism and the American Empire* (NY: Public Affairs, 2003), pp. 169-170.
19. Ed Crego, George Munoz and Frank Islam, "Foreign Policy, Diplomacy and Military Force", at www.huffintonpost.com. Accessed on September 10, 2021.
20. Clausewitz Carl von, "On War", ed. Michael Howard and Peter Paret (New Jersey: Princeton University Press, 1989) p. 111.
21. Ibid., p. 112.

policy, Clausewitz comments that, "… war springs from political purpose … Policy, then, will permeate all military operations and … it will have continuous influence on them."[22] It is unequivocally clear that the amalgamation of policy and military activities through the soldier-statesman is not only desirable, but considered as an absolute essential by Clausewitz.

BILATERAL/REGIONAL/MULTILATERAL SECURITY RELATIONSHIP

This is the most traditional and classical relationship that goes beyond diplomatic relations. However, the context in which such alliances are situated has changed post World War II, being articulated in terms of obligations by both states as members of the United Nations. The shift is significant, in that, by signing the UN charter, member states are committing themselves to a set of norms of diplomatic conduct that would preclude certain types of bilateral alliances, such as secret alliances directed against third countries. Bilateral agreements generally function without the establishment of a secretariat or organisation on a permanent basis and generally take the form of an agreed set of policies and procedures that govern ongoing diplomatic communication. Such agreements almost always provide for the sharing of military intelligence between the two armed forces, and some agreements also call for varying degrees of joint military training, exchange of officers and certain shared defensive missions.[23] Examples of successful bilateral alliances have been the ones in force between the Republic of Korea and the US.

At times bilateral security arrangements morph into regional or multilateral agreements that require a degree of multilateral diplomatic cooperation and military coordination. Regional and multilateral security organisations play a critical and complex role in security diplomacy, in that they serve both as vehicles for coordinating action amongst several states in the security arena and, at the same time, as venues for the diplomatic processes of making, implementing and enforcing security policy. NATO and the Warsaw Pact were the two alliances that endured during the

22. Ibid.
23. Ibid., pp. 165-166.

Cold War period. Amongst other committees in NATO, the Military Committee is the most significant, as it serves as the highest-level military advisory body to NATO's civilian authorities. The realities on the ground of the joint military command structure required much more thoroughgoing, integrative aspects of diplomacy than negotiating treaties and cooperating to undertake strategic defence planning. In this regard, NATO military cooperation is also diplomatic in a way that renders it essentially different from the military command structure and defence planning process within the armed forces of a single state.

For the armed forces of different countries to learn to work together effectively, a huge range of estrangements need to be mediated, protocols of representation established and channels of communication made familiar. These engagements of diplomacy are very different from, but no less important than, the *haute politique* diplomacy that traditional scholars of diplomatic studies usually associate with security diplomacy. The fact that alliance member governments and their armed forces engaged in this hands-on level of security diplomacy changed the relationships between these states significantly in ways that were not planned or anticipated when the alliances were created. The political and military channels of representation and communication that NATO developed during the Cold War facilitated NATO's transformation after the Cold War from a regional security organisation into a collective security organisation with an increasingly global reach. Even as NATO has struggled at times in the post-Cold War period to reimagine and redefine its 'strategic concept' or primary mission, it has proven remarkably adept at the core diplomatic functions of representation and communication, and the objectives at which those functions are targeted: negotiation, and mediation of estrangement between alienated actors in the broadest sense. NATO has successfully taken action to embrace its former adversaries. The joint deployment of troops by NATO and the Russian Federation in Kosovo, whilst not without considerable disagreement between NATO and Russian commanders, can be seen as emblematic of the success of NATO's security diplomacy in mediating the estrangement with what was once its greatest adversary and establishing not only representation

and communication, but an established institutional format for security cooperation on an ongoing basis.[24]

INDIA'S CHALLENGE

The Indian Defence Establishment faces the gravest challenge in today's environment post-independence. It faces the risk of conventional conflict with two adversaries against a nuclear overhang and the increasing risk of cyber and space-based threats. Apart from this the nation will continue to be committed to dealing with the proxy war imposed on us by our western adversary, insurgencies and separatist movements with the growing phenomenon of Left-Wing Extremism, the latter being acknowledged as the gravest security risk to the nation by the erstwhile Indian PM, Dr Manmohan Singh.

Confronting these conflicts in the twenty-first century would require a comprehensive and coordinated approach utilising all the levers of power. In this regard the Armed Forces of the country are blessed with the junior leadership and rank and file who have acquitted themselves admirably in the past despite the lack of 'state-of-the-art' equipment and resources. Even so, history is replete with examples that even the best equipment and resources does not guarantee victory unless the higher political direction, a sound organisational structure and higher strategic thought are in place.

While Military Diplomacy has gained prominence and become overt in the post-Cold War era, some of the activities that they have been performing are no different from what was done in the past, of using the great power practice of using the armed forces for a range of political and humanitarian missions. These have included force projection into conflict situations, nation building, ability to assist other military forces through training, and local capacity support through arms transfer and intelligence capability. These functions hitherto had been largely performed by western powers in the past.

As the military capabilities of India and China grow along with their rising aspirations of great power status, increasing trade, large diasporas abroad, so too will their desire to use the military as an effective tool to protect their interests. While India's attempts at military diplomacy have included signing a large number of military

24. Ibid., pp. 169-171.

cooperation agreements and significant expansion of joint military exercises with major powers and regional actors in the Indian Ocean and East Asia, its attempts to integrate the military within the national decision-making system leave much to be desired. Many of India's military diplomatic activities, because of its inherent reluctance to enter into regional partnerships/alliances, are a consequence of bilateral agreements with individual countries rather than a Grand National Strategy. India's reluctance to actively involve its armed forces internationally has historical reasons post-independence. Independent India's isolationist impulse, in the recent past was in part due to the extensive use of its armed forces during the nineteenth and first half of the twentieth century. The Indian nationalist movement rejected the use of the Indian military for imperial purposes. The only exception to this, post-independence, was the use of Indian Armed Forces for UN Peacekeeping Operations.

One of the major shortcomings of the present arrangement of interaction between the Armed Forces and the Ministry of External Affairs (MEA) is that the Ministry of Defence (MoD) with its civil bureaucracy is interposed between the two as an adjudicator. A serious limitation in the present arrangement is that it prevents the leveraging of military capacity in Foreign Policy and relations. The best way of achieving synergy is through an interactive mechanism in an organised structure which the present arrangement lacks. The principal interface of the MoD is with the MEA and it needs no emphasis that in all decisions with respect to national security, international relations, use of security forces in overseas deployments/exercises the MEA has to be involved. The MEA, incidentally, is one of the few agencies of the state which has officers of the Armed Forces working alongside in Diplomatic Missions abroad. There is little doubt that since MEA is the component for delivery of foreign policy it should be the lead agency for military diplomacy.

There exists a strong case for posting/lateral absorption of Armed Forces officers of Colonel equivalent rank into the MEA, given the acute shortfall of officers in the MEA. The MEA, which should be crucial to informing the country's strategic vision, is puny compared to India's aspirations and emerging power status. Singapore, with a population of 5 million, has a foreign service about the same size

as India's. China is eight times larger.[25] With a little bit of cadre management in both the organisations this process could be mutually complementary. India's role and influence has increased considerably, and in keeping with the increasing demands of defence cooperation, procurement of equipment and training commitments including the conduct of joint exercises, the deployment of defence attachés abroad needs to be reassessed. It is not only a question of numbers; it is as much about posting the right man at the right place. This includes re-examination of the current structure to include selection, the desirability for specialisation—both regional and technical—and scope for maintaining continuity.[26] It is possibly appropriate to evolve a more pragmatic long-term policy that envisages the deployment of Indian Armed Forces units and personnel not only in UN-mandated peace operations, but also in multinational expeditionary operations undertaken under the aegis of internationally mandated resolutions. Evolving such a policy is important to enable the formulation of doctrines, concepts and standard operating procedures for conducting joint training, exercises and operations with forces of other countries within a bilateral or multilateral framework.[27]

Defence cooperation must extend beyond training, even though it is a major component of defence diplomacy, especially in a region where countries are not keen to maintain large standing armed forces and prefer to seek support from countries which are neither threatening nor overbearing for their security needs; for example, security threats like piracy. In this context, India's relationship of professionalism and non-interference, while providing such assistance, needs to be highlighted. This reiterates the fact that India is increasingly being seen as a benign security provider. The expectations from India, in the emerging world order, not only raises the question of military capacities but also structural issues which would enable a response in a manner and time frame that defines India's stature and capability.

MILITARY DIPLOMACY: INDIA'S OPTIONS

If one were to look around India's neighbourhood, the armed forces are key players in national security policies, from China to Indonesia

25. "Briefing: India as a Great Power", *The Economist*, March 30, 2013, p. 55.
26. IDSA, *Deliberations of a Working Group on Military and Diplomacy* (New Delhi: Magnum Books Pvt. Ltd., 2013), p. 23.
27. Ibid., p. 24.

and Pakistan. Given India's firm belief in civilian supremacy over the armed forces (rightly so) the civilian bureaucracy and politicians are uncomfortable with the dubious role played by the military in the domestic politics of some of these countries. This, however, places us in a quandary as we expect that other countries should play by our norms, which is unrealistic, and when we engage with them purely on civilian diplomatic terms, we fail to engage their military establishments. This is further compounded by the fact that we either do not have any military-to-military cooperation arrangements with our neighbours or they are at a fledgling and nascent stage. We therefore fail to engage in military diplomacy in any meaningful form. This is also a part of the reason why the nation finds itself in a bind with respect to Pakistan as we fail to engage with the military which is the real power centre. The US however does this a lot better as its CENTCOM Commander, Secretaries of State and Defence regularly interact with the Pakistan Army Chief. Given the situation that these men in uniform are engaged in diplomatic activities which are of serious importance to India, can we afford to stay out of this military-diplomatic loop?

It is essential that the country takes military diplomacy seriously, making it a part of its foreign policy, creating capacities, structures and processes to put them into action. Military training at the academies must include diplomacy and officers with requisite skills must get deputed to Indian embassies and missions abroad to work not only as defence attach*é*s but also augment the Indian Foreign Service which is woefully inadequate, considering its growing demand. There is an urgent need for policy formulation at the national strategic level for a strong and institutional framework that coordinates the activities of the External Affairs and Defence Ministries to maximise national interests not only regionally, but at the international global level. Increasing defence cooperation with India's neighbours through joint exercises, visits, combating terrorism, piracy, cyber threats, etc., would go a long way in building robust partnerships which would inherently secure national interests and promote peace, security and stability. As soldiers universally more than think alike, their bonding through multilateral exercises/defence engagements is instantaneous and is easier to build upon to secure national interests. The emphasis

needs to shift from organising our forces to defend our territory to using them to secure our people and our way of life and conducting these operations at a distance from our borders. Each nation will arrive properly at slightly different organisations according to its history and circumstances; however, the more these organisations are congruent with those of other nations the better the fit when grouped together in some multinational force.[28]

CONCLUSION

Modern wars are not won on the battlefield, but in the diplomatic lobbies of international organisations and more importantly in the hearts and minds of civilian populations. In a growing interdependent world, the futility of armed conflict cannot be overemphasised. The probability of a state to take unilateral military action against another sovereign state is decreasing by the day. Modern conflict situations would dictate multilateral intervention wherein military personnel would need to interact with multiple organisations and individuals in order to defuse volatile situations towards peaceful resolution. Civil-Military liaison work has to increase ensuring non-confrontational encounters against the state and between warring factions. The requirement of a soldier to be able to negotiate responsibly and effectively cannot be underestimated. The training imparted to soldiers, if refined to understand the merits of a comprehensive approach would go a long way to the making of a soldier diplomat who would be better armed and prepared for future conflicts of tomorrow.

The 'spectrum of conflict' today erodes any clear demarcation between war and peace. Today's ideas of peace are very ambitious, encompassing more than the absence of war, and including the provision of justice and good government, as well as human security more broadly defined. As a result, conflict is seen as both pervasive and persistent.[29] Since the end of the Cold War there has been a continuation of conflict or war at some level or another in the international system. The prevalence of war between states or

28. Smith Rupert, *The Utility of Force* (London: Penguin Books Ltd., 2006), p. 399.
29. Hew Strachan and Sibylle Scheipers, *The Changing Character of War* (New York: Oxford University Press, 2011), p. 10.

divergence of interests leading to conflict has meant that the conduct of war, though not literally, remains one of the most important acts of the state. Strategising on the conduct of war can help us to manage and contend with crises by shedding light on the contemporary role and contribution of military force diplomacy in and to a nation's security policy.

While building up the case for Military Diplomacy with the soldier-statesman as its protagonist, the policies followed by the USA and India were explored. Bilateral/Multilateral and regional securities relationships were looked at, which are considered essential in today's globalised interdependent world. Security of a state and its citizens remain the prime responsibility of the armed forces. This, however, cannot be achieved in isolation and increasing synergy between the different levers of the state, is inescapable.

REVIVAL OF SAARC: AN ATTEMPT WORTH MAKING

SWAIM PRAKASH SINGH

The preceding months have kept the world media and people interested in international relations busy with the changing geopolitical landscape. The rapidly changing scenario arising out of the US pullout from Afghanistan, formation of a self-proclaimed government of internationally banned terrorists, new and sudden collaboration trilateral security pact between Australia, the UK and US known by the acronym (AUKUS) in the Indo-Pacific and meeting between the top leadership of Quadrilateral Security Dialogue (QUAD) is an indication of diplomacy as a complex subject in itself. In September 2021 Pakistan PM Imran Khan Niazi delivered the talk at the United Nations General Assembly (UNGA)—(more) as a spokesperson for the Taliban and once again misused the international platform. Amidst all these strategic events, the repetitive failures of the South Asian Association for Regional Cooperation (SAARC) proceedings have not found much attention anywhere.

FOREIGN MINISTERS MEET

A meeting of foreign ministers from the South Asian Association for Regional Cooperation countries, scheduled to be held in New York on the sidelines of the 76th UNGA, was cancelled as the member states

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were unable to agree upon the participation of Afghanistan with its unrecognised government. Pakistan rejected outright the proposal of participation of any official from the previous Ghani administration. A decision to keep an "empty chair" as a symbolic representation of Afghanistan was also objected to by Pakistan, which insisted that the Taliban must be allowed to send its representative to the summit—a notion that all the other member states rejected in entirety.[1]

SAARC FORMATION

SAARC, since its inception in 1985 at Dhaka, has seen many ups and downs and has invariably been found wanting of its core objectives of contribution through mutual trust, cooperation and prosperity. That the heads of the member states could not meet together since 2014 is testimony to this fact. The lack of appreciation of one another's problems as per its charter, and organisational goal has only added to its woes. India has been accused of being hegemonic several times under the changing political landscape due to the internal politics of the region. Regional aspirations of smaller nations have also been the stumbling block in the progress of the SAARC. Though bilateral cooperation and mutual interests between the member states are being met through individual government-to-government association, regional collaboration and development are being affected substantially.

CHINA'S INROADS INTO THE REGION

China has made full efforts to make inroads into the Indo-Pacific. Almost every member state of SAARC has been tapped by China, thus making the association further weak and crumbling. China has successfully employed its philosophy of making the partner countries fall into its debt trap, thereby further strengthening its clutches. As stated in the Center for Global Development (CGD) report, "the Maldives is also one of eight countries at particular risk due to continued Chinese lending and can suffer from debt distress. China's engagement with the Maldives could result in a similar situation

1. "Explained: Why the SAARC meeting was cancelled", September 23, 2021, at https://indianexpress.com/article/explained/why-was-the-saarc-meeting-cancelled-7527420/. Accessed on September 29, 2021.

where $1.4 billion amounting to 78% of the country's external debt is owed to China."[2]

Another example is Sri Lanka, which took a loan from China to reconstruct its dilapidated infrastructure. But the country soon ran into economic woes and was constrained to hand over a significant portion of the Hambantota port in 2017 to pay back the loan. This modus operandi of China is well known to India and other global players. Similar concerns have been observed and raised in the case various African countries, sometimes naming China, sometimes not. The recent QUAD and AUKUS forum meets have also indicated containing China in the Indo-Pacific under the disguise of "*Free Indo-Pacific*". However, through its prudent diplomatic and military build-up measures, India has successfully thwarted the intentionally created situations such as the recent conflict in Eastern Ladakh.

INDIA'S NEIGHBOURHOOD POLICY

One of the first and foremost agendas set by the NDA government for themselves after gaining mammoth support in the elections in 2014 was to harness the potential of our immediate neighbours and make our boundaries secure and sound. Prime Minister Narendra Modi has showcased the "Neighbourhood First" policy by visiting Bhutan as a first visit abroad. In accordance with its policy of "Neighbours First", the NDA Government invited Heads of State/ Government from South Asia for the swearing-in ceremony of the new government, in May 2014, which reassured our neighbours that India would continue to accord priority to relations with them.[3]

However, the sustenance of such policy has somewhat slowed down in the last seven years. India has gained massive 'showcasing with substance' for the outer world and has been recognised globally in almost all fora. However, in the bargain, probably the immediate neighbourhood has been lost. The only contended result of effective diplomacy is handling all issues with Bangladesh, including the

2. Shantnu Roy Chaudhury, "How China Is Expanding Global Influence via Debt Trap Diplomacy", at https://thewire.in/world/china-debt-trap-diplomacy-south-asia-europe. Accessed on October 24, 2021.
3 Ambassador V. P. Haran (Retd.), "Challenges in India's Neighbourhood Policy", at https://www.mea.gov.in/distinguished-lectures-detail.htm?674. Accessed on October 28, 2021.

long-pending exchange of enclaves. India is the largest democracy in the world by and an important country in Asia has got the arduous task of maintenance and sustenance of objectives of SAARC. It is time that the present government looked inwards and focused again on getting all our immediate neighbours together. India must call for a special session of SAARC in January 2022 for its revival. It will send a strong signal to all the member states and other countries who keep a special watch on all moves of India.

SUCCESSIVE FAILURE OF SAARC

SAARC forum has completed almost four decades of its inception since 1983. The last summit, which was the eighteenth of its kind, was held in Kathmandu in November 2014.

In 2016, India boycotted the Nineteenth SAARC Summit scheduled in Islamabad due to Pakistan's support to the terror attack at Uri, India. New Delhi was joined by the other five member nations citing similar concerns on terrorism. Nepal, being the chairperson, cancelled the summit and Pakistan was left alone, officially. Since then, nothing substantial has happened, and none of the member states have accrued any mutual benefit from the association as a whole. India has been engaging with all nations individually to progress development in the region. India has also been firm on its stand that Pakistan should stop propagating terrorism from its soil and stop cross-border terrorism. All member states have always stood by the Indian philosophy and commitment to fight against terrorism, as it was in the post-Pulwama attack and recently on the issue of Afghanistan.

The core objectives of SAARC as a regional group of nations have not been encouraging. A few core objectives of SAARC are to increase economic growth, promote social progress and cultural development, and improve the quality of life of people of South Asia by increasing economic cooperation and non-interference in the internal affairs of other nations. Each member state is progressing as an independent country in South Asia. However, they as a group have not been moving ahead as a regional power. Two of the most significant reasons are that Pakistan allows terror to grow and

propagate from its soil. Based on its economic and technological prowess, China wants to negotiate with smaller countries on a one-to-one basis. Therefore, smaller member states will have to take a call to be part of the regional development.

A cooperative trade transaction in the region was an essential ingredient for the formation of SAARC. However, today the SAARC trade stands at a meagre 5 per cent despite the South Asian Free Trade Agreement (SAFTA). The aspirations of intra-regional connectivity in the region have been adversely affected and yield no substantial dividends. Ironically, China—rather than a fellow member of SAARC—is the largest trade partner of many member states. As a result, SAARC has become a disaster that is considered incapable of executing its plans to meet regional interests. The fact that 400 million poor people live in the region, including its 30 per cent populace living below the povertyline, shows the prevailing adverse socio-economic scenario in the region.[4]

Unfortunately, most of the SAARC member states have a relatively low ranking on the Human Development Index (HDI), which is an indication that member states are not progressing as a region against our core objectives of overall development. Bangladesh and Maldives are the only two countries that have shown a sudden development spark due to stable internal government and maintaining cordial relations with all more prominent countries, such as India and China in the region, and significant powers globally. These countries have started focusing on all-inclusive growth in terms of life expectancy, education, and real income, which are the primary constituents of achieving a higher HDI ranking. A lower HDI ranking reflects quite poorly on the overall growth and prosperity of the region. Bilateral tensions and mistrust create an unavoidable void for external powers to venture with ease into the dynamics of South Asian politics (see Table 1).

4. Jawad Falak, "Implacable Failures of the SAARC", June 21, 2017, at https://cscr.pk/explore/themes/politics-governance/implacable-failures-of-the-saarc/. Accessed on September 29, 2021.

Table 1: Human Development Index of SAARC Country

	2016	2020	Change in Ranking	Possible Reasons
India	130	131	-1	
Pakistan	147	154	-7	Terrorism
Sri Lanka	73	72	+1	
Maldives	104	96	+8	Positive ranking due to all-inclusive growth and Maintaining cordial relations with neighbours
Bangladesh	142	133	+9	
Bhutan	132	129	+3	
Nepal	145	142	+3	
Afghanistan	168	169	-1	

Source: Human Development Index Ranking of 2016 and 2020.

WAY AHEAD

TEMPORARY SUSPENSION OF AFGHANISTAN

The SAARC nations, pressured by Pakistan in 2005, settled to admit Afghanistan into the bloc with the prerequisite that it first hold impartial general elections, which it did in late 2005. Subsequently, Afghanistan became the eighth member state of SAARC in 2007. While India was the only South Asian country to recognise the Soviet-backed Democratic Republic of Afghanistan in the 1980s, its relations were adversely affected during the Afghan civil wars and the Islamist Taliban's rule in the 1990s.[5] India became the most significant regional provider of humanitarian and reconstruction aid in Afghanistan. India has undoubtedly emerged as a significant global and regional power and has always acted as a responsible nation following the principle of close cooperation. The Indian stance has been firm to contain its rival Pakistan for spreading Islamic terrorism in India through its favourite battleground of Kashmir.[6] Bilateral relations

5. Foreign Relations of India, Wikipedia, at https://en.wikipedia.org/wiki/Foreign_relations_of_India. Accessed on October 1, 2021.
6. National Institute of Diplomacy, at http://www.diplomacy.net.in/blog.html. Accessed on October 1, 2021.

between India and Afghanistan have traditionally been strong and friendly, and India does have a major stake in Afghanistan. India has played a considerable role in the reconstruction and rehabilitation process in Afghanistan and is one of the strongest allies in the peaceful development of the country generating tremendous goodwill. India has achieved a massive feat of investing more than US$ 2 billion[7] towards a far-reaching assistance programme for the all-inclusive growth and development of Afghanistan. It makes India the leading donor nation showcasing an enduring commitment to the progress of Afghanistan.[8] However, India will not allow Afghanistan to be a part of SAARC in the prevailing situation with the Taliban taking over the country. India must take the initiative to suspend Afghanistan from SAARC till the return of democracy in the state, which is not likely to happen, but in no way abandon it for retaining its strategic interest in the region and to not betray the goodwill of the Afghan people. The current government's stance in Afghanistan for respecting human rights, gender equality for women, etc., has fallen flat since its initial press briefing in August. Beheading people at public places and hanging them from trees are still everyday scenes in Afghanistan. India's initiative to have talks with Afghanistan representatives in New Delhi is an unexpected move. Still, it requires to be read as more of political action rather than a diplomatic one.

EXIT OF PAKISTAN—A CONTRARIAN VIEW

The analysis of the failure of SAARC reveals that because of one member state, Pakistan, the entire SAARC grouping is badly affected as a region. Such an approach of Pakistan has irked many of the smaller countries of the association. The South Asian grouping has further moved from a state of ineffectiveness to a paralytic end. India's deepening concerns on constant and sustained cross-border terrorism emanating from Pakistan has been widely acknowledged by other member states on all occasions. This has led to many members leaning towards other alternative forums like the Bay of Bengal

7. Report on "Development Partnership under Indo-Afghan Relations" published on the official website of Embassy of India, Kabul, Afghanistan, at https://eoi.gov.in/kabul/?0707?000. Accessed on October 1, 2021.
8. Ibid.

Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), centred on the Bay of Bengal, to continue working with India and effectively not abandoning the SAARC.[9]

Apart from a few sideline activities by subsidiary organisations working on routine affairs, nothing much is being done at SAARC. Pakistan's outlook and approach towards SAARC has been a stumbling block. Pakistan has been openly working as a rogue nation and the world community needs to acknowledge the fact. The recent virtual address by the Pakistan PM to the UNGA showcased how a head of state can act as a spokesman of the government formed by global terrorists. Not forgetting that Pakistan, the epicenter of international terrorism, has been the root cause of the collapse of a democratically elected government in Afghanistan. It is time for the world community and the UN to endorse it and come down hard on Islamabad. Pakistan is exceptionally deft in the art and science of money laundering and terror financing and has been struggling to get out of the Financial Action Task Force (FATF) grey list.

Ambassador Anil Trigunayat (Retd), while delivering the Distinguished Lecture series conducted by MEA at IIT, Bhubaneshwar in 2017, expressed concerns on the efficacy of SAARC. He said that:

> The biggest obstacle to SAARC's functioning and growth has been the frequent stand-offs between India and Pakistan—the two largest members, which between them control 80% of its land area, over 85% of its population and over 90% of its GDP. The exception to the SAARC bonhomie, and I concur with former Indian National Security adviser SS Menon, is Pakistan, not just because she is on the cusp between West and South Asia and suffers the ailments of both, but as a matter of conscious choice by the Pakistani establishment of the kind of state and society they are building, of their instruments, such as political Islam and jehadi tanzeems and terrorists, and of the calculated use of tension in their relationship with their immediate neighbours.[10]

9. Tutorial, "The fadeout and a revival of SAARC", at https://www.iastoppers.com/editorial-notes-the-fadeout-and-a-revival-of-saarc/. Accessed on April 11, 2020.
10. Ambassador Anil Trigunayat (Retd.), "India and the SAARC: Implications for the neighbourhood", at https://www.mea.gov.in/distinguished-lectures-detail.htm?655. Accessed on October 28, 2021.

Pakistan has not only been irresponsible but a constant troublemaker member state for the SAARC. As China is a rogue nation to the UN Security Council, so is Pakistan to SAARC. It is high time to accept that our relations with Pakistan are not working out. India has not been able to leverage Pakistan, which is crucial for our access to central and west Asia. So instead of maintaining a diplomatic stance of waiting for the return of Pakistan, let us ignore Pakistan for some time at least. It is time for Pakistan to be expelled from SAARC at the earliest for regional development and economic prosperity (see Figure 1).

Figure 1: Proposed SAARC Groupings

Source: Author's own.

REVIVAL OF SAARC

While SAARC has not been effective in pursuing its stated agenda, the option of winding up the forum does exist on the grounds of ineffectiveness, which presumably can be implemented any time. However, it takes years to bring people, countries, and nations together for a common goal and therefore, it is essential to effect a regrouping of member states and draw new objectives to avoid

polarising powers and keeping smaller nations out of the debt trap of major powers (like China). Keeping the Indian Ocean and Indo-Pacific free is as important for other member states as for India. These concerns have also been shown by major groupings like QUAD and AUKUS and during the recently concluded UNGA.

It is the time for SAARC grouping to introspect and act on leveraging the importance of regional cooperation. The Superpowers outside South Asia can be kept away from the region if Pakistan stops the terror funding and terrorism from its soil and works more on the revival of regional cooperation and aspirations. The SAARC leaders will have to demonstrate their capability and intent to resolve all indifferences between the member states and build an environment for a peaceful and prosperous SAARC grouping. However, the success of SAARC would depend on political will, which is sadly lacking in the current scenario.

CONCLUSION

India has substantially gained in reaching out to the countries globally since 2014. Modi's outreach programme in the world has gained momentum year after another with colossal success and promise to the world. However, reaching our immediate neighbourhood has unfortunately taken a back seat. It is also evident that it is not easy to either change our neighbours or befriend them from grouping. Thus, expelling Pakistan from SAARC may not be taken well by many, including the diplomatic community. However, moving such an idea will definitely bring all other member states in harmony, enabling the easy revival of SAARC. Without its second-largest member state, these member states will have a reason to collaborate and re-energise SAARC once again. Many issues, such as climate change, water disputes, etc., may not be fully resolved without Pakistan, but SAARC without Pakistan will still have many benefits to reap in the coming years. The need of the hour is the idea of reviving SAARC for honouring the SAARC charter and accruing tremendous symbiotic gains out of it. The member states of SAARC must take a firm call to eradicate the ill effects that have cropped up due to the expansionist strategy of a rising and belligerent China and the misadventure of

Pakistan in the region. It would be a significant diplomatic feat for the member states to revive a dying SAARC to be the most efficient association of the countries in South Asia for the overall development and prosperity of the member states minus Pakistan.

MAOIST INSURGENCY IN NEPAL: SECURITY CHALLENGES FOR INDIA

UDAY PRATAP SINGH

In Nepal violence has played a major role in their politics. To substantiate this, two events were important. First was the Kot massacre that occurred in the year 1846. It was the Rana Dynasty that reduced the powers of the king. And second was the Royal Palace massacre in June 2001. In due course, the monarchy rule was ended in 2008. The Naxalite movement in West Bengal inspired the insurgent activities in Nepal. Like India, the Nepali insurgent movement was deeply embedded with the social and economic conditions of its society. It has emerged from an idealistic Communist Party. The Maoist insurgents were successful in overthrowing the national government. They controlled almost 80 per cent of the country's population. They were successful not only through military action but also through proper cooperation with several political parties of Nepal.[1]

The causes of the communist insurgency in Nepal were political and socio-economic compulsions that began in the last decade of the

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1. S. DeBlieck, "Why Mao? Maoist Insurgencies in India and Nepal", *Journal of Peace Conflict and Development*, University of Bradford, UK, issue 9, July 2006, p. 16.

twentieth century. Nepal's young, educated and rural populations contributed immensely in bringing the political change. Despite resort to change after the return of democracy in the 1990s, "In 2004 Nepal ranked 140th on the HDI (Human Development Index), with 82.5% of its population living below the poverty line and approximately 20% classified as undernourished".[2]

POLITICAL DEVELOPMENT

In politics of Nepal the largest parties have failed to consolidate their organisational base in the vast hinterland of Nepal. Instead of strengthening new leadership in non-urban areas where 83.4 per cent of the population lives, the first ruling party of new democratic Nepal appointed the same classes that had ruled under the previous regime to continue to govern the provinces. In 1994, when a united front of communist parties took control, "the hopes were very high that the parties would work over the issues of injustice and poverty, but the opportunism and disunity that they brought with them only contributed to a feeling of malaise".[3]

SOCIAL DEVELOPMENT

In recent years, one saw a consolidation of several *é*lite groups in the proper management of the state. It was largely dominated by Nepal's civil service employees. As a result, the number of civil service employees rose from 69 per cent to 89 per cent in the mid-1980s.[4] For social perspective one has to rely on UNDP's 2004 *Human Development Report*. The report showed concerns about the Dalit population of Nepal along with literacy, life expectancy, and income. This type of inequality undoubtedly forced radicals to resort to violent action so that social, political and economic order could be set up in Nepal. Deepak Thapa observes this as "hope in a radical solution" and "a function of poverty rather than a consequence of Maoist ideology".[5] In 1991, Nepal witnessed peaceful solution to the problem of democracy but it failed to implement.

2. United Nations Development Programme, *Human Development Report: Cultural Liberty in Today's Diverse World* (New York: Oxford University Press, 2004), pp. 141, 148, 162.
3. See S. DeBlieck, n. 1, p. 20.
4. Thapa and Sajapati, *Kingdom Under Siege: Nepal's Maoist Insurgency, 1996-2004* (UK, Bloomsbury Publishing, 2003), p. 77.
5. Ibid., pp. 64, 79.

The important issue was, why did Nepal's radical groups opt for Maoism? The reason perhaps was the Chinese ideological influence on Nepalese population. One of the reasons for this was Mohan Bikram Singh joining the Communist Party of Nepal (CPN); by 1957 he had attained high stature in the party. He was successful in developing a strong communist organisation. Generally, it was found that the CPN underwent a series of political differences especially when one saw the deterioration in Sino-Soviet relations in the 1960s.

Soon, Mohan Bikram Singh expected an urgent election for a new constitutional assembly. He was instrumental in establishing a radical Maoist wing in the mid-1960s. But it did not work for long as there was much internal strife within the party. This led to the establishment of his own party in 1983, known as the Communist Party of Nepal (Masal). Instead of promoting democracy in Nepal he insisted on a constitutional assembly. At that time, he could not muster much support from the Nepali people. While accepting the reality of Nepal's politics he left his district and formed a more extreme Maoist organisation that could take advantage of poor people. The primary reason was that for five decades poor people had been indoctrinated against participating in parliamentary politics.[6] It was CPN(M) that learnt much from Mohan Bikram Singh's style of functioning in 1996. "Peoples War" was launched and was led by Prachanda and Baburam Bhattarai. Consequently, the communist insurgency was successful when it expanded its main areas in western Nepal. It covered almost 80 per cent of the country. The functioning of CPN (M) is similar to that of the Indian communist party. It mobilised the underprivileged rural people because there was much dissension within the party about accepting democratic rule in the country. Unlike the Naxalites, the CPN (M) is imbued with a personality cult. The communist leadership tried to spread discontent with national policies. In the early phase of operation, it targeted "class enemies". The class enemies included members of other communist parties but did nothing against the state security forces.[7]

6. Ibid., p. 67.
7. S. DeBlieck, n. 1, p. 24.

CONFLICT ZONE

The insurgents began violent activities in more than 68 of the 75 districts that comprised Nepal. It affected both the moderate and extreme elements in these districts. For example, in mid-western Nepal, though one finds the official presence in the districts of Kalilot, Jajarkot, Rolpa, Salyan, Rukum and Pyuthan, one can also sense the limited presence of Maoist insurgents in these district headquarters. The Home Ministry of Nepal has classified these districts as 'Sensitive Class A'. 'Sensitive Class B' districts are comprised of Achha, Dang, Gorkha, Dolakha, Sindhupalchowk, Sindhuli, Ramechhap, Karvepalanchowk and Surkhet. There were 17 'Sensitive Class C' districts. These were Arghakhachi, Baglung, Bardiya, Dailekh, Dhading, Dopla, Gulmi, Jumla, Khotang, Lalitpur, Lamjung, Makwanpur, Nuwakot, Okhaldhunga, Parbat, Tanahu and Udaypur.[8]

GOVERNMENT RESPONSE

The government of Nepal under King Gyanendra took a firm decision against the Maoist insurgency. The Royal Nepalese Army was deployed to crush the Maoist insurgency in 2001. Instead, it resulted in cruelty. King Gyanendra had no option but to declare an emergency on February 1, 2005. Some 3,000 people were put behind bars. The number of local people ranged between 8,000 and 200,000.[9] Unparliamentary language by both sides forced Amnesty International to comment that the war has "destroyed human rights in the countryside." Even today, Nepal is facing law-and-order situations.

The King tried his best to tame the Nepali Maoists, but he failed to do so. This boosted the Maoists' morale and in November 2005, the Maoists entered into an agreement with the then Nepali government to constitute a new assembly to determine the future structural course of action. It led to a boycott of the local elections called by the King in February 2006. The CPN(M) took a decision to block the major roads in mid-March 2006. It showed results when the people gathered around Kathmandu to end the rule of monarchy and established democracy

8. Prakash Singh, *The Naxalite Movement in India* (New Delhi: Rupa & Co., 1995).
9. Ibid., p. 26.

in Nepal. There were mass protests that shook King Gyanendra and forced him to reinstate the parliament on April 24, 2006.

The army was used by the Royal Nepal Army against the Maoist insurgents. In the initial phase, the Royal Nepal Army expectations were not up to the mark. It had never experienced such type of resolute and well-organised ideological rebellion. There were at least 23 operations between November 2001 and December 2002. The Maoists surged ahead in all these operations except three or four.[10] During these operations, army camps were destroyed and the insurgents captured most of the weapons. The army then expanded its base. The communist insurgents' strength rose too. It was almost 1 lakh by April 2006 when the second Jan Andolan began. It brought a change in the political set-up of Nepali politics. The Maoist uprising resulted in a stalemate where the army could only protect its cantonments and completely failed to check the Maoist insurgency in urban or rural areas. This ongoing rivalry polluted the whole peace process in Nepal. It was soon found that if the problem was not solved the insurgency would relaunch its offensive action against the government.

NEPAL'S MAOIST STRATEGY

We have seen that there has been great transformation in Mao's strategy since the Nepali insurgents came to power. What is Mao's strategy? Mao believed in a long-drawn-out war, both political and military. Though there was internal murmuring amongst the Nepali people, Mao's strategy did not collapse altogether. The insurgents have acted in a pragmatic manner throughout the conflict. Side by side they have also realised the necessity of an open dialogue for future rehabilitation and reconciliation with the main party to obtain the objective. These insurgents are quite aware that outright military victory is not possible without the support of the people. The Maoists realised that transition to socialism was quite a difficult task. They were ready to compromise to a certain extent and at the same time wanted to involve the domestic and external political powers.

10. S. D. Muni, *Maoist Insurgency in Nepal: The Challenge and the Response* (New Delhi: Rupa & Co., 2003), pp. 88-89.

MAOIST LEADERSHIP

The leadership plays an important role in developing the Maoist insurgency and converting it into 'people's war'. The Maoist movement began in Nepal in the early 1970s. It was inspired by the Chinese Cultural Revolution and the rise of Naxal revolt in India. The Nepalese Maoists were far too occupied with the domestic ideological and leadership differences. Most of them favoured the idea that their armed struggle should be based on the Marxist-Leninist-Maoist insurgency model. The present leaders of the Maoist movement accepted the reality of the situation in Nepal because they were better educated. The high educational level of this leadership has helped them to understand the problems and link with the people's suffering. This enabled them to widen their approach so that they could carry their movement forward. The communist leadership also analysed the failure of the Maoist movements. On the other hand, with much vigour they evolved a synthesis of the idealism and the realism in true Marxist sense. Explaining his approach to 'people's war', Prachanda said:

> We must also learn war by waging war. The intellectuals' instinctive tendency is that we have to learn all these things, we should read everything … and then we can make war. These kinds of tendencies were there right from the beginning. But we said, no. This is not Maoism. This is not Marxism. This is not dialectical materialism. … The issue is of learning through war itself.[11]

Furthermore in 2001, he added:

> In our opinion, the real key to rapid development of the people's war is the fusion between the science of proletarian revolution, on the one hand, and the needs and fighting spirit of the Nepalese people, on the other.[12]

The new Maoist leadership had to face tough challenges within the organisation. Tensions brewed and were reflected in such issues

11. S. D. Muni, *The Maoist Insurgency in Nepal: Origin and Evolution*, ISAS Working Paper, National University of Singapore, No. 111, July 28, 2010, p. 11.
12. Ibid.

related to Maoist ideology and tactics. It was soon seen in communist ideological campaign and personality clash between the Maoist Prachanda and deputy, Baburam Bhattarai. But the party was able to manage organisational unity,mainly because of Baburam Bhattarai who was above personality projection and wanted the communist insurgency to spread in Nepal.

SINO-NEPAL NEXUS

Insurgency in India has cross-border linkages. As a result, border management becomes important because it affects India's internal security management. In the recent years, continuing insecurity has grown because of Chinese influence in Nepal. It has affected India badly. The India-Nepal border (1,751 km) touches twenty districts of five Indian states. The geographical nature of Nepal-China border is unlike Nepal-India border. The Sino-Nepal border passes through high mountains, and the major part of Indo-Nepal border covers rivers and plains. The Indo-Nepal border is porous and people can travel from one country to the other without visa. For mutual trade there are 22 agreed routes. Out of 22 routes, 15 are marked for land traffic. Most of the border areas pass through such routes which are undeveloped and overpopulated and where the crime rate is high. The areas are marked by poor governance, inadequate infrastructure, and an ill-equipped police force. These conditions are not conducive to growth and stability in India and Nepal. Moreover, illicit trade flourishes in forest products and wildlife. The porous border and lack of effective authority in Nepal have resulted in smuggling of drugs. There are volumes of reports that indicate that Nepal's Maoist insurgents indulge in smuggling drugs and other nefarious activities in India in order to mint money to buy arms.[13] Thus, drugs and mafia on the Indo-Nepal border pose a serious threat to the national security of India.

India was quite apprehensive about China's activities in Nepal. The then Chief Minister of Uttarakhand, Ramesh Rokhriyal Nishank said:

13. Nepal, *South Asia Monitor*, at http://www.southasiamonitor.org/nepal/2006. Accessed on July 10, 2021.

> There is an increase in the activities of China in Nepal, Tibet and also Pakistan. We apprehend that there will be increase in anti-India activities on the Indo-Nepal border via Nepal, which will pose a danger to our country in the near future. Uttarakhand shares its border with China and Nepal. It shares 350 km of the LoC and 250 km of the International border with the two countries. There is a growing threat to security due to increase in the activities of China in areas bordering the state.[14]

Apart from strategic implications, China has developed a railway to link its border with Nepal so that Nepal dependency on India can be reduced. This is done in order to import petroleum products from China. A joint China-Nepal collaboration would not be in India's interest.

The Chinese have made their presence felt in Nepal in a big way. The net result is more and more Chinese assistance that has kept Nepal aloof. The construction of roads has provided a direct access to Nepal that is maintained through a difficult Tibetan route. To India, it is a matter of grave concern as it will give Naxalites in India much needed assistance from Nepal's borders. Moreover, the Maoist-led Nepal has been also influenced by China in its foreign policy decision-making. It would make matters worse for India as there will be enough space for Chinese agents to infiltrate on Indian soil and then try to destabilise the socio-economic system of India. China still emphasises the Sun Tzu dictum that "To fight and conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting."[15]

INDIA'S CONCERN

The influence of Mao's ideology of revolution has immensely shaped the normal functioning of the government where the poor people were neglected. At the same time, the communist leadership tried to expand its base. So far as Nepal was concerned, communist insurgents established their first contacts with the Naxalites of India

14 P. Murthy, "Nepal Between India and China", *World Focus,* New Delhi, September 2010.

15 See S. Kondapalli, "India-China Relation, 2009-10", *World Focus*, New Delhi, September 2010.

in the 1970s. Reports prove that Prachanda was a major player in the political game by merging India's Maoist Community Centre (MCC) and the People's War group.

CREATION OF COMPACT REVOLUTIONARY ZONE

The Naxalites, with the help of Nepali insurgents, had planned to form a "Red Corridor". It would stretch from the border with Nepal to Kerala. The idea of creating a Compact Revolutionary Zone (CRZ), or the Red Corridor, came into existence in August 2001. It expanded from the jungle tracts of Adilabad (Andhra Pradesh) to Nepal and passes through the jungle tracts of Bihar, Chhattisgarh, Jharkhand, Maharashtra and Nepal. It was conceptualised at Siliguri by Maoist leaders. The CRZ was basically an extension of Maoism in the subcontinent. Today the Communist Party of Nepal-Maoist (CPN-M) has assumed a greater role to play in the country's politics. "The concept and reality of CRZ in India had indeed made big strides. The consolidations in West Bengal and Bihar are the key to the achievements of the CRZ. The Naxalites plan to use West Bengal as a corridor between their areas of domination in India and Nepal."[16]

The important question is, what are the implications of CRZ? The impact of CRZ could be seen as follows:

- **Free Movement:** With such kind of aggressive arrangement, the Naxalite insurgents can freely move throughout the CRZ including crossing over to Nepal. In future it might launch joint operations. The following regions are reportedly being used by CPN-M cadres:
  - Uttarakhand: Baluakot, Banbasa, Dharchula, Garbygang, Golagad, Jhulaghat, Rauthi and Sirkha.
  - Uttar Pradesh: Nautanwa, Sonauli, Tuthibari, and jungle tracks in Baharaich, Balrampur, Kheri, Maharajganj and Philibit, districts along the India-Nepal border.
  - Bihar: Bhaisatlan, Dhobini, Haraiya, Mahadevnath, Mahuwa, Raxaul and Sikta.
  - West Bengal: Darjeeling, Kalimpong and Siliguri districts.

16 R. K. Kujur, "From CRZ to SEZ: Naxal Reins of Terror", April 21, 2007, at www. ipcs. com. Accessed on July 12, 2021.

- **Sanctuaries:** Depending upon the role of the state's security force, Maoist cadres can establish safe havens and hideouts for training, operations, medical aid, evading prosecution/contact with security forces. CPN-M cadres are reported to have taken shelter in:
  - Uttarakhand: Banbasa, Dharchula, Jhulaghat, Pithoragarh and Tanakpur.
  - Uttar Pradesh: Baghekhane, Bankati, Dhenera, Gorakhpur, Kanpur, Lucknow, Nautanwa, Nichloul, Sampuran Nagar, Thulibari, and Varanasi.
  - Bihar: Bhaisatolan, Chhauradano, Gardi, Ghorshan, Narkatiyagang, Ramnagar, Sirsamu, Sonbarsa and Valmikinagar.
  - West Bengal: Bijanbai, Darjeeling, Manebhangan, Mirik, New Jalpaiguri, Pokhri, Siliguri and Sukhiya.
- **Training:** The Naxalite affected areas are under developed and from there joint training camps can be organised safely. It has been observed that a few Maoists have been possibly trained in Bihar's districts: (i) Aurangabad, (ii) West Champaran and Jharkhand's districts, (i) Kodarma, (ii) Palamu. There are reports that CPI-ML (PW) cadres are imparting specialist training to Nepal's Maoists in Ropla district.

RECENT FATALITIES IN NEPAL

The Communist rule in Nepal has denied justice and undermined the rule of law in the country in recent times. There have been people protests against the Maoists but they were brutally crushed by the insurgents. One cannot forget the violence that erupted in Nepal in 2015. Though the Tarai people protested against the new government, in that protest some 65 people, including 10 policemen, were killed. Many such incidents have occurred from time to time. On January 23, 2019, a Nepali policeman was shot and killed in police custody. Shambhu Sada, a member of the Dalit community, was found dead in the police cell in Dhanusha district on June 10, 2020. Though Shambhu had surrendered two weeks earlier, the police claimed it was a suicide. Similarly, Rajkumar Chepang, a member of Chepang indigenous community, was brutally tortured to death on July 22,

2020. Such deaths are unending. Though the National Human Rights Commission took notice of these incidents, there was no concrete result. The nature of Nepalese communist insurgents tried its best to subdue the people but they could not succeed in making Nepal a communist state.[17]

CONCLUSION

With the detailed examination of the various phases of Maoist activities, it becomes important to answer the major analytical question: Do Maoists in India and Nepal, today and in future, pose a qualitatively and quantitively different and a more serious threat to security than in the past? How can the Maoist upsurge in Nepal be eliminated, or at least contained?

One can argue that there is a need for the governments of India and Nepal to review their current strategy of tackling Maoism, and reorient a comprehensive agenda of protection and affirmative action that would wean away the tribals from the influence of the Maoists. The governments in both the countries face political pressure to counter the threat to internal security. They must commence diplomatic means to get the viable support of friendly states to check infiltration by insurgents. Talks must be initiated by the Centre and state representatives and all militant groups. To solve this difficult problem, all political parties should come together to take a united stand. What is more important is the involvement of the people in the fight against the Maoists. The recent incidents of backlash by the public against the Maoists in some states are a positive indicator. Moreover, the central and eastern parts of India and Nepal as a whole are relatively undeveloped as compared to other parts of the country. The governments must tackle the problem of social disparities on a war footing. Though complete eradication of poverty cannot be achieved instantly, poverty could be reduced to a great extent by the government fulfilling the demand for development amongst the local masses.

This could be more effectively done by central schemes with liberal funding. Moreover, the government must rely on psychological and

17 "No Law, No Justice, No States for Victims, The Culture of Impunity in Post-Conflict Nepal", November 20, 2020, at https://www.hrw.org/report/2020/11/20/no-law-no-justice-no-state-victims/culture-impunity-post-conflict-nepal. Accessed on July 12, 2021.

other means of warfare. The weaknesses in the Maoist ideological framework must be exposed. For India, the ouster of K. P. Sharma Oli as Nepal's Prime Minister might change the political scenario under the leadership of Sher Bahadur Deuba. In the month of September 2021 Indian and Nepali forces have set up a joint help desk at Banbasa in Uttarakhand's Champawat district to facilitate the crossing of the border by people of both the countries.[18] Moreover, both the countries began a 15-day military exercise in Pithoragarh of Uttarakhand with a focus on counter-terror drills and disaster relief operations.[19]

Furthermore, people should be made more aware of development taking place in international politics, particularly emphasising the diminishing role of Communism as we saw in the collapse of communism in the USSR. The leadership of the Maoist movement comprises the ruling elites and the cadres play a subordinate role in obtaining the objective. Socialism can be attained through peaceful methods by following democratic procedures. Many South Asian and South American states have not progressed despite strong leftist movements. In the era of globalisation and liberalisation, applying the Maoist strategy is not significant for both India and Nepal.

18 "Indian, Nepalese forces set up joint help desk at border", *Hindustan Times*, September 5, 2021.

19 "Indo-Nepal joint military exercise in Pithoragarh", *The Times of India*, September 21, 2021.

TRACING THE DEVELOPMENT OF BANGLADESH'S CIVIL NUCLEAR POWER PROGRAMME

ZOYA AKHTER FATHIMA

INTRODUCTION

Bangladesh, which has been ardently pushing for a nuclear reactor since the 1960s, is finally set to launch its civil nuclear programme, with its first reactor scheduled to go critical by 2023. The country, home to 160 million people, has placed its expectations on nuclear power to generate about 9 per cent of its electricity by the next decade which would help in meeting its rising energy demands and boost its economy while also reducing levels of CO_2 emissions.[1] However, setting up a nuclear power programme is a complex and a long-drawn task which comes with several challenges. In this regard, the paper traces the development of Bangladesh's civil nuclear programme and its current status.

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1. Laura Gil, "Construction Progresses on Bangladesh's First Nuclear Power Plant", IAEA.org, January 31, 2019, at https://www.iaea.org/newscenter/news/construction-progresses-on-bangladeshs-first-nuclear-power-plant. Accessed on March 3, 2021.

UNDERSTANDING THE RATIONALE FOR DEVELOPING A CIVIL NUCLEAR PROGRAMME

Since the 1960s, Bangladesh has undertaken numerous feasibility studies to assess the scope of developing a nuclear power programme. Several factors have led the authorities to consider nuclear power in their energy basket. Some of these key factors are:

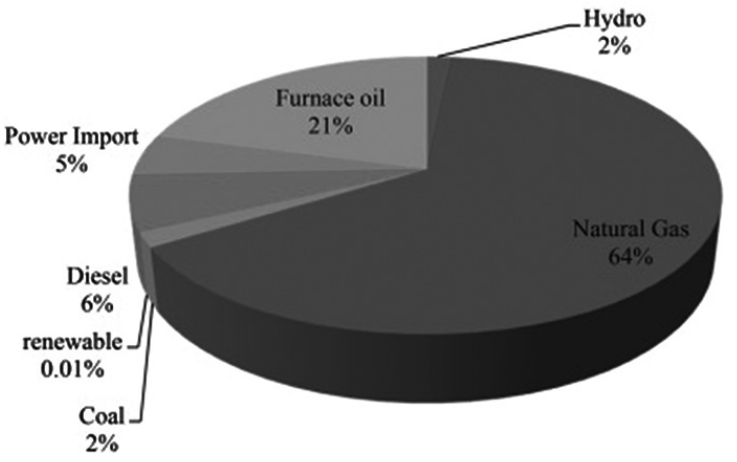
Energy Crisis

Bangladesh faces major energy deficit, with about 10 per cent of its population having no access to electricity,[2] either from grid or from local installations. Those who rely on the grid keep experiencing frequent power cuts. Although Bangladesh has come a long way with regard to increasing its power supply since it gained independence in 1971, a considerable demand for electricity still remains unmet. With the growing population, increasing urbanisation and rapid industrialisation in the country, the per capita energy consumption in Bangladesh has increased almost twice over to 222.22 kg (oil equivalent),[3] making it challenging for the country to meet the rising demands. In 2013 for example, Bangladesh faced a peak electricity demand of 8,349 MW. However, the maximum production of electricity only reached 6,675 MW.[4]

As evident in Figure 1, Bangladesh depends heavily on fossil fuels to generate electricity, with natural gas contributing 64 per cent of the country's electricity generation. However, the increasing use of natural gas has led to the dwindling of the domestic reserves. Taking into account that Bangladesh uses about 57 per cent of the country's natural gas production, it is estimated that its reserve of natural gas will be depleted in the coming decade.[5] Acknowledging this, Bangladesh began to ramp up its gas imports. This too is proving to be an unsustainable strategy as

2. "Booming Energy Sector of Bangladesh: 90 Percent Have Access to the Electricity", BDnewsnet, July 12, 2018, at https://bdnewsnet.com/bangladesh/economy/booming-energy-sector-of-bangladesh-90-percent-have-access-to-the-electricity/. Accessed on February 28, 2021.
3 Asif Reza Chowdhury, Raihan Ul Islam Shezan and M. A. R. Sarkar, "The Prospects of Nuclear Power in the Bangladesh". Bangladesh Economic Association, at https://bea-bd.org/site/images/pdf/041.pdf. Accessed on March 1, 2021.
4 Ibid.
5. Ibid.

Figure 1: Energy Mix of Bangladesh
Primary Energy Mix Until August 2018



Source: N. K. Das, J. Chakrabartty, et al. "Present energy scenario and future energy mix of Bangladesh", *Energy Strategy Reviews*, vol. 32, 2020.

it would lead to import dependency. In this regard it is estimated that by 2030 Bangladesh will have over 90 per cent dependency on imported sources of energy.[6] Bulk import of fuel won't only have a huge impact on government revenue but could also make the country vulnerable to price volatility and potential disruptions of power supply. Nuclear energy thus can play a significant role in the energy mix by minimising vulnerabilities and can go a long way in enhancing energy independence and steering the country into a sustainable course of development.

Furthermore, while the amount of coal used to generate electricity in Bangladesh isn't much currently, it is expected to rise as the authorities have been laying emphasis on coal exploration programmes around the country. The government has set up plans to establish a coal-based mega-power project which seeks to generate 19,200 MW by the year 2030.[7] A boost in the coal energy sector

6. Badrul Imam, "The burden of imported energy", *The Daily Star*, December 13, 2018, at https://www.thedailystar.net/opinion/perspective/the-burden-imported-energy-1504033. Accessed on April 4, 2021.
7. N. K. Das, J. Chakrabartty, Mrinmoy Dey et al., "Present energy scenario and future energy mix of Bangladesh", *Energy Strategy Reviews*, v. 32, 2020.

would only worsen the problem of climate change further, to which Bangladesh is already highly susceptible. It is estimated that one in every 7 people in Bangladesh will be displaced by the year 2050 owing to the disastrous effects of climate change.[8] Nuclear power in this regard has emerged as a favourable option considering its extremely low carbon footprint.

While renewable sources of power too have low carbon footprints, the expansion of the sector in Bangladesh has been limited. Among the renewables, hydropower is relatively more developed and currently contributes to about 2 per cent of the total electricity mix. However, it has the potential to further develop considering that Bangladesh has tapped into just 50 per cent of its hydropower capacity.[9] The contribution of other renewable sources of energy is miniscule, since they haven't been adequately harnessed owing to political, economic and technological limitations. For example, despite having the potential to develop solar power in Bangladesh, there have been several impediments to doing so. This includes the requirement of substantial amount of land for the deployment of large-scale solar PV modules. Since Bangladesh is one of the world's most densely populated countries, availability of huge space is a challenge. Similarly, wind energy is assessed to have scope for development too; however, research on offshore wind speed, etc., have not yet been studied adequately in Bangladesh.

With the problem of energy crisis worsening, Bangladesh has been looking for alternative options to develop a sustainable energy policy. Nuclear Power in this regard emerged as one of the key energy options, considering the numerous benefits it offers, ranging from having a high capacity factor to extremely low carbon footprints.

To Fuel Economic Development

Energy security is a key factor to boost a country's economy. Especially in a country like Bangladesh, whose economy depends on industries,

83 "Climate Displacement in Bangladesh", *Environmental Justice Foundation*, at https://ejfoundation.org/reports/climate-displacement-in-bangladesh#:~:text=Bangladesh%20is%20exceptionally%20vulnerable%20to%20climate%20change.&text=It%20has%20been%20estimated%20that,of%20sea%20level%20rise%20alone. Accessed on March 3, 2021.

93 "Bangladesh—An economic behemoth in the making", Andritz.com, at https://www.andritz.com/hydro-en/hydronews/hydro-news-asia/bangladesh. Accessed on April 4, 2021.

such as ready-made garments, agriculture and manufacturing sectors, keeping the power on has been critical for the county's economic development.[10] As Bangladesh has been working to elevate its status to a middle-income country by 2021 and a developed country by 2041, it has been persistently looking at ways to achieve energy security. Towards this end, Rooppur Nuclear Power Plant Project Brochure states:

> the availability of energy in a secured and affordable manner is the critical input parameters for materializing the country's vision 2021 and vision 2041 through socioeconomic development of all societies, improving quality of life of the population, proper urbanization and industrialisation. The indigenous resources of primary energy would be inadequate to meet the entire incremental demand on a sustainable and long-term perspective.[11]

In this regard, considering Bangladesh's energy situation along with the experiences of other countries in their energy policies, the government of Bangladesh decided to pursue a nuclear energy programme to achieve these goals.

ASSESSING THE DEVELOPMENT OF NUCLEAR POWER AND TRACING ITS PROGRESS

The development of Bangladesh's nuclear power project can be studied under three phases based on the progress they've made.

Phase One: Pre-Project Planning

The inception of Bangladesh's civil nuclear programme can be traced back to the 1960s, when it was still East Pakistan. A proposal to build a nuclear power plant was raised in 1961 and since then several feasibility studies were undertaken, all of which concluded

103 Anand Kumar, "Bangladesh's Quest for Nuclear Energy", IDSA, October 17, 2007, at https://idsa.in/idsastrategiccomments/BangladeshsQuestforNuclearEnergy_AKumar_171007. Accessed on March 2, 2021.

113 Shakeel Ahmed Ibne Mahmood, "Air Pollution Kills 195,000 Bangladeshis Each Year". PAtimes.org, at https://patimes.org/air-pollution-kills-195000-bangladeshis-each-year/. Accessed on March 2, 2021.

in favour of developing a nuclear power project.[12] The government gave formal approval for this project and the Rooppur site in Pabna district was selected. Shortly after Bangladesh gained independence, Bangabandhu Sheikh Mujibur Rahman, the father of the nation, decided to set up a nuclear power plant at Rooppur. Towards this end, the Bangladesh Atomic Energy Commission (BAEC) was established in 1973.

In 1986 BAEC started operating a 3 MW TRIGA-Mark-II research reactor. This was utilised to develop research and manpower training in the field of nuclear power.[13] With energy demands increasing, the Bangladesh Nuclear Power Action Plan (BANPAP) was approved by the government and in 2001 it adopted the Nuclear Power Action Plan. Soon after, in 2007 BAEC proposed plans to build two 500 MWe reactors by 2015. Countries like China, Russia and South Korea expressed their interest in engaging in nuclear commerce with Bangladesh and offered technical and financial help to take the project ahead.

Phase Two: Decision Making

The second phase marks a period where important decisions regarding the nature of the civil nuclear programme were made. This includes the invitation for bids, consideration of proposals and signing of nuclear cooperation agreements, among others.

Bangladesh-Russia Nuclear Cooperation

In 2009 the Bangladesh government accepted a proposal by Russia to build a 1,000 MWe AES-92 nuclear plant at Rooppur. By mid-2009, a bilateral nuclear agreement was signed by both the countries and it was decided that the nuclear power plant will include two units, namely, Rooppur Unit-1 and Rooppur Unit-2. It was decided that these reactors would be designed to have a capacity of 1.2 GW each.[14] It was also established that the project will be carried out by

12. M. M. Haque, M. S. Islam and M. A. Zulquarnain, "Challenges and Opportunities to Introduce the First Nuclear Power Plant in Bangladesh". IAEA.org, at https://www-pub.iaea.org/MTCD/Publications/PDF/P1500_CD_Web/htm/pdf/topic2/2S01_M.M.%20Haque.pdf. Accessed on March 1, 2021.
13. Ibid.
14. "Rooppur Nuclear Power Plant, Ishwardi". Power Technology.com, at https://www.power-technology.com/projects/rooppur-nuclear-power-plant-ishwardi/. Accessed on March 3, 2021.

the BAEC under the guidance of Science and Technology Ministry of the government of Bangladesh. The nuclear development project picked pace and in 2012 a nuclear energy bill was introduced in the parliament. This bill chartered the establishment of the Bangladesh Atomic Energy Regulatory Authority. The parliament was informed that the expansion of nuclear power was being considered, envisaging 5,000 MWe of nuclear power capacity by 2030. In 2013, funding and financing decisions were finalised and the Bangladesh government signed an intergovernmental agreement for a $500-million Russian loan. This loan was taken to support the engineering surveys and training of the workforce, among other requirements. The repayment period for this loan was agreed for 12 years with an additional 5 years' grace period. In 2013, The Prime Minister of Bangladesh announced plans to construct a second nuclear power plant on an inland river island. For this purpose, the BAEC invited the Japan Atomic Energy Agency in 2014 to study the possibility of building a 2,000 MWe power plant. China's Dongfang Electric Corporation (DEC) too conveyed their interest in constructing the second power plant. Bangladesh, meanwhile, began to focus on developing the skills of its manpower. For this purpose, on May 2015, Bangladesh requested India's help in training its staff.

India-Bangladesh-Russia Tripartite Nuclear Cooperation

India began to play an important role in developing Bangladesh's civil nuclear programme after signing the 2014 *Strategic Vision for Strengthening Cooperation in Peaceful Uses of Atomic Energy* with Russia. Under this deal it was agreed that the "two sides will explore opportunities for sourcing materials, equipment and services from Indian industry for the construction of the Russian-designed nuclear power plants in third countries".[15] Since India is not a member of the NSG, this arrangement with Russia provided it a platform to exhibit its capacity as a potential nuclear exporter. Towards this end in 2017, Sekhar Basu, chairman of the Atomic Energy Commission, announced India's decision to collaborate with Russia to build

15. "Strategic Vision for Strengthening Cooperation in Peaceful Uses of Atomic Energy Between the Republic of India and the Russian Federation", Ministry of External Affairs, Government of India, at https://mea.gov.in/bilateral-documents.htm?dtl/24487/Strategic_. Accessed on April 5, 2021.

the Rooppur nuclear power plant in Bangladesh.[16] In 2017 India committed concessional financing of $1.016 billion to Bangladesh under a line of credit worth $4.5 billion. Kanwal Sibal, the former Foreign Secretary in this regard stated:

> … Indian lines of credit create market openings for Indian companies. India is very well placed to provide such services as Russia is already building similar power plants for India at Koodankulam … A joint venture between Russia, Bangladesh and India reduces costs for Russia and Bangladesh and provides commercial opportunities for Indian companies....[17]

In 2018 an MoU was signed by India's Department of Atomic Energy, Bangladesh's Ministry of Science and Technology and Russia's ROSATOM for the implementation of Rooppur Nuclear Power Plant. As per the agreement, Indian companies would be involved in the construction of non-critical infrastructure and installation work, in addition to supplying materials and equipment.[18] The Hindustan Construction Company also entered into a joint venture with the Bangladesh-based MAX Group for this purpose. In addition, India has also been helping in the training of Bangladeshi nuclear scientists at the Kudankulam Nuclear Power Plant in Tamil Nadu, which too was built with Russian assistance. During Prime Minister Sheikh Hasina's visit to India, she signed three agreements, which included an agreement for exchange of technical information in regulation of nuclear safety and radiation protection. Another agreement was signed between the BAEC and India's Global Centre for Nuclear Energy Partnership (GCNEP),

16. "India, Russia to collaborate on Bangladesh nuclear plant, New Delhi's maiden atomic project abroad", *FirstPost*, September 20, 2017, at https://www.firstpost.com/world/india-russia-to-collaborate-on-bangladesh-nuclear-plant-new-delhis-maiden-atomic-project-abroad-4063881.html. Accessed on April 4, 2021.
17. Elizabeth Roche, "Indian firms to boost Bangla power infra", *Livemint*, April 2, 2021, at https://www.livemint.com/companies/news/bangladesh-nuclear-power-project-l-t-others-awarded-construction-contract-11617271512562.html. Accessed on April 5, 2021.
18. "Russia and India sign action plan on new projects", *World Nuclear News*, October 5, 2018, at https://www.world-nuclear-news.org/Articles/Russia-and-India-sign-action-plan-on-new-projects. Accessed on April 5, 2021.

appointing GCNEP as the consultant for the construction and operation of the Rooppur project. On March 2021, Harsh Vardhan Shringla, Foreign Secretary of India, announced that Indian companies will also be helping Bangladesh in the development of the transmission lines for the Rooppur Nuclear Power Plant in Bangladesh as part of its credit line. These transmission lines are valued at over US$ 1 billion.[19]

Phase Three: Construction and Laying the Groundwork for the Operations

This period marks the preparations undertaken to get the reactors online. This includes the construction of the plant, training of personnel, etc. This period began in 2016 when the site work was 80 per cent completed and a site licence was issued by the Atomic Energy Regulatory Authority. In the following year, construction of the first unit began in November 2017, followed by the construction of the second unit in 2018, which is expected to go online by 2024. More agreements were signed with Russia in this period, such as the 2017 agreement on Spent Fuel Management. Soon after, in 2019 a nationwide policy on radioactive waste management was adopted by the cabinet. As it is a turnkey project, it was decided that ROSATOM will manage the power plant for the first years before handing it over to the BAEC. Meanwhile, BAEC has undertaken the task of training its manpower.

Phase Four: Operations

This phase is set to begin in the next few years when the reactors go online. This period will mark the testing, commissioning and operations of the two nuclear reactors. The first reactor is set to get operational in 2023 and the second by 2024.

19. "India's Credit Line for Bangladesh Covers Nuclear Projects, Rooppur Nuclear Power Plant: Foreign Secretary", NDTV.com, March 28, 2021, at https://www.ndtv.com/india-news/indias-credit-line-for-bangladesh-covers-nuclear-projects-rooppur-nuclear-power-plant-foreign-secretary-2400332. Accessed on April 5, 2021.

ASSESSING THE CRITICAL ASPECTS FOR NUCLEAR NEWCOMERS AND BANGLADESH'S PROGRESS IN THIS REGARD

Starting a civil nuclear project is a colossal task which requires in-depth planning and creative problem-solving techniques for critical issues. These include aspects such as ensuring nuclear safety, radioactive waste management, training a new generation of workforce, etc. The following section will assess these factors and analyse the potential challenges BAEC may face in this regard.

Nuclear Safety

Nuclear safety is a key concern that requires a comprehensive plan and infallible safety mechanisms. For this purpose, several institutions and mechanisms have been set up to ensure nuclear safety in Bangladesh. This includes the Nuclear Safety and Radiation Control Division (NSRC) established by the BAEC. This regulatory branch is responsible for matters regarding nuclear safety, such as careful use of radiation equipment, nuclear waste management, etc. The nuclear safety and radiation control division has been working in close cooperation with the IAEA, which guides on matters regarding radiation control. In addition, Bangladesh is also a signatory to several conventions and safeguard agreements.[20]

However, several safety concerns have been raised considering that Bangladesh is susceptible to natural calamities, such as floods, earthquakes, cyclones and tsunamis. From 1980 to 2008, Bangladesh has witnessed over 200 natural disasters.[21] Flooding, specifically, could pose a serious challenge, especially considering the 2020 floods which affected over 4 million people in Bangladesh. One of the areas that was massively affected was the Pabna district, where the Rooppur nuclear power plant is sited. Although a passive core flooding system was built for this purpose, it is unclear how successful it will be in evading any disaster. In addition to floods, earthquakes also pose a serious challenge since Bangladesh lies near 3 active fault

20. n. 12.
21. "Information on Disaster Risk Reduction of the Member Countries", ADRC Asia, at https://www.adrc.asia/nationinformation.php?NationCode=50&Lang=en&NationNum=13#:~:text=Bangladesh%20suffers%20from%20floods%2C%20cyclones,136%2C000%2C%203%2C363%20and%20190%20respectively. Accessed on March 4, 2021.

lines. The impact of an earthquake could be intensified considering that the plant is situated in a very densely populated area. Naiyyum Choudhury, Chairman of the Bangladesh Atomic Energy Regulatory Authority, clarified that these concerns were acknowledged and addressed before receiving the licences.[22] Other project officials too have stated that a seismic monitoring station has already been set up to ensure constant monitoring of seismic activities.[23] However, despite the several safety mechanisms that have been adopted, there still isn't a comprehensive law to deal with matters of nuclear risks and possible liabilities.[24]

Nuclear Waste Management

Nuclear waste management is a serious issue in the nuclear industry, requiring a highly safe system to store and dispose it. To manage nuclear waste, Bangladesh signed a "spent fuel sent back" agreement with Russia in 2017.[25] As per the agreement, Bangladesh will store the nuclear waste for a limited period of time, after which the waste will be sent back to Russia. According to the Science Secretary this provision was made considering that Bangladesh is a densely populated country, while Russia has large free spaces to treat and store the nuclear waste.[26] The Bangladesh cabinet has also approved the "National Policy on Radioactive Waste and Spent Nuclear Fuel Management—2019". As per this policy, the government will be creating a Radioactive Waste Management Company (RWMC). The RWMC will come under the BAEC and will be responsible for managing radioactive waste material in the country not only from

22. n. 3.
23. Rafiqul Islam, "Water shortages pose risks to Bangladesh's first nuclear plant", *The Third Pole,* at https://www.thethirdpole.net/en/energy/water-shortages-pose-risks-to-bangladeshs-first-nuclear-plant/. Accessed on March 4, 2021.
24. Dr. Md. Ershadul Karim and Ridoan Karim, "Future of Nuclear Energy in Bangladesh", *The Daily Star*, May 16, 2017, at https://www.thedailystar.net/law-our-rights/rights-advocacy/future-nuclear-energy-bangladesh-1405837. Accessed on March 4, 2021.
25. "Bangladesh signs uranium supply deal with Russia", Newsonair.com, August 6, 2019, at http://www.newsonair.com/News?title=Bangladesh-signs-uranium-supply-deal-with-Russia&id=369741#:~:text=Bangladesh%20today%20signed%20a%20deal,Nuclear%20Power%20Plant%20(RNPP).&text=The%20two%20countries%20have%20also,Nuclear%20Power%20Plant%20(RNPP). Accessed on March 4, 2021.
26. "Bangladesh Govt approves Nuclear Waste Management Policy", NuclearAsia.com, October 23, 2019, at https://www.nuclearasia.com/news/bangladesh-govt-approves-nuclear-waste-management-policy/3204/. Accessed on March 4, 2021.

nuclear reactors but also from other sectors, such as the medical sector, industrial radiography practices, livestock research, etc.[27] A long-term strategy to deal with nuclear waste, however, does not appear to be formulated yet.

Public Acceptance

Public acceptance is a key factor in implementing the civil nuclear programme, especially in a democratic country. Understanding the importance of communicating with the public and creating awareness of its nuclear programme, the government of Bangladesh, along with Russia, has undertaken several steps to engage with the citizens. These public diplomacy initiatives include seminars and exhibitions to educate the citizens on the subject of nuclear power. To engage more effectively with the public the "Public Counselling Office" and a "Public Awareness Programme" too has been set up. To garner interest and create job opportunities, the government has made provisions for Bangladeshi students to study nuclear engineering in Russia. ROSATOM in this regard organises visits to the Novovoronezh Nuclear Power Plant and invites young Bangladeshi's to attend events such as Forsage 2017 International Forum for Young Power Engineers and Industrialists.[28]

Nuclear Security

A critical infrastructure such as a nuclear power plant is vulnerable to attacks by violent organisations in order to make a statement or to steal nuclear materials. To ensure the safety of the plant, Bangladesh has a strong security plan in place. A composite response force led by the Bangladeshi Army is responsible for the physical security of nuclear infrastructure. In addition, the Bangladeshi authorities have signed a protocol with ROSATOM to form a Physical Protection System (PPS) of the nuclear power plant.[29] Speaking on matters of

27 . Ibid.

28. Andrey Shevlyakov, "Changing perceptions on nuclear energy", *The Daily Star*, December 25, 2017, at https://www.thedailystar.net/opinion/perspective/changing-perceptions-nuclear-energy-1509760. Accessed on March 4, 2021.

29. Brigadier General Akhter Shahid, "Bangladesh's Experience in Nuclear Energy", Panel Discussion on Sustainable Use of Nuclear and Other Radioactive Materials, VCDNP. org, at https://vcdnp.org/wp-content/uploads/2019/04/VCDNP-Panel-Talk-21-Mar.pdf. Accessed on March 23, 2021.

nuclear safety, Prime Minister Sheikh Hasina mentioned that a unit of law enforcement, such as police, defence personnel, etc., has been formed to ensure security of the nuclear units.[30] The BAEC too has established a Nuclear Safeguards and Security Division to supervise matters regarding the accounting, control and security systems of nuclear materials.[31]

Legislative Framework

BAER Act-2012 is a wide-ranging legal framework that was established to regulate nuclear energy in Bangladesh. Supplanting the *Nuclear Safety and Radiation Control (NSRC) Act-1993*, its primary function is the safe operations of nuclear power plants. Its scope ranges across all nuclear issues from non-proliferation to environmental protection; from emergency preparedness to transport of nuclear materials; from nuclear liability to decommissioning of power plants. In addition to the BAER, other ministries also hold responsibility towards certain nuclear related matters. For example, the Ministry of Environment, Forest and Climate Change is responsible for public safety in case harmful radiation is leaked from nuclear facilities.[32] There have also been plans to form an independent regulatory body. For matters of overall nuclear safety, the government emulates international legal safety mechanisms to meet international standards.[33]

Development of Human Resources

Nuclear Power is a highly technical and specialised field which requires qualified and trained personnel for multilevel functioning of a nuclear power plant. With a dearth of human resources, the authorities have been focusing on upgrading the skill of their

30. "Necessary safety measures taken for nuclear power plant, says Hasina", Bdnews24.com, July 14, 2018, at https://bdnews24.com/bangladesh/2018/07/14/necessary-safety-measures-taken-for-nuclear-power-plant-says-prime-minister. Accessed on March 5, 2021.
31. n. 12.
32. Md. Shafiqul Islam, Shafiqul Islam Faisal and Sadia Khan, "Development and strengthening of the nuclear and radiation safety infrastructure for nuclear power program of Bangladesh", *Nuclear Engineering and Technology*, November 19, 2020, at https://reader.elsevier.com/reader/sd/pii/S1738573320309359?token=5419FCBC1295B5B11110FAF23CF4EEF154766117A9E5CA99B5813649907BF4BB25F7507DD56869A5488B3B0C41DD8695. Accessed on March 4, 2021.
33. n. 12.

manpower before the reactors go online. For this reason, BAEC has been organising workshops, symposiums and seminars.[34] BAEC has also established a training institute in the field of nuclear science which currently conducts fundamental courses on nuclear technology for young professionals.[35] Several universities in Bangladesh, such as the Bangladesh University of Engineering and Technology too have started courses on nuclear technology. In addition, agreements have been signed with other countries, which is helpful in providing training support from experienced players. This includes countries such as India, the United States, Belarus, Russia and Japan.[36]

CONCLUSION

Bangladesh stands at the crossroads of a major transition from an underdeveloped economy to a rapidly developing one. Energy security is one of the primary factors that will facilitate this transition. Nuclear power will have an important role to play in managing the rising energy crisis in the country.

The overall future of nuclear power in Bangladesh so far appears to be optimistic. The BAEC is on track with most of the groundwork and it appears likely to be able to meet its timelines. Despite the COVID-19 pandemic, which stalled the progress of several developmental projects, such as the Padma Bridge and the Dhaka metro-rail in Bangladesh, the Rooppur project remains unaffected and is currently on schedule.[37] However, developing a civil nuclear project is a complex and enormous commitment, which requires a comprehensive plan of action. In this regard, authorities will need to be alert since there is a possibility of a myriad problems emerging at each stage.

Concerns of nuclear safety are already beginning to stir in Bangladesh especially after the Rooppur pillow scam which exposed

34. Ibid.
35. Md. Kabir Hossain, "Human Resources Development for Rooppur Nuclear Power Programme in Bangladesh." International Conference on Human Resource Development for Nuclear Power Programmes: Building and Sustaining Capacity, May 12-16, 2014, at https://www-pub.iaea.org/iaeameetings/cn215p/Tuesday/IAPs/Morning/Hossain.pdf. Accessed on March 6, 2021.
36. n. 30.
37. Reazul Bashar, "Rooppur nuclear power plant on 'fast track' despite pandemic", BDnews24.com, July 12, 2020, at https://bdnews24.com/economy/2020/07/12/rooppur-nuclear-power-plant-on-fast-track-despite-pandemic. Accessed on April 5, 2021.

several authorities embezzling funds. This has raised serious questions about the nature of the project.[38] As the case of South Korea's nuclear industry has proven, recklessness and venality by the authorities is sufficient to shut down even a well-established nuclear power programme. A more transparent nuclear programme with mechanisms to ensure credibility is imperative. Several other objections have been put forth by concerned citizens and activists that requires more clarity and communication from the authorities. This includes the apprehensions regarding the decreasing flow of water in Padma River[39] as it could pose a serious challenge to the nuclear power project since nuclear plants require huge amounts of water for cooling, the lack of which could lead to a nuclear catastrophe. In addition, considering the importance of grid reliance, there have been speculations that the current grid capacity is inadequate to introduce two new 12 MWe nuclear units. These concerns, and the ambiguities around them, need to be addressed by the authorities to clarify and quell public fear. The BAEC will also have to ensure that the development of legal and regulatory infrastructure matches the pace of the construction of the plant. This is important to ensure the safe functioning of nuclear power plants. The future of nuclear power in Bangladesh is thus likely to depend on the way the authorities ensure safety and manage the challenges that come their way.

38. "16 officials suspended in Rooppur Power Plant pillow scam", *Dhaka Tribune*, October 15, 2019, at https://www.dhakatribune.com/bangladesh/court/2019/10/15/16-officials-suspended-in-rooppur-power-plant-pillow-scam. Accessed on February 26, 2021.
39. n. 1.

INDO-US COOPERATION IN SPACE SITUATIONAL AWARENESS: A NECESSITY

TH ANAND RAO

India has sought assistance of global space technology leaders in the past for developing its space capabilities since the beginning of India's space programme. However, Indian Prime Minister's visit to the United States in September 2021 marks a historic milestone in many ways. While the Indian PM's first meeting with US President Biden, his address at the United Nations General Assembly at New York and the first in-person summit of the Quad nations in Washington may have stolen the limelight, some of the lesser-known events have immense significance for India's strategic security. The bilateral meet between the two leaders of India and US was followed by a joint statement on September 23, 2021. The White House press statement listed many areas of cooperation between the two nations. A major point of strategic interest was the joint understanding that the United States and India must continue and expand their partnership in new domains and many areas of critical and emerging technology—space, cyber, health security, semiconductors, AI, 5G, 6G and next generation telecommunications technology, and block chain, that will define innovation processes, and the economic and security landscape of the next century. Interesting among

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these was the agreement between the leaders to work towards the finalisation of a Space Situational Awareness (SSA) Memorandum of Understanding (MoU) that will help *in sharing of space object data and services towards ensuring* the long-term sustainability of outer space activities.[1] Though India and US have had space cooperation in the past—like the Chandrayann-1 project and NISAR (NASA-ISRO Synthetic Aperture Radar)—this particular item on the agenda for further cooperation signals India's realisation of the prerequisites to become a space power of significance.

The need for a robust SSA was felt some years ago. A classic example which points towards India's lack of SSA was when India was unaware of the debris littered by the Chinese Anti-satellite (ASAT) weapon test of 2007, till it was notified by the US Space Surveillance Network.[2] For reasons unknown, SSA was seen as a secondary requirement by Indian Space Research Organisation (ISRO) and the focus for R&D has always been on the creamier projects like launch vehicles, satellite sensors and their integration and the ground segment. SSA activities though present, were restricted to tracking and telemetry of India's own satellites. The installation of a Multi-Object Tracking Radar (MOTR) in 2015 did give some teeth to India's SSA programme but it was still a far cry from what is needed. More radars may be in the pipeline and the capabilities may improve, but building significant SSA requires not just equipment but the ability to collate orbital information from multiple diverse sources and provide satellite operators an analysis and useful interpretation of this data. The immediate necessity of possessing adequate SSA was felt around the time of India's ASAT test of 2019, when it was realised that having visibility in a small segment of space was not adequate and there was a need for a wider space picture to have comprehensive space security. ISRO had established a Directorate of Space Situational Awareness Management (DSSAM) and on December 14, 2020, ISRO opened its

1. "U.S.-India Joint Leaders' Statement: A Partnership for Global Good", The White House Press Statement, September 24, 2021, at https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/24/u-s-india-joint-leaders-statement-a-partnership-for-global-good/. Accessed on September 26, 2021.
2. As narrated by Prof. S. Chandrashekhar, NIAS, during a seminar on Space Security conducted by CAPS in 2018.

Network for Space Object Tracking and Analysis (NETRA) control centre in Bengaluru.[3]

WHY IS SSA NECESSARY?

Space Situational Awareness in its most basic form, is the ability to see objects in space and gather meaningful information out of it. A more refined understanding of SSA would mean possessing information about the space environment and its effects on our space activities. It involves detection and tracking of space objects, their identification and characterisation, prediction of threats, preventing collisions and effects of adversarial interference. Satellites are critical orbital infrastructures that need protection. They are vulnerable to collisions owing to the rapid increase in satellite constellations making the useful orbits overcrowded. They are also vulnerable to attacks in many ways which may not even be noticed without SSA. Therefore, SSA is a foundational capability for any spacefaring nation to protect its space infrastructure which needs to be established alongside the other space capabilities. SSA also has a military quotient to it and adds a new ring to the country's overall security. The long-range radars used for SSA also provide the capability of an early warning system against ballistic missiles.

INADEQUACY OF INDIA'S PRESENT SSA

India's SSA is limited to tracking and monitoring its own satellites which is termed as positional data. For knowledge of the space environment and other objects in the vicinity of Indian satellites—situational data—India utilises the information provided by Space Surveillance Networks of some global space agencies like ESA and the Russian Space Surveillance System. India is however predominantly dependent on the US controlled Space surveillance data which is available on the open domain internet. Emergency proximity warnings are provided by the Combined Space Operations Centre (CSpOC) under the USSTRATCOM (United States Strategic Command) to all satellite operators. Though a Multi-Object Tracking

3. "ISRO SSA Control Centre Inaugurated by Dr. K. Sivan, Chairman, ISRO/Secretary, DOS", at https://www.isro.gov.in/update/16-dec-2020/isro-ssacontrol-centre-inaugurated-dr-k-sivan-chairman-isro-secretary-dos. Accessed on October 7, 2021.

Radar (MOTR) has been installed by India, its range is restricted to 1,000 km for an object size of 0.25 m^2. Optical telescopes of the Indian Institute of Astrophysics—eleven of which are currently available across the country—are selectively used for space object observation; however, there is no dedicated tasking for this purpose.

ISRO's ambitious NETRA project, although promising, has some severe constraints. The initial capability to detect objects is restricted to the Low Earth Orbit (LEO). There are plans to complement this capability with many more observational facilities like radars, telescopes, data processing centres and control centres. In the pipeline are a long-range high precision telescope at Leh, long-range radar in the North East, and integration of telescopes at Ponmudi and Mount Abu. With these developments, the NETRA project could be a stepping stone to put India on the global map in international efforts towards tracking, warning and mitigating space debris.[4] Notwithstanding these developments, there is a need for India to have wider space coverage.

CONCERNS IN GLOBAL SPACE SURVEILLANCE NETWORKS

Despite the rapid advances in space technology, space surveillance technologies have not kept pace with the requirement to track an ever-increasing space object population. There is a viewpoint which favours a slowing down of space launches till suitable regulations and a monitoring mechanism are put in place. However, the absence of a consensus amongst states in multilateral forums has resulted in unregulated occupation of the Earth orbits. This has posed a threat of collisions which is greater than ever before, not just between satellites but also with an increasing debris population.

The US being the largest SSA provider through a single entity—CSpOC—has the onus of providing a true picture to its subscribers—barring the technical constraints which preclude an accurate analysis. This too may fall short if not integrated with the other major players in SSA like Russia, China and ESA which have independent sensors and control centres.

4. D. S. Madhumati, "ISRO initiates 'Project NETRA' to safeguard Indian space assets from debris and other harm", *The Hindu*, September 24, 2019, at https://www.thehindu.com/sci-tech/science/isro-initiates-project-netra-to-safeguard-indian-space-assets-from-debris-and-other-harm/article29497795.ece. Accessed on September 29, 2021.

The main concerns in the existing SSA are summarised below:

- The space object information currently available is dependent on sensor capabilities that exist in the world today and is based on a 'periodic track and revisit approach'.
- Large amounts of space debris—mainly <10 cm size—remain undetected.
- Debris is concentrated in useful orbits—these regions are becoming potentially unsustainable in future—unless debris mitigation procedures are enforced through an international protocol.
- Deficiencies in sensor technology has restricted the space object information and tracking to object sizes >10 cm. Discrimination between objects is limited by the granularity. A new 'Space Fence' radar operationalised in 2020 by US is said to have the capability of detecting objects of sizes <10 cm and up to 2-3 cm.[5]
- Global SSA capabilities have not kept pace with the rapid growth in space traffic—there are gaps in coverage and the space object catalogue maintained by CSpOC is incomplete.
- The CSpOC which manages the Space Surveillance Network—being a US military managed organisation—gives selective visibility to the users. Large amount of observed data is not being shared.
- Untapped potential of amateur astronomers, optical telescopes and private SSA providers—third party sensing—is not yet integrated into the overall picture. Hence databases are fragmented.

THE IMPERATIVES

Too many satellites operate in a vacuum of information about their environment. Collisions are thus no longer a theory—they will happen. The probability is increasing with every anthropogenic event, debris on debris collisions and fragmentation events. The deficiencies in the present SSA system need to be addressed urgently. Many of these solutions require all space agencies to board a common

5. "Space Fence surveillance radar site declared operational", Space News, March 28, 2020, at https://spacenews.com/space-fence-surveillance-radar-site-declared-operational/. Accessed on September 29, 2021.

platform, as SSA requires a geographically distributed network of sensors and a unified control and information distribution system. It needs to be realised that building a geographically distributed network is expensive for any single state to accomplish and all objects cannot be screened for possible collisions by a single entity like CSpOC. Untapped potential of private SSA providers needs to be amalgamated into a single composite space picture. The global SSA model needs to be premised on transparency, where every object is catalogued, civil or military. It is the purpose of the object or satellite in orbit and its activity in orbit that could be kept anonymous for military purposes. It goes without saying, that any action in space that may result in fragmentation or a debris creating event should be explicitly banned.

The world leaders need to take cognisance of the cooperative approach needed to establish a reliable, sustainable and transparent SSA architecture. The delay in adopting such an approach may carry the risk of making space further conflictive to a point of no return. SSA is an inherently international and collaborative venture. It requires a network of globally distributed sensors as well as data sharing between satellite owners, operators and sensor networks. SSA also forms the foundation of space sustainability as it enables safe and efficient space operations and promotes stability by reducing mishaps, misperceptions, and mistrust. Therefore, a global SSA network which is managed through international participation under the UN umbrella needs to be favoured by all spacefaring countries.

WHAT CAN THE US OFFER TO ENHANCE INDIA'S SSA?

The CSpOC data (an erstwhile function of NORAD[6]) segregated for civilian use is catalogued and made available to all space users in an open source format. This is in the form of a Two Line Element (TLE) description and summary of all space objects, which comprises the 'low accuracy catalogue'. This TLE data is utilised by many software applications to give live position estimates and future track

6. The North American Aerospace Defense Command (NORAD) is a United States and Canada binational organisation charged with the missions of aerospace warning, aerospace control and maritime warning for North America, at https://www.norad.mil/About-NORAD/. Accessed on September 29, 2021.

predictions. The 'high accuracy catalogue' is additionally created to provide vectors with accurate orbital data.[7]

The low accuracy catalogue and basic SSA services are made available to all registered users on the Space Track website. The CSpOC also provides emergency services for anomaly resolution to all space agencies and satellite operators which consists of the following:[8]

- Basic Emergency Conjunction Assessment (On-Orbit)
- Basic Emergency Collision Avoidance (On-Orbit)

Further, CSpOC also provides 'advanced services' like:[9]

- Launch Conjunction Assessment
- Launch Early Orbit Determination
- Early Orbit Conjunction Assessment
- Advanced Conjunction Assessment (On-Orbit)
- Advanced Collision Avoidance (On-Orbit)
- Disposal/End-of-Life Support
- De-orbit and Re-entry Support

Access to the high accuracy catalogue and advanced services can only be obtained by entering into a formal agreement with USSTRATCOM. In April 2019, the 100th SSA sharing agreement was signed by the US with Romania. India has not entered into such an agreement with the US so far, though collaboration in SSA was identified in the US-India joint statement of September 2014. However, to develop indigenous capabilities in space object analysis, ISRO signed an MoU on "scientific collaborations in the area of Space Situational Awareness" with University of Texas, Austin, USA in March 2020.[10] Preliminary agreements like the Next Steps in Strategic Partnership (NSSP) of 2004 and the New Framework for India-US Defence Relationship of 2005 paved the way for further cooperation,

7. SSA Sharing, at https://www.unoosa.org/pdf/pres/stsc2012/tech-40E.pdf and "SSA Sharing & Orbital Data Requests (ODR)", at https://www.space-track.org/documentation#/odr. Accessed on September 28, 2021.
8. Ibid.
9. Ibid.
10. ISRO updates, at https://www.isro.gov.in/update/05-mar-2020/memorandum-of-understanding-%E2%80%9Cscientific-collaborations-area-of-space-situational. Accessed on October 14, 2021.

The NSSP identifies the need for civil space cooperation with India. Both countries have established a US-India Joint Working Group on Civil Space Cooperation.

The US space surveillance network is the only streamlined global SSA system which gathers inputs from sensors across the world. Finalisation of the MoA with the US would greatly enhance India's capability to avoid untoward incidents in space. This will necessarily come with some reciprocal arrangements which India will have to concede. The reasons for India's delay in joining hands with the US on SSA sharing are not clearly known. However, it is believed that the change in India's vision for space with a clear shift towards prioritising military space capabilities, the growing satellite inventory and the rising threat to space assets from debris and anti-satellite weapons of adversaries has accelerated a decision on the issue.

CAN INDIA HAVE AN INDEPENDENT SSA?

The debate on the requirement and means to achieve SSA can be can unending. Nonetheless, the impracticality of having an independent SSA needs to be realised by every spacefaring nation. The character of SSA requires states to collaborate for placing geographically dispersed sensors and constructing a composite space situation picture. Hence, national SSA programmes have to be *Interdependent* rather than *Independent*. Be that as it may, India cannot be satisfied with a *dependent* SSA. India's space agencies—both civil and military—need to realise that our nation's interests in space have to be protected. For that we need to have the big picture, and not a selective picture. When it comes to a security dimension, for military utilisation of space, or may be even space defence, having the bigger picture clearly matters. Therefore, while India meets its immediate requirements through gathering inputs from the US space surveillance networks, there needs to be a dedicated effort towards building own SSA capabilities. This will also elevate India's status to that of a larger stakeholder in Global SSA efforts.

HOW CAN INDIA CONTRIBUTE TO GLOBAL SSA

India is steadily progressing on the path to attain a basic level of SSA which will meet its space security requirements. Project NETRA has been put on track and the vision is promising. However, the pace

of installation of additional infrastructure, like radars, needs to be accelerated. Besides, India can explore the possibility of installing long-range radars and telescopes in the neighbourhood as well as at offshore locations in the Indian Ocean Region (IOR) and South East Asia. ISRO already has tracking ground stations at Mauritius, Brunei and Biak (Indonesia).[11] India is also building a mega data receiving and tracking ground station in Vietnam for ASEAN countries.[12] Having geographically dispersed sensors will give a wider coverage of the space segment and will also facilitate a continuous tracking on this side of the globe. It is pertinent to mention that the southern hemisphere has a very low density of space tracking radars and telescopes which presents an opportunity for India to increase its footprint in any global SSA effort.

While enlarging the SSA footprint in and around the Indian subcontinent with multiple sensors is a necessity, an SSA sharing agreement with USSTRATCOM for access to advanced SSA services and the high accuracy catalogue will give a reliable space situation picture, thereby enhancing India's space security. India also needs to seriously consider the possibility of sharing space object data with CSpOC and any future global SSA network. This would translate into India becoming a regional SSA provider, which will accrue spin-offs in space cooperation with US and allied countries. In short, India needs to be a larger stakeholder in any global SSA regime of the future.

Also, Space Traffic Management (STM) is an emerging area gaining momentum, and will necessitate establishing regional STM centres around the world. India is geographically suitable and favourably positioned to migrate to the role of operating a regional STM centre as part of a global STM architecture.

CONCLUSION

The path to self-sufficiency in SSA is boundless. No country can achieve an independent SSA; rather, SSA has to be interdependent.

11. "ISRO Telemetry, Tracking and Command Network (ISTRAC)", at https://www.isro.gov.in/about-isro/isro-telemetry-tracking-and-command-network-istrac. Accessed on October 14, 2021.
12. Chetan Kumar, "Space diplomacy: India building ground station for ASEAN countries in Vietnam", *The Times of India*, July 2, 2021, at https://timesofindia.indiatimes.com/. Accessed on October 14, 2021.

A comprehensive SSA picture requires inputs from sensors from dispersed locations across the globe. This needs to be complemented by space-based sensors in layered orbits. Besides placing the infrastructure, there is a need for tracking, monitoring and controlling stations which also need to be located at different parts of the globe to handle space traffic during launch, recovery and deconfliction with airspace traffic. No nation could possibly establish such a network independently. Hence, space, while being contested, congested, competitive and conflictive, is also an area of cooperation and collaboration between states. International cooperation in SSA will become essential to maintain a rules-based order in space. This cooperation should thus form the basis of making outer space deconflictive.

Hence, the Indian Prime Minister's visit to Washington and the joint statement to work towards finalisation of a, MoU for SSA sharing is a significant development and marks a historic milestone. It is only hoped that India emerges as a major contributor to the global SSA picture.

INTELLIGENCE IN THE NEW WORLD

SUSHIL TANWAR

> "Intelligence capabilities are critical instruments of national power and integral to implementing the national security strategy. Strong intelligence capabilities are needed for providing warning of threats to national security, support to the policy and military communities to prevail over the threats and identifying opportunities for advancing national interests. Decision-makers, military commanders and policy analysts at all levels rely on the intelligence community to collect information unavailable from other sources and to provide strategic and tactical analysis to help surmount challenges to national security."
>
> —National Intelligence Strategy, Office of DNI, USA[1]

INTRODUCTION

In November 2018, Russian President Vladimir Putin, in his address during a function marking a hundred years of the establishment of the military intelligence agency (GRU), hailed its "unique" capabilities and remarked that the agency had played a "decisive

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1. "National Intelligence Strategy of USA 2019", at www.dni.gov. Accessed on September 10, 2021.

role in dealing devastating blows to terrorism and restoring peace in Syria".[2] This somewhat rare public adulation was an apt testimony to the constantly expanding scope of intelligence in the new age world.

The field of intelligence, though, is as old as mankind itself. Sometimes referred to as the "World's second oldest profession", there is definitely a certain kind of fascination, glamour and even mystique attached to the profession of intelligence.

Intelligence has traditionally fulfilled wide-ranging crucial functions in national security, diplomacy and statecraft. Ever since ancient times, the discipline of intelligence has played a key role in not only ensuring the security of nations but also in strengthening various other instruments of national power. Intelligence is therefore increasingly been considered as the "First Line of Defence" of any country.

Each country has developed a peculiar system of intelligence mechanisms but globally all the intelligence agencies have been affected by the modern developments especially in the field of technology. The complex modern-day threat environment and the changing nature of warfare have forced a major change in the role and methodology of functioning of intelligence agencies. They, therefore, need to adapt themselves to cope with these international complexities and technological transformations.

Intelligence is a user-driven tool of decision-making and must provide policymakers with a wide range of options and tools. It is imperative for decision makers to understand the various disciplines of intelligence, including collection, analysis and dissemination in order to utilise them fully.

SCOPE AND TYPES OF INTELLIGENCE

Every individual, organisation and nation strives for information that will preserve their interest, reduce risks and contribute to their well-being. Intelligence means different things to different people. Intelligence and Information, while slightly different, are often confused with each other. Intelligence is basically the information

2. Raed Jaber, "Putin 'Proud' of Russian Intelligence Role in Syria", *Aawsat*, November 4, 2018, at https://english.aawsat.com//home/article/1448996/putin-%e2%80%98proud%e2%80%99-russian-intelligence-role-syria. Accessed on September 18, 2021.

that has been processed to meet a specific requirement. A commonly stated dictum to differentiate between the two is that "All intelligence is information but not all information is intelligence".[3] The Hoover Commission report has defined intelligence as the "collection, collation, analysis and assessment of information pertaining to national security or having a bearing on formulation of national strategies."[4]

In a modern sense, intelligence is closely related to three major fields or consumers, namely, National Security, Law Enforcement and Economic Business. Although these three end-users have their own peculiar requirements and challenges, they are also interlinked in many ways. For example, an intelligence operation to penetrate a religious fundamentalist organisation may reveal foreign linkages and illegal corporate funding.

Intelligence is related to capabilities and intentions of adversaries and may cover a wide array including military, political and economic fields. It is in essence a user driven multi-domain specialised activity which is generally undertaken on three broad aspects, i.e., External Intelligence, Counter-Intelligence and Covert Operations.

Depending on the level and type of information, External Intelligence can be further subdivided into two broad segments, i.e., Strategic Intelligence and Tactical Intelligence.

Strategic Intelligence is related to strategic or larger issues concerning capabilities and intentions of foreign countries. A nation needs these inputs to plan and accomplish its strategic aims. Development of space programme or acquisition of missile capability by an adversary is one such example of strategic intelligence. **Operational or Tactical Intelligence** is primarily related to combat intelligence which is information required by commanders for executing actions within an operational area to achieve immediate operational and tactical objectives. Mobilisation and deployment of troops in a particular area can be categorised as operational intelligence.

3. Mark M. Lowenthal, "Intelligence—From Secrets to Policy", CQ Press, 2009.
4. Office of the Historian, "Report by the Task Force on Intelligence Activities of the Commission on Organization of the Executive Branch of the Government", at https://history.state.gov/historicaldocuments/frus1950-55Intel/d220. Accessed on September 27, 2021.

Counter-Intelligence are those actions taken by an intelligence agency to prevent adversaries from acquiring own information and ensure that the hostile activities of espionage, sabotage and subversion are neutralised. Counter-intelligence supports the intelligence process by focusing on the acquisition efforts of foreign intelligence agencies. Some countries also work on the principle that Counter-intelligence should deal with issues, such as protecting own scientific advancements, combating terrorism, and narcotics trafficking.

It is no secret that many nations use their Intelligence agencies to not only gather intelligence but also to undertake covert actions and achieve their national objectives. These covert actions may range from armed intervention to influence operations. Some experts consider covert action as an essential component of intelligence functions while some characterise it as an additional activity, somewhat separate from the main business of intelligence. One of the earliest covert operations conducted by CIA nicknamed "Op Mocking bird" was aimed at influencing the media.[5] Many American journalists and intellectuals were recruited to primarily oppose communism. "Active Measures" is a legacy of the erstwhile Soviet Union which involved conduct of influence operations by its intelligence agencies. In four years between 1972 and 1975, KGB reportedly planted more than 17,000 articles in Indian media as part of their attempts to discredit the USA.[6] Although there hasn't been any conclusive evidence yet, many people still suspect that the 2016 Presidential elections in US were influenced by Russia.[7]

EVOLVING DYNAMICS: A PARADIGM SHIFT

The contours of national security frameworks across the globe are being shaped by emerging issues such as technological developments, economic considerations, demographic dynamics and environmental

5. China News Zone, "CIA's Operation Mockingbird a precursor of US manipulation of world public opinion", *Helsinki Times*, November 10, 2021, at https://www.helsinkitimes.fi/china-news/20343-cia-s-operation-mockingbird-a-precursor-of-us-manipulation-of-world-public-opinion.html. Accessed on November 18, 2021.
6. Christopher Andrew, *The Mitrokhin Archive II: The KGB in the World*, Paperback 2018.
7. Sophie Marineau, "Fact check US: What is the impact of Russian interference in the US presidential election?", *The Conversation*, September 30, 2020, at https://theconversation.com/fact-check-us-what-is-the-impact-of-russian-interference-in-the-us-presidential-election-146711. Accessed on November 23, 2021.

concerns. These paradigm changes have also impacted the role and functioning of intelligence structures thereby providing fresh possibilities and challenges to the intelligence community.

Nature of Warfare. The nature of wars has undergone a paradigm shift due to which asymmetric and unconventional forms of conflict, or what is known as '5th Generation Warfare' or 'Unrestricted Warfare' has become predominant. The revolution in military affairs and resultant doctrinal evolution has led to newer ways of force application with concepts such as effect-based operations, joint warfighting, multi-domain operations, etc. Intelligence and precision engagement is critical for adopting these new ways of waging wars. Modern militaries are therefore becoming increasingly dependent on intelligence, sensors and networks. The generic term, ISR, meaning intelligence, surveillance, and reconnaissance, has become even more critical towards war-fighting and military decision making.

The threats that nations face today are no longer only about conventional territorial threats from adversaries but have become more complex and non-traditional. The scope of these threats has expanded to include international terror, social unrest and organised transnational crime such as drug running and cybercrimes. The COVID-19 pandemic has brought to fore another dimension of state-sponsored biological threats.[8] This diverse proliferation of various actors, different sources of conflict and innovative means of using force have resulted in a complex threat matrix for any independent state. For a developing country like India, the uncertainties and instabilities of the strategic environment in a polarised world will further add to the challenges of upholding national security.

Technological Developments. The pace and reach of technological developments has increased manifold in the modern world and is accelerating at an even faster pace. The developments in Biotechnology, Artificial Intelligence, Robotics and Nanotechnology, or the BARN revolution, have impacted every field of human endeavour. This has transformed the nature of social and

8. Agencies, "Scientists in China discussed weaponising coronavirus in 2015: Report", *Business Standard*, May 9, 2021, at https://www.business-standard.com/article/current-affairs/scientists-in-china-discussed-weaponising-coronavirus-in-2015-report-121050900916_1.html. Accessed on September 18, 2021.

individual beliefs and capabilities thus creating new disruptions and tensions. Emerging technologies, such as artificial intelligence and big data analytics, have fundamentally transformed the security architectures across the globe while simultaneously posing unique and unprecedented challenges from technologically proficient adversaries.

Modern developments have resulted in increase in the quantum and nature of information available. This exponential growth in volume, speed and range of information has far-reaching impact on national security and military planning. While earlier times were characterised by scarcity of information, intelligence analysts now are faced with information overload. Easy availability of information tools at a low cost to the common man has not only led to empowerment of individuals but also made them more vulnerable.

The attitude of the common man towards intelligence has changed over the years. Each human being is today either a potential intelligence target or a potential collector of intelligence. Many organisations and even individuals have started to actively indulge in the field of professional intelligence and security analysis. The rapid growth of social media, easy access to information and familiarity with basic analytical tools has enhanced the value of open source intelligence. In addition, the challenges of strategic and operational environment have resulted in an increase in the number and kind of intelligence consumers. The requirements of such end-users are bound to vary enormously. They are also now increasingly receiving data from non-intelligence sources that compete for attention and confidence.

TRANSFORMING INTELLIGENCE: IMPACT OF CHANGES

The changes described in the preceding paragraphs have become increasingly relevant to the profession of intelligence and have wide-ranging implications on the functioning of intelligence agencies. Intelligence in the 'New World' is full of extraordinary opportunities and formidable challenges. The age-old traditions and techniques practised by the intelligence community are no longer adequate to deal with modern complex threats. There is therefore a need for intelligence agencies to move beyond traditional tradecraft and adopt new methods.

PRINCIPLES AND CONCEPTS

With the improvement in military equipment, communication systems and other technological innovations, the distinction between Strategic and Tactical intelligence is now getting blurred. Intelligence inputs can no longer be strictly compartmentalised in terms of time and magnitude. Due to the speed and availability of information, the policymakers and military hierarchy want to be aware of minutest details. This has resulted in "tacticisation" of intelligence inputs requirements wherein intelligence professionals no longer have the luxury of discretion and now have to feed the policy planners with the smallest details.

The traditional concept of "Intelligence cycle" is also undergoing a rethink. Due to the increased velocity and volume of information, there is now a greater interplay between collection, analysis and decision making. Thus the intelligence cycle which is sequential in nature may no longer be adequate to cope with speed of information flow. Analysts will therefore have to constantly think ahead and raise intelligence requirements in anticipation of future developments.

ROLE AND RANGE OF ACTIVITIES

Although the "traditional" threats such as interstate conflicts and rivalries will continue to be the top priority for intelligence agencies, the modern complex threats like international terrorism and domestic instability have acquired additional focus for intelligence professionals.

Since the nature of warfare has undergone a paradigm shift, traditional understanding and functioning of intelligence services must also change from providing battlefield intelligence during operations to a proactive broad-based role of combating adversaries even during peacetime. Military concepts have become increasingly intelligence-centric. Future concepts of operation such as multi-domain operations will therefore require timely collection, seamless fusion and quick dissemination. China, for instance, has already made "Intelligentised Warfare" as its core military strategy. Li Minghai, Associate Professor at the National Defense University, elucidates Intelligentised Warfare as "integrated warfare based on Internet of Things (IoT) systems that uses intelligent weaponry and equipment

and their corresponding operational methods in the land, sea, air, space, electromagnetic, cyber and cognitive domains."[9]

Since the future battlefield will be characterised by multiple sensors resulting in collection of large volume of data about the activities of adversaries, it will be important to not only focus on intelligence collection assets but also on investing in intelligence processing tools. Failure to do so will result in information overload and inability to sift the relevant pieces of information which may paralyse timely decision making. This changing information environment will force a change in the conduct of military intelligence analysis.

Intelligence agencies are now increasingly contributing towards a nation's ability to build and control narratives. A globally networked and dense public information environment offers exciting opportunities for waging information warfare. Intelligence agencies are in a unique position to play a crucial role in this potent tool of statecraft.

TECHNOLOGICAL AGILITY

The adoption and assimilation of emerging niche technologies into the methods by which intelligence inputs are collected, analysed and disseminated will therefore be central to the success of intelligence organisations. Exploitation of technologies, such as cloud computing and big data analytics, will enable intelligence agencies to 'process' information at a much grander speed and scale.[10] The shift to technical collection and automated analysis of data has already revolutionised the intelligence world. This transformation from an ancient craft into a technical enterprise hinges on adopting technical capabilities in the areas of data collation and interpretation.

The intelligence dimensions of the cyber domain are also quite significant. Since most of the critical infrastructure used by individuals and organisations is based on information technology, use of cyber

9. Maj Gen P.K. Malick (Retd.), "Defining China's Intelligentized Warfare and Role of Artificial intelligence", VIF Paper, March 2021, at https://indianstrategicknowledgeonline.com/web/Defining%20China%20Intelligentized%20Warfare%20and%20Role%20of%20Artificial%20Intelligence.pdf . Accessed on September 18, 2021.
10. Ardi Janjeva and James Sullivan, "UK Intelligence Agencies and the Commercial Cloud: What Does It All Mean?" RUSI, November 5, 2021, at https://rusi.org/explore-our-research/publications/commentary/uk-intelligence-agencies-and-commercial-cloud-what-does-it-all-mean. Accessed on November 10, 2021.

tools for both offensive and defensive measures has become a key consideration for intelligence agencies.

Human Resources. Despite far-reaching progress in technical abilities, intelligence professionals remain convinced that the fundamental role of human intelligence will not change. In a more complex world, there will always be the need to understand the intentions and motivations of people in target countries. However, there is a need for practitioners of HUMINT to develop specialised skills like social engineering. Availability of tech tools will have to be suitably exploited to complement and qualitatively enhance HUMINT skills. In the Stuxnet attack on Iran's uranium enrichment program in 2010, the cyber sabotage operation was probably carried out by an insider with technical skills and physical access to the controlling computer systems.[11]

Public Profile. Intelligence agencies are traditionally believed to be operating in a cloak of secrecy. However, in this information age there is more public glare on intelligence agencies. Many intelligence services now have websites and active presence on social media platforms. They also increasingly use the media channels for propaganda and even for recruitment of new personnel.[12] Crowd sourcing of information is a reality which will define the new frontiers of public private partnership in intelligence matters.

Operational Security. In 2013, Edward Snowden, a contractor employed with US National Security Agency, turned whistle-blower and revealed the mass surveillance programme being undertaken by US intelligence agencies.[13] While espionage and surveillance have been traditional functions of intelligence agencies, the issues of intelligence sensitivity and operational security are becoming even more predominant in the modern era. The transformation in military

11. Stilgherrian, "Do intelligence agencies need restructuring for the digital disinformation age?", Zd Net, August 26, 2020, at https://www.zdnet.com/article/do-intelligence-agencies-need-restructuring-for-the-digital-disinformation-age/. Accessed on September 18, 2021.
12. Marie Fazio, "The U.K. Spy Agency MI5 joined Instagram. It wasn't for the Likes", *The New York Times*, April 23, 2021, at https://www.nytimes.com/2021/04/23/world/europe/mi5-british-intelligence-instagram.html. Accessed on September 8, 2021.
13. Raphael Satter, "U.S. court: Mass surveillance program exposed by Snowden was illegal", Reuters News Service, September 3, 2020, at https://www.reuters.com/article/us-usa-nsa-spying-idUSKBN25T3CK. Accessed on September 18, 2021.

systems and their interconnectivity makes them vulnerable as an adversary could find ways to intrude into these systems and render them ineffective. The efforts by intelligence agencies of Pakistan to acquire military secrets from India by cultivating espionage agents have been persistent and quite successful.[14] Since it is becoming increasingly difficult to maintain secrets, any intelligence set-up will also need to have a robust counter-intelligence capability. Similarly, the requirements of widespread dissemination should be balanced with cautious sensitivity.

OVERSIGHT

An efficient intelligence system has to operate with a certain degree of secrecy and discretion. At times these have resulted in extraordinary authority and disproportionate influence in policymaking and execution. This makes creation of a regulatory framework and independent oversight of intelligence activities essential.

The evolution of civil society and concept of civil liberties, especially in the western world, have resulted in a sharp focus on individual privacy and freedom. The global outcry over Pegasus software has reinforced opposition to abuse of power on the pretext of surveillance for national security requirements.[15] As a result, intelligence services have come under increased scrutiny and criticism from individuals as well as social groups.

India's neighbour Pakistan is a test case in the perils of disproportionate role of intelligence agencies. The frequent interference by ISI and its notorious record in political engineering and installing favourable regimes are a grim reminder that in a democracy like India, Intelligence activities should be conducted in strict accordance with law, and with responsible oversight and accountability.

14. Shiv Aroor, "Army probes data breach as massive Northern Command espionage case could see heads roll soon", *India Today*, February 26, 2021, at https://www.indiatoday.in/india/story/army-northern-command-espionage-case-data-breach-details-1773365-2021-02-26 . Accessed on September 18, 2021.
15. "Demonstrations and inquiries: the global impact of the Pegasus project", *The Guardian*, July 23, 2021, at https://www.theguardian.com/news/2021/jul/23/demonstrations-and-inquiries-the-global-impact-of-the-pegasus-project. Accessed on September 20, 2021.

INTELLIGENCE PARTNERSHIPS

In today's complex security environment, it is imperative that intelligence agencies coordinate more closely with intelligence services of other nations. The "Five Eyes" alliance which started during World War II as an intelligence-sharing agreement between the US and UK and now includes Australia, New Zealand and Canada, is a fine example of the benefits of intelligence partnerships.

In March 2018, suspected Russian agents used nerve gas to target former Russian military intelligence officer Sergei Skripal who turned rogue and had provided MI6 with classified information. This bold action on UK soil drew a deliberate response which was led by intelligence agencies of UK who with the help of allies brought out incriminating evidence and coordinated the collective expulsion of suspected Russian intelligence officers from NATO and other states, thus significantly affecting Russian intelligence capability.

During the prolonged stand-off with China on LAC in Eastern Ladakh in June 2020, India also reportedly relied extensively on US for intelligence support. This intelligence sharing, although not based on a formal intelligence partnership, was critical to shaping India's military response.[16]

Apart from forging partnerships with other intelligence services, it has also become paramount for intelligence services to engage with the private sector and exploit their expertise in subjects such as threat analysis and risk mitigation. In fact, some of the services and products, such as satellite imagery are at times considered better than that of the state organisations.

The dynamics of present and future security environment necessitate that intelligence agencies within the country closely coordinate with each other. The multifaceted threats faced by the nation leave no room for turf battles and that is why collaboration amongst various agencies has become extremely important. There needs to be a greater recognition of the possibilities of convergence of efforts and the value of timely sharing as this is a prerequisite for

16. Christopher Woody, "The US is helping India keep an eye on China's military, top US commanders say", *Business Insider*, December 23, 2020, at https://www.businessinsider.in/international/news/the-us-is-helping-india-keep-an-eye-on-chinas-military-top-us-commanders-say/articleshow/79885909.cms. Accessed on November 18, 2021.

informed decision making. This will also reduce duplication of efforts which is a major consideration in a resource scarce country like India.

INTELLIGENCE WARS

While the space for conventional conflicts has definitely reduced, constant competition and contests amongst adversaries and even friends will continue. These confrontations provide a vast battlespace even during peacetime wherein intelligence operations have a pivotal role to play. In May 2021 reports emerged that Denmark's Defence Intelligence Service (FE) assisted the US National Security Agency (NSA) to eavesdrop on political leaders and officials in Sweden, Germany, Norway and France.[17] The disclosures only served to confirm the common belief in the world of intelligence that "Nations may be friendly but there is no such thing as a friendly intelligence service."

The "Intelligence Wars" are non-hierarchical and predominantly non-kinetic in nature. They not only focus on exploiting information superiority to gain intelligence advantage, but can also be the key to undertaking punitive actions. Active intelligence operations such as covert campaigns and cyberattacks may be potentially provocative, but they also allow tensions between the states to be managed and not go beyond the threshold of armed conflict.

CONCLUSION

The ubiquitous nature of information, exponential growth of technology and the degree of interconnectivity between nations and societies have made the world intensely complex. Consequently, the boundaries between notions of peace and conflict and identification of State and non-state actors are fast disappearing. This has led to greater ambiguity in strategic and security affairs which can only be dealt with through better intelligence capabilities.

Although the basic purpose of Intelligence is to ensure decision makers are not surprised, anticipation and forecasting threats is undoubtedly a precarious profession. Past experiences have shown

17. Jon Henley, "Denmark helped US spy on Angela Merkel and European allies—report", *The Guardian*, May 31, 2021, at https://www.theguardian.com/world/2021/may/31/denmark-helped-us-spy-on-angela-merkel-and-european-allies-report. Accessed on September 28, 2021.

that success during a crisis requires effective intelligence collection prior to the crisis.[18] Although it is possible to renew intelligence and increase acquisition efforts at times of crisis, it is desired that such capabilities are developed well before an emergency situation is created.

While the means and methods of intelligence process will inevitably change with the passage of time, the interplay between collection, analysis, and decision making will endure. Intelligence organisations, especially those in the armed forces, cannot afford to be resistant to change. This transformation should not focus only on acquisition of sensors or exploitation of technology but should be more comprehensive, cognitive and broad-based.

18. Rahul Bedi, "Intelligence Failure on PLA Intrusions in Ladakh Brings Back Memories of Kargil", *The Wire*, July 24, 2020, at https://thewire.in/security/indian-army-intelligence-pla-ladakh-kargil. Accessed on September 10, 2021.

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