AIR POWER IN STABILITY AND ANTI-TERRORIST OPERATIONS

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The recent release of the book *So that Others May Live* by the Chief of the Air Staff (CAS) on June 23, 2011, is a good enough reason to showcase some of the non-kinetic capabilities of air power; capabilities that contribute significantly to nation building and sustenance of the human spirit across the globe. Concurrently, Operation Geronimo, the mission to kill or capture Osama Bin Laden is a classic demonstration of the ability of air power to create strategic effects even with non-kinetic capabilities. A detailed analysis of that operation is important to drive home some lessons on the ability of a state to combat terrorism and exploit the multi-spectral capabilities of air power to good effect.

HISTORICAL PERSPECTIVE

A good point to start would be the period around World War II wherein two operations merit attention when it comes to highlighting the non-kinetic and supporting capabilities of air power. The first operation was the sustenance of Chiang Kai-shek's Nationalist Kuomintang (KMT) forces by the Allied air forces operating out of India via the famous "Hump Route" across the Himalayas. The second and more visible operation was the Berlin Airlift from June 1948 to May 1949 that provided continuous succour and

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relief to West Berlin in the face of a blockade by Soviet Russia. While both operations had the flavour of an unconventional conflict, the sustenance of Imphal by the Allied air forces in March 1944, though not a classic stability operation, highlighted the ability of air power to sustain a force from the air and infuse a sense of stability in operations.[1]

Sustaining the war effort of Chiang Kai Shek against the Japanese in China from 1942-45 was always going to be a daunting task considering that the Japanese had blocked the eastern access to China by their swift conquest of Southeast Asia by 1942. The Allies realised that establishing a safe aerial corridor would be the best way of sustaining the Chinese war effort and elements of the US Special Forces operating from southwestern China. This was the genesis of the **"Hump Route"** over the Himalayas into southeastern China that was created from airfields in the eastern part of India between 1942 and 1945.[2] This "air bridge", commonly referred to as the "Hump", was a 500-mile route over the awesome and uncharted three-mile-high peaks of the Himalayan mountains. For the remainder of the war, the Hump operation comprised the sole source of supplies to the Chinese and Americans regular and guerrilla forces attempting to contain the large Japanese forces on the Chinese mainland.

The goal of the Air Transport Command's India-China Division was to initially deliver 2,500 tonnes of supplies during the early months, steadily increasing the monthly tonnage to 10,000 tonnes.[3] The airlift began in April 1942, after the Japanese blocked the Burma Road, and continued on a daily basis from May 1942 to August 1945, when the effort began to scale down. Final operations were flown in November 1945. The Hump airlift delivered approximately 650,000 tonnes of material to China during its 42-month history. The final summary of logged flight time in the airlift totalled 1.5 million hours. The Hump ferrying operation was the largest and

1. Air Marshal G. E. Gibbs, "Air Power in the Burma Campaign," *Indian Air Force Quarterly*, vol. II, October 1952, pp. 6-7.
2. "The Hump," from http://en.wikipedia.org/wiki/The_Hump, accessed on October 02, 2010.
3. Billy J. Hoppe, "Lieutanant General William H. Tunner — In the China-Burma-India Hump and Berlin Airlifts: A Case Study in Leadership in Development of Airlift Doctrine," A research report accessed from http:// au.af.mil/au/awc/awcgate/awc/hoppebj.pdf on October 02, 2010.

most extended strategic air bridge (in volume of cargo airlifted) in aviation history until exceeded in 1949 by the Berlin Airlift.[4]

The **Berlin Blockade** (June 24, 1948-May 12, 1949) was one of the first major international crises of the Cold War short of actual war, and the first resulting in casualties. During the multinational occupation of post-World War II Germany, the Soviet Union blocked the Western Allies' railway and road access to the sectors of Berlin under Allied control. Their aim was to force the Western powers to allow the Soviet zone to start supplying Berlin with food and fuel, thereby giving the Soviets practical control over the entire city.

In response, the Western Allies organised the **Berlin Airlift** to carry supplies to the people in West Berlin. The United Kingdom's Royal Air Force (RAF) and the recently formed United States Air Force (USAF), flew over 200,000 flights in one year that provided 13,000 tonnes of daily necessities such as fuel and food to the Berliners. By the spring of 1949, the effort was clearly succeeding, and by April, the airlift was delivering more cargo than had previously come into the city by rail. The Berlin Airlift officially ended on September 30, 1949, after fifteen months. In total, the USAF delivered 1,783,573 tonnes, while 541,937 tonnes were delivered by the RAF, totalling 2,326,406 tonnes of food and supplies, nearly two-thirds of which was coal, on 278,228 flights to Berlin. The RAAF (Royal Australian Air Force) delivered 7,968 tonnes of freight and 6,964 passengers during 2,062 sorties. The success of the Berlin Airlift brought humiliation to the Soviets who had refused to believe it could make a difference. The blockade was lifted in May 1949 and resulted in the creation of two separate German states.

Readers may question the relationship between an operation conducted during World War II and 4th Generation Warfare (4GW) and assert that air transport operations comprise a full-fledged role of air operations. While there is no basic disagreement with that argument, the reason why it merits attention is to reiterate the strengths and potential of air mobility operations in sustaining a force or group of people. The same

4. Ibid.

principles would hold good if a city or district is besieged by non-state actors and the state has to do what it can to sustain the garrison with whatever tools it has at its disposal. In such a situation, air transport assets, if leveraged correctly, can act as a significant tool of governance and stability.

THE INDIAN EXPERIENCE

The Indian Air Force too has had significant experience in stability operations and the three operations that would be briefly discussed in this paper are the Srinagar airlift in 1948, Operation Cactus, and UN Peace-keeping Operations. Significantly, all these operations were primarily directed against proxy or non-state actors and carried out by bomber, transport and helicopter crew of the Indian Air Force (IAF).

In a bid to gain control of the erstwhile Princely state of Jammu and Kashmir (J&K), Pathan tribesmen poured into Kashmir on October 20, 1947, aided by the Pakistan Army. Incapable of withstanding the armed assault in his province, the Maharaja of Kashmir, Hari Singh, asked India for help. The Government of India made its assistance conditional upon Kashmir's accession to India. The Instrument of Accession was signed on October 26, 1947, and the next day, Indian troops were airlifted into Srinagar. Taking off from Safdarjang, then known as Wellingdon Airfield, the IAF landed Indian troops at Srinagar airfield at 09:30 hours on October 27. This was a defining moment as the air landed troops of 1 Sikh Regiment saved the city from the invaders. The continuous air bridge by the IAF (with some Dakotas from the civil airlines) made this possible for the Indian Army and its militia. The Srinagar experience was repeated at Punch and Leh subsequently. Apart from the airlift operations, the IAF supplied essential commodities to the ground troops, thereby enabling sustenance of the offensive action against the invaders.

The **1988 Maldives coup**, whose rescue efforts were code-named **Operation Cactus** by the Indian armed forces, was the attempt by a group of Maldivians led by Abdullah Luthufi and assisted by about 80 armed mercenaries of a Sri Lankan secessionist organisation, People's Liberation Organisation of Tamil

Eelam (PLOTE), to overthrow the Government of the Island Republic of Maldives. The coup was defeated after Indian forces were invited by the Maldivian government to intervene. The operation started on the night of November 3, 1988, when Ilyushin Il-76 aircraft of the Indian Air Force airlifted a battalion of the Parachute Regiment from Agra Air Force Station and flew them non-stop over 2,000 km (1,240 miles) to airland them at the Male International Airport on Hulhule Island. The Indian Army paratroopers arrived on Hulhule less than 12 hours after the appeal from President Gayoom.

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The Indian paratroopers immediately secured the airfield and restored control of the capital to President Gayoom's government within hours. In brief, the operation demonstrated the ability of air power to swiftly intervene over large distances against inferiorly equipped non-state actors and act as a potent tool of military diplomacy.

IAF IN UN PEACE-KEEPING MISSIONS

Air power has formed an integral part of most Indian UN peace-keeping and peace enforcement contingents, particularly in the African continent. Whether it was the Canberra bomber interdictors in the Democratic Republic of Congo (DRC) in the Sixties, or the various helicopter detachments in the DRC, Sudan, Somalia, and Sierra Leone, air power was a powerful instrument of coercion and compellence when it came to dealing with the plethora of non-state actors and rebels in those countries. The experience gained in those situations must be leveraged in operations against non-state actors in India itself. Apart from the limited application of offensive air power by Canberra bombers against the Katangan rebels during the Congo crisis of 1961, IAF attack helicopters have been used sporadically but effectively to provide fire support to UN forces in Sierra Leone and Congo. Indian helicopter detachments in Africa have proved time and again that

presence and visibility are two extremely important characteristics of air power that can be leveraged in non-kinetic and stability operations. Though Indian involvement in UN peace-keeping missions dates back to Korea in the 1950s and the DRC in 1961, the Cold War ensured that the UN did not get embroiled in too many civil wars in Africa as the two superpowers acted as proxies in the region. The end of the Cold War saw increased UN intervention in conflict zones, particularly in Africa. During this period, India's contribution to the maintenance of peace and security in Africa has been exemplary.

Indian peace-keeping and peace-enforcement missions under Chapters VI and VII of the UN Charter have performed admirably in the attempt to bring stability to a continent that is torn with ethnic and tribal strife. The Indian Air Force has played a stellar role in providing aerial contingents to many of these missions and proved that air power has the coercive and deterrent capability to maintain peace and infuse some semblance of law and order in diverse conflict zones ranging from Sudan and Somalia to Sierra Leone and Congo. Most of the conflicts in Africa since the end of the Cold War fall under the umbrella of 4GW, and in such a scenario, it is not unrestricted kinetic application of air power that would succeed, but a calibrated show of force coupled with restrained use of air power — something that the IAF has excelled at. In fact, at a recent US Global Peace Operations Initiative, one of the commanders of an IAF UN contingent in Sudan was invited to share his thoughts on the employment of air power in UN operations as the US was interested in sharing experiences on stability operations with the IAF.[5]

IAF Contribution

The Indian Air Force first contributed air assets in the form of six Canberra bomber interdictors in 1961 in the DRC. These bombers played a pivotal role in ensuring that ground operations against the Katangese rebels could

5. The author is grateful to Air Vice Marshal M. Bahadur for sharing his experiences of the seminar and those of his stint as contingent commander in Sudan. A major portion of this section derives strength from his paper titled "Rotary-Wing Assets in Support of Peace-keeping" that he presented at that seminar.

be undertaken with adequate air cover. After a long gap, the IAF was called into action again as part of the UN mission to Somalia in 1993-94. Since then, it has provided the following assets in UN missions

- Two Alloutte helicopters for surveillance, reconnaissance and anti-tank roles in Somalia.
- Four Mi-8 utility helicopters, four Allouttes and three Mi-35 Attack helicopters in Sierra Leone in 2000.
- Five Mi-17 multi-role helicopters and four Mi-25 attack helicopters in the DRC, initially under Chapter VI, and later under a more proactive Chapter VII from 2003-10.
- Six Mi-17s, four Mi-35s and 4 Cheetah helicopters in the DRC from 2010-11.
- Six Mi-17s in Sudan from 2005-11.

Effectiveness of Air Power

The end of the Cold War also saw a shift in the focus of UN mandated operations from intervention in inter-state conflicts to intra-state ones. They also saw a shift in focus from merely brokering peace to attempting to restore stability and governance. In this complex and multi-dimensional endeavour, air power, with its inherent advantages of reach, responsiveness, flexibility, mobility and firepower, became quite the favoured instrument in peace operations. Bosnia marked a significant milestone in UN mandated operations in that it was the beginning of an attempt to clearly define the role of air power in peace-keeping and peace-enforcement functions in terms of where and when to apply offensive air power and where to calibrate and restrict its use to non-kinetic roles like surveillance, casualty evacuation, and the like. Unfortunately, the UN Security Council failed to reach a consensus on clearly laying down the Rules of Engagement (ROEs) for Chapter VII and the issue remained in limbo for a few years, forcing countries like India to constantly ask for ROEs in order to fulfil the mandate and ensure force protection. Indian Air Force assets on UN deployment in all the missions mentioned above have broadly operated under the conditions

that fall under three broad categories. The first one primarily comprised military observer missions that would monitor ceasefires and conduct broad based observation and patrol duties. The sheer presence of aerial observation platforms provided significant deterrence and signalling to the belligerent factions that they were being monitored. The second role was in helping sustain buffer zones between warring factions and aiding the ground contingents with aerial patrols and protection during routine operations. This again was a primarily deterrent posture, with adequate coercive capabilities to ensure protection. The third broad role conformed to the UN's ambitious attempt at brokering peace, maintaining stability and restoring governance through mechanisms like elections. This was achieved through classic military and police operations that involved some use of force. Translating all these missions into roles meant that there would have to be clearly defined ROEs and roles for Chapter VII.[6] From an IAF perspective, as it gained experience in Africa, the roles also became very clearly defined and are given below.

Roles Under Chapter VI

- Logistics Supply.
- Passenger Transportation.
- Troop Insertion/Extrication.
- Casualty Evacuation.
- Intelligence Gathering.

Roles Under Chapter VII

In addition to the above roles, the following roles were added:

- Armed Role.
- Armed Escort to Utility Helicopters.
- Armed Escort to Ground and Sea-borne Convoys.
- Fire Support to Ground Troops.

6. Chapter VII of the UN Charter deals with specific Articles (39-51) that lay down guidelines for use of force in UN missions.

Importance of Joint Operations

Numerous operations have been conducted by the Indian aviation contingents on deployment with UN missions, particularly in Africa. Most of these missions have been joint operations with either Indian ground components, or with multinational forces. One such operation that demonstrated jointness and synergy of the highest order was Operation Khukri, an operation that was launched to rescue 220 UN soldiers being held hostage by rebels in Sierra Leone in June 2000. The operation is a classic case study of the effectiveness of air power in 4GW when employed in tandem with ground forces in areas of force enhancement and coercive deterrence against a non-state militia.

Operation Khukri, Sierra Leone, July 2000

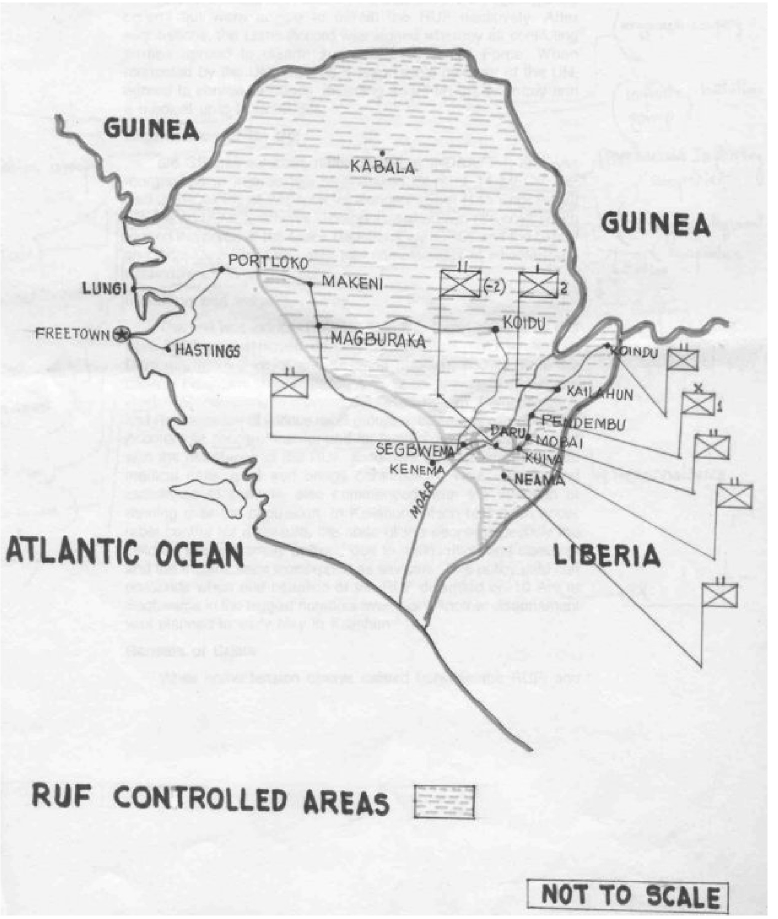
One perspective on Operation Khukri has been offered by Major Anil Raman, the Adjutant of the Indian Battalion Group of the United Nations Mission in Sierra Leone (UNAMSIL).[7] While the account is a brilliant rendition of events as they unfolded over the entire period, it does not do justice to the all enabling contributions of air power to the success of the operation. This gap was filled by interviewing IAF officers who participated in the operation and including their perspective to give a holistic analysis of the operation. Notable mention will also be made of the contribution by two Royal Air Force (RAF) Chinook helicopters in landing troops into the combat zone without any supporting fire or aerial cover due to bad weather. The entire operation revolved around a situation that saw a battalion group of 220 Indian soldiers from the UN Peace-keeping Force being held hostage in a small town called Kailahun whilst on a patrol (Fig 1). The hostage situation saw the soldiers belonging to two companies of 5/8 Gorkha Rifles Regiment being surrounded by rebels from the Revolutionary United Front (RUF) and unable to break the siege that lasted almost two months from May-July 2000. The inability of the

7. Maj Anil Raman, "Operation Khukri: Joint Excellence," *USI Journal*, from http://vayu-sena.tripod.com/other-unamsil-opkhukri.html, accessed on June 15, 2011.

While they were deployed under Chapter VI, the situation clearly demanded invoking Chapter VII and allowing the troops to use unrestricted force against the belligerents.

220 peace-keepers to break the siege was primarily because of the lack of a clear mandate and ROEs for the peace-keepers to fight their way out. While they were deployed under Chapter VI, the situation clearly demanded invoking Chapter VII and allowing the troops to use unrestricted force against the belligerents. Unfortunately, there was no consensus in the UN to lay down ROEs for Chapter VII. As a result, the Gorkhas entered the area of Kailahun with one hand tied behind their back and with clear instructions to engage the RUF in a firefight only if they were sure that there would not be any collateral damage or civilian casualties. In the absence of any clear directions, the Gorkhas found themselves encircled and under siege. In such an uncertain situation, the surrounded Gorkhas were asked to sit tight and wait till an extrication plan was worked out. The ambiguities that existed regarding ROEs between Chapters VI and VII were clearly responsible for the inability of the peace-keepers to take on the RUF in direct military action despite the fact that the RUF were using local villagers as human shields.

Fig 1: Sketch of Area of Operation Khukri[8]



The broad plan for Operation Khukri was to launch an integrated multinational operation that would facilitate the trapped force to execute a fighting breakout and link up with friendly forces outside the town of Kailahun. The RUF rebels concurrently captured some Kenyan troops and another Indian patrol at different locations, and international pressure was mounting on them to release all their hostages. Liberia, a neighbouring country and said to be sympathetic to the RUF cause, was pressurised to negotiate the release of the hostages. Consequently, the Kenyan and

8. Ibid.

Indian patrols were released, leaving the 220 Gorkha soldiers under siege and waiting for relief. The plan for extrication of the 220 personnel from Kailahun revolved around a three-pronged strategy. Firstly, a ground offensive from Daru and Kenema was planned, with lead elements from 2 Para Regiment (Special Forces). The Special Forces would be heli-landed as close to Kailahun to allow the Gorkhas to break the siege and link up with the forces advancing from south to north. Secondly, an aerial evacuation of UN Military Observers from Kailahun and, lastly, an integrated fire support plan that revolved around attack helicopters and artillery to suppress RUF cadres.

To mobilise and build up the troops for the operation from other locations in Sierra Leone, air power swung into action with three Mi-26 heavy lift helicopters, seven Mi-8 utility helicopters, two Chinook heavy lift troop carrying helicopters and one C-130 fixed-wing troop carrying aircraft facilitating an air bridge from different locations to Daru and Kenewa. This ensured that forces were built up and ready for combat employment by July 14, 2000. On July 15, two RAF Chinooks heli-landed the company of 2 Para (Special Forces) two kilometres south of Kailahun and then went on to land at a helipad that was prepared and sanitised by the Gorkha Company at 0620 hours. They airlifted the 11 MILOBS and other stores. Following them were IAF Mi-8s and Mi-35s to extricate more stores. Unfortunately, due to deteriorating weather conditions, the IAF helicopters had to return to base. This action by the UN forces activated the RUF militia who were effectively engaged by integrated firepower of the UN forces that comprised rocket attacks by Mi-35 attack helicopters, rocket launches from Armed Personnel Carriers (APCs) and 51 mm mortars. By 1030 hours, the weather had improved and IAF Mi-35 helicopters entered the fray again, providing accurate fire support and pinning down RUF cadres who were in the process of laying an ambush to cut off UN troops who were advancing on the axis Daru-Kailahun to support the paratroopers and the Gorkhas who were now well into their operation of breaking the siege around Kailahun. Simultaneously, 3 Mi-8 helicopters facilitated a heli-borne assault by quick reaction teams on a location further down the axis of Daru-Kailahun. Thus, by mid-day on

July 15, the situational picture saw the Gorkha companies breaking the siege and linking up with 2 Para outside Kailahun with two large UN forces to the south speeding up the axis and clearing any ambushes or reinforcements that the RUF may press into battle.

Operation Khukri was a classic example of synergy among all the elements of UNAMSIL that included the Indian Army contingent, the IAF contingent, Royal Air Force assets and all other elements, including Kenyan and British troops.

The task of the advancing UN force comprising the remaining battalion group of 5/8 Gorkha rifles and the Quick Reaction Teams (QRTs) was to secure Pendembu (the rebel RUF HQ) and then link up finally with the Special Forces and two companies. Attack helicopters were used extensively for strafing rocket attacks and flank protection of the advancing columns of UN troops. Once the entire force linked at Pendembu, part of the besieged force was airlifted back to Daru while the remnants of the force reorganised themselves to fight off a counter-attack by RUF forces and tackle ambushes on the way back to Daru. By 0700 hours on July 16, a helipad at Pendembu was prepared and three Mi-8s commenced de-inducting troops to Daru in four waves; the aerial evacuation of selected troops was completed by 1230 hours after which an Mi-35 helicopter effectively engaged about 50-60 RUF cadres who were advancing to contact the UN troops at Pendembu. This operation was undertaken with Forward Air Controller (FAC) support provided by the Adjutant himself and reflected the team work and synergy within the force. The move back to Daru was eventful to say the least in that the UN force had to fight off three ambushes with significant attack helicopter support. A Cheetah helicopter was also utilised to evacuate a casualty on the way. The convoy reached Daru at 1730 hours without any further casualty.

Significant Lessons

Operation Khukri was a classic example of synergy among all the elements of UNAMSIL that included the Indian Army contingent, the IAF contingent,

RAF assets and all other elements, including Kenyan and British troops. Attack helicopters identified and destroyed rebel positions, Mi-8s inserted and extricated troops from stamp-size helipads, while smaller Chetak and Cheetah helicopters were utilised for casualty evacuation and command and control posts. Some of the tactical lessons that could be derived from an air power perspective were:

- Human Intelligence (HUMINT) and Signal Intelligence (SIGINT) proved decisive in aiding attack helicopter missions.
- The IAF gained valuable operational experience in heli-landed and heli-borne operations in a hostile environment. This was probably the first such experience under fire after the 1971 War with Pakistan when similar operations were carried out in the Eastern Theatre.
- The IAF attack helicopter fleet gained valuable experience in fire support and flank protection operations.
- The psychological impact of air power was decisive and proved to be vital in ensuring that RUF reinforcements failed to concentrate at critical points during the operation. The employment of air power also reinforced the faith of the local population in the ability of UNAMSIL to restore normalcy in the region.
- Lastly, the complex operation was conducted with no collateral damage.

AIR POWER IN ANTI-TERRORIST OPERATIONS

Since the Entebbe operation in which Israeli commandos were stealthily airlifted into Entebbe airfield, to the recent low scale slithering operations conducted by the Indian National Security Guards (NSG) during the Mumbai terror attacks and the Israeli strikes against the Hamas leadership in Gaza, air power has been employed against terrorists in all possible roles, with mixed results. The impediments in employing offensive air power in anti-terrorist operations are many and a clear understanding of these is important for various tiers of the state machinery that include the bureaucracy, police, paramilitary forces and a wide cross-section of the military itself. Use of offensive air power against terrorists in sparsely populated or

underdeveloped terrain outside home territory is a viable proposition with the US-led coalition forces employing Unmanned Combat Attack Vehicles (UCAVs), attack helicopters and fixed-wing fighter aircraft in Afghanistan against the Taliban or against Al Qaeda in countries like Iraq and Yemen. Use of offensive or kinetic air power in urban terrain is a completely different exercise that is dictated purely by political constraints and compulsions coupled with humanitarian issues that relate to collateral damage. The Israelis in Lebanon and Gaza, the US-led coalition in Iraq and the Sri Lankan Air Force against the Liberation Tigers of Tamil Eelam (LTTE) have used offensive air power with varying degrees of success in urban terrain, but faced severe strictures from the international community for excessive collateral damage and loss to civilian life. However, use of offensive air power does have a significant deterrence value and coercive effect on the terrorist leadership, and nations have to take a tough call on this based on national security imperatives.[9]

Employment of air power during the 26/11 Mumbai terrorist attacks mainly comprised air mobility operations to induct NSG commandos.

For the time being, however, nation-states like India prefer to employ the non-kinetic or supporting roles of air power in anti-terrorist or even anti-insurgency operations that mainly include surveillance by UAVs, logistics and communication support by transport aircraft and helicopters and insertion of Special Forces into operations in a hostile environment. The employment of air power during the 26/11 Mumbai terrorist attacks mainly comprised air mobility operations to induct NSG commandos into the crisis zone and enable slithering operations by them to storm the Nariman House.[10]

Operations to counter the activity of non-state actors and terrorists as characterised by the North Atlantic Treaty Organisation's (NATO's) expeditionary security and stability operations in Afghanistan, and by coalition operations in Iraq, have been challenging areas for air and space power in recent times. The NATO air and space power theory and

9. B. Raman, *Terrorism Yesterday, Today & Tomorrow* (New Delhi: Lancer, 2006), pp. 3-6.
10. http://www.indianexpress.com/news/nsg-honing-urban-warfare-and-special-ops-ski/465653/ accessed on April 12, 2011.

doctrine in the main reflect that the history of air warfare is predominantly one of high intensity inter-state warfare.[11] The same holds good for most air forces the world over, India being no exception. However, conflict against non-state actors, known variously as 4GW, irregular warfare, small wars, Military Operations Other Than War (MOOTW), Low Intensity Conflict (LIC), and counter-insurgency operations have been the prevalent forms of warfare of the 21st century and could remain so for the foreseeable future given the 'Long War' on global terrorism. Western armed forces, like the Indian armed forces, normally configured to regular or conventional warfare, have often struggled to adapt to such operations. Hence, the US Army and US Marine Corps issued revised counter-insurgency doctrines in December 2006, while the United States Air Force revised its *Air Force Doctrine for Irregular Warfare*.[12] in August 2007. The Allied Joint Operations Working Group has recently agreed that the *Allied Joint Doctrine for Crisis Response Operations* (AJP-3.4) should be expanded to include counter-irregular operations. Moreover, irregular warfare operations are typically seen as land operations, with air in a supporting role only. Consequently, air may be excluded from early planning and find itself relegated to the role of air-borne surveillance or reactive air-borne artillery, and not fully exploited to achieve effects beyond the reach of land. In such circumstances, air becomes liable to the brunt of criticism for collateral damage. Typical manifestation of this criticism was seen during the aftermath of the Lebanon conflict of 2006 that saw the Israeli Defence Forces (IDF) scrambling to defend the employment of air power.

11. See, for example, Phillip S. Meilinger, "Historiography of Airpower: Theory and Discipline," *The Journal of Military History* 64, 2000, pp. 467-501, and Dennis M. Drew, "US Airpower Theory and the Insurgency Challenge: A Short Journey to Confusion," *The Journal of Military History* 62, 1998, pp. 809-32.
12. Headquarters Department of the Army and Headquarters Marine Corps Combat Development Command, Department of the Navy (Joint Publication), Field Manual 3-24 and Marine Corps Warfighting Publication 3-33.5, *Counterinsurgency* (Washington DC: Headquarters Department of the Army, December 15, 2006), http://www.fas.org/irp/doddir/army/fm3-24.pdf accessed on October 09, 2010, and Air Force Doctrine Document 2.3, *Irregular Warfare* dated August 2007, http://www.dtic.mil/doctrine/jel/service_pubs/afdd2_3.pdf accessed on October 07, 2010.

ANALYSIS OF DRONE STRIKES IN AF-PAK REGION

FM 3-24's examination of air power is confined to a brief, five-page annex that essentially conceives air power as aerial artillery.

The use of overwhelming firepower from the air to crush Saddam Hussain and drive the Taliban out of Afghanistan did lead to some chest-thumping on the part of diehard air power practitioners who had started believing that air power was the panacea for all forms of conflict across the spectrum of warfare. However, the ongoing conflict in Af-Pak and sporadic but violent conflict in Iraq has resulted in a lot of soul searching in terms of identifying the pay-offs of both kinetic and non-kinetic air power in the fight against non-state actors and, most significantly, in the battle to win the hearts and minds of the Iraqi and Afghan people. The idea that air power would play a critical role in the Iraq and Afghanistan Wars could hardly have been predicted in December 2006, when the US Army and Marine Corps issued a completely revised, but air power 'lite', Counter-Insurgency (COIN) manual commonly known as Field Manual (FM) 3-24. Complimentary reviews appeared in unlikely venues such as *The New York Times Book Review*. What seem to have captured the imagination of many who might otherwise be hostile to any military doctrine, were the manual's much-discussed "Zen-like" characteristics, particularly its popular "Paradoxes" section. This part of the manual contained such trendy (if ultimately opaque) dictums as "sometimes, the more force is used, the less effective it is" and "some of the best weapons for counter-insurgents do not shoot." These maxims helped create the perception that the new doctrine was a "kinder and gentler" form of COIN that largely eschewed the concept of "killing or capturing" enemy fighters as a means of suppressing an insurgency.

Supporting this interpretation is the fact that FM 3-24 favours deploying enormous numbers of forces — 20 per 1,000 residents — each of whom, according to the manual, must be prepared to don multiple hats.

All of this discussion left little theoretical room for the role of air power. FM 3-24's examination of air power is confined to a brief, five-page annex

that essentially conceives air power as aerial artillery. Accordingly, air power is discouraged not just because the use of force is generally disdained by the popular interpretation of the manual's theory, but also because of the mistaken idea that air-delivered munitions are somehow more inaccurate than other kinds of fires.[13]

This process of balancing the use of overwhelming force with the demands of restoring stability resulted in a significant reduction in the employment of offensive air power in Afghanistan in 2009 as part of the "Petraeus Doctrine" that called for a concerted attempt at winning the hearts and minds of the Iraqi and Afghan people. Ironically, this relieved the pressure on the hardcore Taliban militia who now started exerting pressure on the Karzai government, along with the Haqqani group from Pakistan. An analysis of drone attacks in the Swat and Federally Administered Tribal Area (FATA) regions in 2010 reveals a significant increase in offensive strikes against the terrorist leadership, indicating a shift back to the strategy of employing air power to target the leadership, thereby tacitly acknowledging the limited options available to continue to keep the Taliban under military pressure whilst continuing to engage the populace in collaborative nation building. One study shows that the 114 reported drone strikes in northwest Pakistan from 2004 to the present have killed between 830 and 1,210 individuals, of whom around 550 to 850 were described as militants in reliable press accounts — about two-thirds of the total on an average.[14] Thus, the true civilian fatality rate since 2004, according to our analysis, is approximately 32 percent. Besides Baitullah Mehsud, those killed by Predator drone missiles included Saleh al-Somali, Al Qaeda's external operations chief and the link between the militant group's central leadership and its affiliates abroad, in December, and a prominent leader of the Islamic Jihad of Uzbekistan, in September. All told, as many as 10 militant leaders fell to the drones in 2009,

13. Ibid., Appendix A, para. A-26.
14. Peter Bergen and Katherine Tiedmann, *The Year of the Drone: An Analysis of US Drone Strikes in Pakistan, 2004-2010,* New America Foundation Policy Paper, February 24, 2010, p.1.

in addition to hundreds of lower-level militants and civilians.[15] Despite the controversy of collateral damage, drone strikes are likely to remain a critical tool for the United States to disrupt Al Qaeda and Taliban operations and leadership structures, especially in a scenario that involves token withdrawal of 'boots on the ground' from 2011 onwards. In such a situation, aerospace power has to remain the most preferred tool to keep the insurgency in the Swat and FATA regions under control. What has been "game-changing" in this regard is the increased availability of various long-loiter, armed UAV platforms. In essence, the persistent revolution in Intelligence, Surveillance and Reconnaissance (ISR) has resulted in a quantum leap ahead with platforms like the MQ-1 Predator, MQ-9 Reaper, and Global Hawk that have loiter times in excess of 24 hours,[16] persistent eyes on target, micro-kill with Hellfire and 500-pound JDAM (Joint Direct Attack Munition) bombs, synthetic aperture radar, and a host of ISR sensors and communication potential that have fundamentally changed warfare across the spectrum of conflict. Current UAV assets present a whole new dimension to detecting and destroying terrorists' cells. These technological innovations have transformed the all-important intelligence-gathering function at the lower end of the spectrum of conflict where persistence is the key to building an actionable intelligence mosaic. A UAV with an endurance of 24 hours or more is almost like having your own little satellite over a terrorist cell.

OPERATION GERONIMO: THE STRIKE FROM THE AIR THAT KILLED OSAMA BIN LADEN

On May 02, 2011, Osama Bin Laden, the head of Al Qaeda, was killed in an audacious and surgical strike by US Special Forces on a compound

15. Joby Warrick and Pamela Constable, "CIA-Base Attacked in Afghanistan Supported Air-Strikes Against Al-Qaeda, Taliban," *The Washington Post*, January 1, 2010, http://www.washingtonpost.com/wpdyn/content/article/2009/12/31/AR2009123100541_pf.html; "Bomber Fooled CIA, Family, Jordanian Intelligence," Associated Press, January 6, 2010, http://www.foxnews.com/story/0,2933,582107,00.html accessed on October 12, 2010.
16. Department of the Air Force, "MQ-1 Predator Unmanned Aerial Vehicle," January 2007 (fact sheet), http://www.af.mil/factsheets/factsheet.asp?fsID=122; Department of the Air Force, "MQ-9 Reaper Unmanned Aerial Vehicle," January 2007 (fact sheet), http://www.af.mil/factsheets/factsheet.asp?fsID=6405; Department of the Air Force, "Global Hawk," October 2005 (fact sheet), http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=347. All accessed on October 20, 2010.

in Abbottabad near Islamabad, the capital of Pakistan. It is believed that Osama had been living there since 2005. One of the prime facilitators for the entire operation was aerospace power during both the preparatory phase and the execution phase.

Preparatory Phase

Building an intelligence mosaic of the compound is said to have commenced some time in early 2009, precipitated in great measure by HUMINT. Subsequently, it is very likely that full-scale modelling of the compound would have been done with high resolution imagery from a large number of ISR satellites that have virtually ensured 'persistent stare' into the Af-Pak region. There is even a possibility that US UAVs on training missions in Pakistan could have gathered imagery of the compound to complete the mosaic. Attempts to monitor communications emanating from the compound would also have been a task assigned to aerial platforms. It is believed that two options for taking out Osama were explored in detail. The first one involved precision strikes by fixed-wing aircraft like the F-117 or the B-2 stealth bomber, while the second option involved stealthy penetration of Pakistani air space by a heli-borne force that would descend on the compound to either capture or kill Osama and then extricate themselves in a similar manner. Both options had multiple risks. The compound was a large one, measuring almost 100m X 50m. Contrary to popular belief, even precision strikes would have required a huge quantity of ordnance to be placed on the target area to ensure total destruction. Apart from running the risk of collateral damage, even though the compound was some distance away from the rest of the community, instant assessment of target destruction was difficult and the possibility of Osama Bin Laden surviving the strike loomed large in President Obama's mind. The Special Heli-borne Operation or SHBO, as it is commonly known in India, had its own set of risks. While identifying gaps and penetrating Pakistani air space was never going to be a problem considering the overwhelming electronic superiority enjoyed by the US, the possibility of engaging in a prolonged fire-fight with either the terrorists in the compound, or with Pakistani troops, was

a possibility that had to be factored into the final decision. Interception of the helicopters by Pakistan Air Force (PAF) fighters or engagement by surface-to-air guided weapons while exiting Pakistani air space was also a risk that needed to be considered. Adding to this was the fact that any US casualties in the operation would result in widespread criticism of the Obama Administration, considering that two heli-borne rescue operations attempted by the US in the recent past had failed. Memories of Operation Eagle Claw, the ill-fated hostage rescue attempt in Iran (1980) and the failed Special Forces operation called Task Force Ranger in Somalia (1993) must have weighed heavily on President Obama's mind when it came to decision-making. A brief overview of one of these operations before describing the execution phase of Operation Geronimo would enable the reader to comprehend the enormity of the task at hand when the Obama Administration sat down, some time in mid-2010, to decide which option to go ahead with. One also wonders whether the ill-fated heli-borne operation at Jaffna University by a combined task force of the Indian Peace-Keeping Force (IPKF) against the LTTE leadership was studied.

OPERATION EAGLE CLAW

Preliminary Planning

In April 1980, the US launched an ambitious multi-Service operation to rescue 53 American diplomatic personnel being held hostage in the US Embassy in Tehran by militia of the Iranian Revolutionary Guard.[17] Responding to the crisis, President Jimmy Carter decided on exercising a military option to rescue the hostages after failing to make any headway in diplomatic negotiations with an intransigent Iranian regime led by Ayatollah Khomeini. In the absence of any Special Operations Command, Secretary of Defence Harold Brown and Chairman of the Joint Chiefs of Staff Gen David Jones had no option but to set up a multi-Service task force to plan

17. Charles Tustin Kamps, "Operation Eagle Claw: The Iran Hostage Rescue Mission," from http://www.airpower.au.af.mil/apjinternational/apj-s/2006/3tri06/kampseng.html accessed on June 26, 2011. Also see, Russel Edward, "Crisis in Iran: Operation Eagle Claw," in A. Timothy, ed., *Short of War, Major USAF Contingency Operations 1947-1997* (Washington DC: Air Force History and Museums Programme, 2000).

The first mistake was to expect planners with diverse Service loyalties to bond together overnight and create a flawless plan.

the operation.[18] A US Army Major General was appointed the Joint Task Force Commander, with a US Army Colonel who founded the crack Delta Force as Ground Assault Commander, with the Delta Force as the assault force. The air component of the force appeared to be the most fragmented with a US Air Force Colonel commanding the fixed-wing contingent and an experienced US Marine Corps Colonel with extensive night vision expertise heading the rotary-wing or helicopter force.[19] *In hindsight, the first mistake was to expect planners with diverse Service loyalties to bond together overnight and create a flawless plan, and lay down training schedules that would ensure synergy and interoperability of a high order.*

Training

Considering that the plan involved penetration of Iranian air space by three USAF MC-130 aircraft carrying US Army Delta Force commandos accompanied by three EC-130 command and control platforms with fuel bladders to refuel other platforms, complemented by six US Navy RH-53D to airlift the hostages from a pre-determined rendezvous, joint training, rehearsals and picking holes in the plan was imperative for mission success. Unfortunately, neither took place, *resulting in a fragmented and poorly rehearsed plan that was not critically examined by an independent body.* This was the second mistake that contributed to the ultimate failure of the operation.

The Detailed Plan: Eagle Claw

The plan seemed simple enough. The fixed-wing force would get airborne from Masirah (Oman) and penetrate Iranian air space at low levels, evading the poor Iranian radar cover to land at a remote Iranian desert location (Desert One) that had been pre-determined by the Central Intelligence Agency (CIA), hundreds of kilometres from Tehran. After off-loading

18. Ibid.
19. Ibid.

The third critical mistake was that the plan was too complicated and ambitious.

the Delta Force, the MC-130s would exit Iranian air space and head back to Masirah. The EC-130s would remain at Desert One to refuel the US Navy helicopters that would follow, getting air-borne from the USS *Nimitz*, an aircraft carrier positioned in the Indian Ocean and within range of Desert One. After penetrating Iranian air space, the helicopters would land at Desert One, refuel and heli-lift the Delta Force commandos to a site 50 km from Tehran. From here, the Delta Force would link up with Iranian agents, travel to Tehran, carry out an assault at the US Embassy and the Foreign Ministry office, rescue as many hostages as possible and position them at a soccer stadium close by for evacuation by the helicopter force to Mazariyah. Mazariyah was an Iranian airfield that would be seized and held by a Ranger Task Force that was supposed to have been brought in by the same MC-130 crew that dropped the Delta Force at Desert One and returned to Mazariyah. The operation was planned the same night, with hardly any rest factored in for the crew. At Mazariyah, the hostages would be transferred into a waiting C-141 heavy lift transporter and flown out under cover of orbiting AC-130 gunships, with carrier-based fighter aircraft waiting to suppress any Iranian fighter activity, should they be alerted. The third critical mistake was that *the plan was too complicated and ambitious.*

What Happened

Without going into too much detail, the plan failed miserably. While the fixed-wing force reached Desert One without any mishap, the helicopter force was depleted below acceptable levels by the time it reached Desert One due to multiple reasons that ranged from technical defects and an inability to penetrate adverse weather over the desert in dark night conditions. Added to that was an avoidable collision with a parked C-130 aircraft at Desert One that led to a massive fire and a final abort decision from Washington. In haste, the remaining helicopters were partially blown up and the entire force was evacuated from a blazing Desert One strip by the remaining C-130s.

Why it Happened

Apart from the three macro reasons that have been highlighted earlier in the article, some of the other reasons for the failure of the mission were:

- The Marine pilots chosen had no experience of night vision goggle flying over the desert, particularly in bad weather conditions. They had not been briefed on the possibility of encountering typical Iranian desert sandstorms called *haboob*.
- As alluded to earlier, there was no integrated full dress rehearsal, along with likely contingencies being simulated.
- Intelligence was fragmented and an inability to put together a mosaic of the operation reflected that. The US grossly overestimated their own capabilities and underestimated the repercussions of a plan that had too many variables and loopholes.

While the failure of the operation evoked an immediate response from the US Congress that set up the Holloway Commission to carry out a Special Operations Review, it only resulted in something seven years later. In 1987, the Cohen-Nunn Amendment to the National Defence Authorisation Act allowed the setting up of a joint US Special Operations Command with dedicated funding, a move that would have far-reaching consequences on America's war against the Al Qaeda, 24 years later. It is also believed that the Holloway Commission paved the way for the milestone Goldwater-Nichols Act of 1986 that reorganised the Department of Defence and infused greater inter-Service integration and synergy between the Services and the Department of Defence.

The lessons learnt from Operation Eagle Claw were not repeated in Operation Geronimo; something that becomes quite evident as one goes through the execution phase of Operation Geronimo in the following paras.

EXECUTION: OPERATION GERONIMO

After much brainstorming and what must have been a hectic period of modelling, scenario building, simulation and war gaming, the heli-borne operation with US Navy SEALS as the assault force was finalised as Option 1

for Operation Geronimo. It is highly probable, though not yet revealed by the US, that a precision strike by B-2/F-117 aircraft would be the standby option. On the night of May 01, 2011, two near-stealth or low observable MH-60 Blackhawk helicopters accompanied by two CH-47 Chinook helicopters (some sources indicate that it was four Blackhawks) got air-borne from Jalalabad in Afghanistan. Exploiting gaps in the Pakistani radar cover and blind spots, the aircraft flew undetected into Pakistani air space, using established techniques of 'nap of the earth' flying, to arrive at the Abbottabad compound in the wee hours of the morning of May 02, 2011. In a swift operation that lasted approximately 40 minutes, the SEAL team stormed the compound, killed Osama Bin Laden and four others, captured an unspecified number of terrorists and exited the battle zone before any Pakistani troops from the nearby cantonment arrived on the scene. During the operation, the SEAL team destroyed a Blackhawk helicopter in the vicinity of the compound after it developed a technical defect and flew back in the remaining three helicopters. In the days that followed the operations, military analysts the world over had much praise for the operation and the decisiveness with which it was executed. Before analysing the operation in detail, it would be interesting to highlight the kind of air resources that were committed to this operation in a supporting role, clearly indicating the importance of air power in this genre of warfare. It is believed that while the operation was on, a package of 6-7 aircraft was on station in the FATA region. These included EC-130E/H electronic warfare, MC-130 command and control aircraft, AC-130 gunship AC, E-3 AWACS (Air-borne Warning and Control System) and two F-15Cs on patrol. Additionally, it was reported that the US Navy had deployed an unprecedented three aircraft carriers to support the operation. While the USS *Carl Vinson* and USS *Enterprise* were deployed

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in the Arabian Sea, the USS *Ronald Reagan* was in the Indian Ocean.[20] Their mandate was probably to step into the fray should the situation escalate in the eventuality of a full-fledged engagement between the intruding force and the PAF. Six Chinook helicopters in the CSAR (Combat Search and Rescue) role were also on standby at Jalalabad.

Operational Analysis

An operational analysis from an air power perspective reveals that many of the lessons learnt draw strength from the characteristics and competencies of air power, some recent and some enduring. The first major lesson learnt is that ***persistence*** was the key to success. While strategic persistence transcended political affiliations and involved a single minded focus to get Osama, operational persistence to build up situational awareness relied heavily on space-based sensors and HUMINT to draw up a mosaic that inspired confidence and facilitated modelling, simulation and training. ***Over the years, the capability of US air power has often dictated the risk taking appetite of the US strategic community,*** sometimes with success, interspersed with a few failures along the way. The decision to bomb Hiroshima and Nagasaki proved to be a decisive but risky strategic decision that paid dividends in terms of accelerating the end of World War II. The decision to sustain Berlin from the air could be taken because of US strengths in air mobility operations. Though a risky proposition, it allowed the US to assume leadership of the Western world in the global struggle against the spread of Communism. Operation Allied Force over Kosovo, and Operations Desert Storm, Enduring Freedom and Iraqi Freedom have all been risky strategic decisions of committing US forces in expeditionary operations aimed at protecting US global interests. Ironically, all these decisions rode piggyback on US air power capabilities. Without taking anything away from the forty minutes of Operation Geronimo that was superbly executed by the Navy SEAL team, it was the overwhelming all-round ability of US air power that allowed the operation to ingress and

20. Gulshan Luthra, "US Deployed Three Aircraft Carriers in Support of Operation Geronimo," http//:www.inewsone.com/2011/05/11/us-deployed-three-aircraft-carriers-to-support-op-geronimo accessed on May 15, 2011.

exit the combat zone with no interference either by Pakistani air power or surface forces. In short, President Obama's ***risk appetite and confidence in mission accomplishment increased considerably*** when he realised the competencies and capabilities of US combat air power in the context of this particular operation, both kinetic and non-kinetic. The next critical enabler during Operation Geronimo was the '*overkill*' factor in terms of having adequate back-up assets. President Obama is said to have factored in Murphy's Law[21] into his contingency planning. If one looks at the kind of assets that were both air-borne and on standby, they were all air power intensive. In recent times, there has been a great deal of debate on the relevance of centralised control over air power in 4GW given the unpredictability of the environment. While this can be true in the case of localised and even tactical engagements where a local commander may need independent air assets on call, the principle of centralised control over critical air operations was vindicated during Operation Geronimo wherein operational control rested at the highest level, in keeping with the strategic nature of the operation. Another lesson that was vindicated was the blurring of lines between tactical and strategic operations and the ability of air power to create strategic effects through a tactical operation using non-kinetic platforms with characteristics of stealth, surprise and vertical envelopment. Some of the other general lessons that were learnt during the planning and execution phase had universal applicability and merit appreciation. Setting clear-cut and mission-oriented goals, training with realism, secrecy and willingness to take responsibility for possible failure are all markers for the attention of strategic planners. In the final analysis, Operation Geronimo was a bold military operation that drew a lot from history and past mistakes. It reiterated the necessity for bold action against terrorism and showcased the tremendous potential of air power to create strategic effects in the global war against terror.

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21. Murphy's law simply states that "If something has to go wrong, it will — no matter what you do."