ATTACK HELICOPTERS: WHERE DO WE USE THEM? WHO SHOULD USE THEM AND FOR WHAT?

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INTRODUCTION

One major acquisition planned for the armed forces is the Attack Helicopter (AH), which some reports say would become an integral part of the strike corps of the Indian Army under the direct control of the corps commanders. This needs a review because the AH has not proved to be the panacea for victory, or, as projected from time to time, a game changer and force multiplier. All ground force commanders always want dedicated airborne firepower under command and only for their troops, to give critical support for either the 'breakout' or to thwart enemy attacks. The corps / division commanders who have integral armour, artillery, combat engineers, signals and services, now also want airborne offensive capability. These mobile formation commanders with numerous Infantry Combat Vehicles / Armoured Fighting Vehicles / Self-Propelled Artillery (ICVs/AFVs/ SPA) want equally fluid airborne fire support under command for their plans to succeed, and the only source for that airborne firepower is the AH. However, there is an inbuilt lacuna which militates against a cardinal Principle of War, that of Flexibility, because of the AH being restricted within

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a small space of just 100 km by 120 km. Much has been written and much withheld, about the feasibility and practicability of implementing the plans of these strike formations as revealed during Operation Parakram.

HOW WAS THIS CONCEPT ACTUALLY GOING TO WORK?

A Recapitulation of that Era

The creation of these large fighting formations was alien to Indian thinking till the late 1970s, simply because the doctrine of India was not to invade another nation to acquire territory; it was always a defensive policy wherein *attack* was an integral element. In the aftermath of our victory in Bangladesh, military thinking had to change and new ideas had to emerge if the Indian military machine was to remain a reckonable force. By the mid-1980s, the Indian Air Force (IAF) had got the Mirage, AN-32, IL-76 and MiG-29 aircraft. The insurgency in Punjab was hurting us and troubles in Jammu and Kashmir (J&K) were just beginning. On this scene came the ideas of extremely mobile, very potent and flexible mechanised ground forces which would radically change the concept of war in the Indian subcontinent. Though the concept's success was disputable, it was progressed vigorously. Enormous exercises were conducted to test the theories and philosophies; and their declared conclusions are being questioned even today. Readers should know that such a corps in those heady days would number close to 100,000 men with about 220 AFVs supported by some 100 ICVs. The command and control structure for such a potent formation constantly on the move comprised very complex and expensive infrastructure. The inherent weakness in the concept, as accepted by many knowledgeable army strategists was the staggering number of personnel and vehicles

that had to be kept track of, manoeuvred, replenished, rearmed, and fed, which made the chances of success highly refutable. A pertinent question then is: how did this idea enter the minds of our strategists and visionaries?

Strike formations with terrific mobility became the bedrock of the fighting concepts in India's western theatre. Many actually believed that such bold plans would succeed and they conducted major exercises with very telling lessons not widely publicised because many concepts did not get validated.

Doctrines from Overseas Institutes

During the late 1970s and the 1980s, the Indian armed forces' strategists got exposed to American and North Atlantic Treaty Organisation (NATO) doctrines of warfare. In Europe, NATO's strategy was to thwart the 'Russian Steamroller' since they had psyched themselves into believing that the Soviets would invade Western Europe. Recall that NATO's plan was always to blunt the offensive from the east, never to capture territory and liberate the countries of Eastern Europe. The AH was a part of those forces, but could never be tested in Europe under battle conditions. However, this doctrine appealed to our army strategists of that era. Strike formations with terrific mobility became the bedrock of the fighting concepts in India's western theatre. Many actually believed that such bold plans would succeed and they conducted major exercises with very telling lessons not widely publicised because many concepts did not get validated. Regrettably, the Indian facsimile of NATO was created not for foiling an enemy offensive but for just the opposite: to surgically and swiftly slice through enemy defences with overwhelming firepower from the AH in close support, to capture, and then hold, that enemy ground. The AH became indispensable for this aim, which, as will become abundantly clear, was in violation of the very First Principle of War, Selection and Maintenance of Aim. The flaw was in the selection not in the maintenance. But the pertinent question that must arise is, how much ground was expected to be taken, and having captured enemy ground, then what? So let's see where and

how the AH can be successfully used for the military campaigns of the Indian armed forces.

WHERE HAS THE ATTACK HELICOPTER BEEN DECISIVE?

Look at Europe and NATO?

In Europe, how would NATO mechanised formations, outmanoeuvring each other, reorganising to counter enemy thrusts, keep their helicopters with them? How would the AFVs / ICVs recognise ***our AHs from theirs***? More pertinent, how will our AH pilots distinguish *friend from foe*? What happens with regrouping, reversals and retreats? What is the impact on the morale of own forces when our AHs are destroyed among manoeuvring AFVs and ICVs? Not for a moment should one equate the destruction of a tank, ICVs or truck with the felling of an airborne helicopter that crashes down in flames from the skies, to be seen by combatants on both sides. The downing of a flying machine by ordinary soldiers, visible to hundreds, evinces unmitigated jubilation or utter remorse depending on which side you are on. The fog of war gets even more blurred with AHs manoeuvring, throwing up dust and sand, their howling engines adding to the noise and chaos. All this cannot be wished away, though many have ignored it. Recall that with contemporary technology during Desert Storm, the utility of the AH was never the acclaimed by any Western Army. At one end of the technology spectrum, there was the Joint Survellance and Target Attack Radar System (JSTARS) and Airborne Warning and Control System (AWACS), and, at the other end, allied aircraft attacked their own ground forces. The density of AFVs/ICVs during Desert Storm was thinner than what was envisioned in Europe: fixed-wing ground attack aircraft flew in close support of land forces, AHs were sticking close to their mechanised formations, logistic and casualty evacuation helicopters were flying in and out of the battle zone, and AWACS controlled all the flying machines. The control structure was mind boggling and only the USA managed it with difficulty; we will come later to our command and control accoutrements. Even today, 25 years after Desert Storm, India does not have a secure

electronic communication-command-control environment to manage so complex a fighting formation. Readers must go back in time to the late 1980s and early 1990s when India was creating and honing the strike formations and NATO actually used them in Iraq. By the time Desert Storm ended, it was abundantly evident that the AH was of little value and extremely vulnerable to small arms. Sadly, as we now know, this fact seems to have been quietly ignored in India by both military and civilian strategists

In Afghanistan and the Middle East

The Afghan terrain saw the Soviets and Americans try out their AHs with bad results against a poorly endowed enemy with a weak doctrine and training. Our adversary is well trained and fights courageously. These truths need reiteration because had we in India brainstormed and war-gamed the utility, attrition and success of the AH in the Indian scenario, the conclusions would have ruled out, and turned down, the AH for close dedicated support to land formations in any environment. The Israelis found nothing great about the AH during their Lebanese and Gaza skirmishes and use only fixed-wing aircraft outside their air space. Witness the recent Israel–Hamas conflict in 2014 for air attacks in Gaza: invariably a fixed-wing aircraft, never helicopters. Observe the use of only fixed-wing aircraft against the Islamic State forces in North Iraq and Syria, not AHs. **Surely, there is a lesson for India**. In their Afghan misadventure, Soviet AHs were destroyed even by wire-guided anti-tank missiles which did not attract the serious attention it deserved in India. Recall the humiliation meted out to the crew of the American helicopter destroyed in Mogadishu. Can we ignore the over 5,000 helicopters lost in Vietnam, and against what type of weapons and enemy? That is how vulnerable the AH is. It is slow moving, easy to destroy during hover, and the greatest aerodynamic capability of the helicopter is hovering, a disadvantage in close quarter battles. To make intellectual inquiries about the advantages of the AH is wishing away the truth staring us in the face, but let's look at India's geography before rejecting the AH for close support under the direct control of the ground force commander.

INDIA'S BORDERS ARE ALSO IN THE MOUNTAINS

In Ladakh and Arunachal

It is here that the AH will face its severest test and will fail. Trials are repeated, reappraised, judged, and reevaluated to squeeze some positive outcome, but to no avail. Readers will be amazed to know that the very first proposal for the AH was for the defence of Bhutan, which as we shall see, was incorrect. Recall the recent imbroglio about VVIP helicopters and the questions about their performance at high altitudes. In the very same vein, let's look at the AH with altitude as the overriding factor. Our long border in the mountains precludes the use of the AH or any helicopter in the offensive role. There are many reasons, stated later; suffice it to say, the AHs are wasteful and, indeed, futile machines in the mountains, and since India has thousands of miles of mountainous borders to defend, the AHs with the army, air force, Border Security Force? (BSF), Indo-Tibet Border Police (ITBP), Research and Analysis Wing (R&AW), Border Roads Organisation (BRO), comprise a zero force multiplier and cannot be a game changer. Regrettably, many ignore this truth, insisting that the AHs are the nostrum for victory. The air force advises against their acquisition and placing them, if acquired, under the army. The officials in the Ministry of Defence (MoD), Ministry of Finance (MoF), Ministry of Home (MoH), Ministry of Defence Production are confused by these cross-demands, resulting in retarded weapon procurements. Routine acquisitions get sidelined, and, finally, when hostilities commence, an army chief declares, *" We will fight with whatever we have"*. Do the proponents demanding AH carefully deliberate on whether it will be useful, is flight safety compromised, can the AH take care of itself, and then factor these inputs on the morale of the fighting formations who, in any case, know the truth? Frontline units, both ground-based and those who will fly the AH, are aware of the injudicious insistence by higher formations to acquire weapons that will not deliver the punch when the battle is joined. And now we have created a mountain strike corps where the demand for the AH will multiply exponentially while we are fully aware of the AH having no offensive use in the mountains. Having

read so far, it would be self-evident that the AH is incapable of doing what we think it can, but please read on to understand why.

The Heights of the Himalayas

All aero-engine power degrades with increasing altitude including the engines of the AH. Thrust output from jet engines decays by 10,000 ft, and the colour of neither the pilot's uniform, nor that of his commanding officer nor that of his general or air marshal, can change this. At 17,000 ft, where our AHs will mostly operate, the thrust decreases faster because gravity keeps more than 50 percent of atmospheric molecules below 15,000 ft. Finally at 20,000 ft, where our AHs will operate to deliver weapons, there is less than 50 percent oxygen compared to sea level, thus, 50 percent thrust. This is an inviolable verity of physics. The army and air force pilots know this truth. Helicopter pilots operating in Siachin, Arunachal, Ladakh and Uttarakhand experience this phenomenon every day and know the perils of limited thrust. And when the AH has to hover, the absence of power is even more accentuated because there is no forward velocity to alleviate reduced power output. Many fatal accidents are directly attributable to the pilot himself or his superior forcing him to ignore and disregard this aeronautical fact. It would not be out of place to remind readers about the Pakistan Air Force (PAF) Chief, Mushaf Ali Mir, killed in an air crash in February 2003 while flying near Kohat. What basic rules were ignored that caused this tragic accident of the chief of a professional air force? If, as we now know, the AHs cannot perform at desired levels let alone peak levels above 12,000 ft, where the army most needs them, why procure them? The question has remained unanswered for far too long. Many army strategists opine why they must have their own aviation arm, and accuse the air force of being obdurate, stubbornly obstructing the army from procuring AHs. The author understands the frustrations of the army, but humbly adds that this obstinacy by the Indian Air Force has saved India precious foreign exchange by rejecting a weapon that has little use in any sector where India may engage in war. Let us now enter the contemporary world and look at recent happenings as further proof of the inutility of the AHs. What

AHs are useless in the mountains because high altitude severely drains the power of aero-engines with greater deleterious impact in the hover; is it not ironic that this unparalleled capability of the AH, the hover, is hit worst in the mountains?

actions could our AHs have taken during the many face-offs we have been having with the Chinese in both Ladakh and Arunachal? Would the AHs have fired weapons? Could they have fired weapons? Would the Chinese have reacted violently against our AHs? If that possibility existed, how would the AHs have reacted? Can one use AHs against infantry which is what the Chinese use for transgressing the borders? Answers to such pertinent questions will precipitate into one conclusion: the AHs would just fly around and remain out of the range of Chinese small arms. The helicopters we have can already do that, why do we need AHs? Later in this story we will see the actual deployment of the Mi-35 during the battle of Kargil. We have now established beyond doubt that AHs are useless in the mountains because high altitude severely drains the power of aero-engines with greater deleterious impact in the hover; is it not ironic that this unparalleled capability of the AH, the hover, is hit worst in the mountains? Extraneous factors cannot be conjured from staff papers to overcome the severe limitations of altitude on the performance of the AH. Now onto the plains of India.

GAZA, GOLAN, PUNJAB, RAJASTHAN

Gaza and Golan Heights and Our Plains

It is true that the Israeli Air Force deploys AHs working in conjunction with Unarmed Aerial Vehicles (UAVs) and Remotely Piloted Vehicles (RPVs) to attack specific targets like VIP cars, buildings, and hideouts in Gaza, Lebanon, Golan. There is no opposition to these AHs which remain within Israel, firing their lethal weapons with precision guidance. It is pertinent that the Israelis do not use their AHs in close support of armoured formations sweeping across the Negev, assaulting Golan, razing Gaza or Lebanon. They know it would attract heavy attrition to even small arms.

What about the Indian AHs in Punjab and Rajasthan? Our adversary is better equipped and trained than Israel's adversaries. Our gigantic strike formations were expected to slice through enemy defence with the AHs in tow and then actually hold ground. Could they actually do that? Observe the swiftness with which the air attacks by the USA in north Iraq are beamed into our living rooms. Will India be permitted to do such a thing? Will the nuclear equation between Pakistan and India permit this? India's stated policy has never been to capture another nation's lands, but strike corps plans are just the opposite, and to add to this contradiction, defence training institutes know that such plans are intrinsically flawed. Readers must note that these **offensive plans depend on the success of the AHs and cannot be progressed without full sustained support from the AHs.** Observe Voltaire's warning, "*It is not inequality which is the real misfortune, it is dependence.*" But as we have just seen, the AHs cannot be utilised as envisaged and will suffer unsustainable attrition. Then, the AHs will have to withdraw, and in that circumstance, the land battle will not succeed. Yet persevering with acquisition of AHs is nothing more than a classic case of '*situating the appreciation*', or as happens often, writing the conclusion before penning the heading and aim of a staff paper.

The AH has failed twice in Iraq, continues to fail in Afghanistan and the Frontier region of Pakistan; helicopter casualties in Vietnam were horrendous as were Soviet helicopter losses in Afghanistan. The plains of Punjab and the deserts of Rajasthan will become the killing ground for the Indian AHs.

Into the Killing Ground?

If today the land forces cannot pursue their grandiose plans of going kilometres deep into enemy territory, then the demand for AHs ceases to exist. Because even in the classic defensive battle, the very same limitations that prevented the deployment of AHs during attack, will apply. The terrain is the same, the forces are the same, the enemy is the same, the AH will still fly low and have to hover, and its vulnerability remains the

same. Why then are we persisting with a doctrine not designed for India and discarded by so many other nations? The AH has failed twice in Iraq, continues to fail in Afghanistan and the Frontier region of Pakistan; helicopter casualties in Vietnam were horrendous as were Soviet helicopter losses in Afghanistan. The plains of Punjab and the deserts of Rajasthan will become the killing ground for the Indian AHs which will be floating around within small geographical boundaries under the direct command of the division/corps commanders. This limiting of AHs within a space of just some cubic kilometres violates any number of Principles of War. And what happens when the killing starts, and they have to withdraw, just as we did with the MI-17 in Kargil? Will the corps commander fight without them? Are we buying extremely expensive flying machines, knowing their limited utility in the plains, zero capability in the mountains and high vulnerability everywhere? What or who is forcing this decision upon military strategists and visionaries? In all fairness to India, this has to stop. We know that tanks have to close up to 500 m before they can identify and engage enemy armour, and the AHs will be right there, often hovering, making themselves extremely vulnerable to Surface-to-Air Missiles (SAMs), Medium Machine Guns (MMGs), Rocket Propelled Grenades (RPGs), and small arms. We are putting our own AHs into a killing envelope without ascertaining the payoff in assured success of the land battle. Does this not appear to be replication of the Gallipoli, Charge of the Light Brigade, Dieppe landings, allied air drop on Crete, amphibious assault at Cox's Bazaar, Thagla Ridge, and so many similar operations where the chances of success were known to be poor, without strategic gain, and the planners persisted on the wrong path. It is time to learn our lessons, is it not? Having made a strategic error 20 years ago, we can, and must, backtrack to remedy that error.

LEADERSHIP, VISION, BASIC SAFETY AND UNDER COMMAND

Whither Leadership and Vision?

To quote Napoleon, **"In War it is the Man who counts, not the Men"**. Taking care of one's turf, boosting promotion opportunities, adding flavour

to units and formations, is indeed the job of senior military commanders, and necessary for morale and extolling military capabilities. But at what cost? If indeed the AH has negligible value, how will its acquisition be justified to future generations? Here is a true story that emerged from the Kargil battle. An AH was demanded by the army to attack some *intruders who had captured certain peaks in the Kargil sector* [as told to the Air Officer Commanding (AOC) J&K in Udhampur]. The Mi-35, heavy with its armour plating, does not have the engine power to cross Zoji La and the AOC explained that the Mi-35 could not get to Kargil to attack the intruders. A truck, Jonga or Gypsy, with reduced power at altitudes is manageable at lower speeds; the vehicle does not fall off the road. This equation was translated to the AH. The design of any AH, including the Mi-35, with heavy armour plating, makes it incapable of crossing Zoji La, whether piloted by an air force or army or navy or even civilian pilot. Unfortunately, these truths were misrepresented in the media with undesirable falsehoods about what actually could or could not be been done by the Mi-35.

So did the AH Finally Cross Zoji La?

Even today, after 15 years, this misleading fabrication remains an irritant between the army and IAF though the truth is well known. And, which is why the army is strongly bidding for the AHs to be placed under them so that their very own AHs will be flown by their own pilots in support of their own troops. The nagging question remains: how will the army's AH with army pilots and its armour plating, cross Zoji La, Rohtang, Khardung La, Baralacha La and other high passes to get to the battle zones of Ladakh? It cannot, and, thus, the inclusion of AH in the Order of Battle (ORBAT) of mountain corps/divisions for providing close support must be discarded. How will they make the helicopter lighter so that the engine can take the machine across a 15,000 ft pass with adequate safety margins—will they remove the heavy armour plating? Yes, indeed, that is exactly what the IAF did, removed the armour plating of the Mi-35 and it crossed Zoji La, but with little armament. Thus, it begs the question: is the AH of the army to do battle in the mountains defenceless, without armour plating, and with

limited armament? Putting the AH under the Indian Army cannot make it a better fighting machine than the AH which is with the IAF. Helicopters remain useless offensive firepower platforms in the mountains; it makes no difference to the AH whether the senior commander is a general an air marshal, inspector general of the Border Security Force (BSF) or an admiral for that matter.

Under Command Syndrome

The persistent desire of army commanders to have everything "under command" is a flawed concept when talking about the AH, or any airborne weapon system. Many senior army commanders have even expressed opinions that fixed-wing ground attack aircraft dedicated for Close Air Support (CAS) should justifiably be placed "under command" of the land forces commander for whose troops the CAS is being provided. Restricting the AH within a cube which is determined by the geographical limits of the land forces commander's territory is bad enough. But to put fixed-wing CAS aircraft within that cube is patently unprofessional. How can anyone want to restrict an airborne weapon system in a space far smaller that its radius of action? Would it be acceptable to limit T-90 tanks to just 40 percent of their range? Would it be acceptable to limit artillery to just 50 percent of their range? And all because the commanders' area of responsibility is smaller than the range of the tanks and guns? If such limits are unacceptable for ground-based weapons, they cannot be acceptable for airborne weapons, given their natural flexibility and manoeuvrability.

Army Aviation

Most certainly, the army must have airborne artillery observation posts to direct accurate gunfire, the senior officers need their own helicopters to swiftly move within their area of responsibility. However in creating army aviation, a lot of duplication and parallel assets with separate logistic channels have been created. All three Services use the Cheetah/Chetak, and the navy and IAF use Dorniers, yet each has to maintain its own pool of spares and rotables, with each Service supplied by the very same Hindustan

Aeronautical Limited (HAL). All army aviation helicopters have been moved out from air force bases and duplicate heliports with hangars and servicing facilities have had to be erected, at a cost of crores of rupees. But that is a different tale and we digress from the AH.

Infrastructure for AHs

Procuring AHs from a foreign supplier, overseas negotiating visits and training are really the easiest part of integrating AHs into the land forces command and control network. There is much more that has to be created, tested, modified, and, finally, checked under the severest of conditions. The author cannot quote from a better source than "Doctrinal Integration of Attack Helicopter Operations' by Col Deshpande, published in the *USI Journal* of April – June 2014, and a winner of the Chief of the Air Staff (COAS) Gold Medal. The article has its roots in the strike corps concept with the AH, and it also talks about the new mountain strike corps. The vulnerability of the AH is absent in that article which is irrelevant as that fact stands proven. But the article does talk of "a family of helicopters" which will be part and parcel of Composite Aviation Brigades (CAB). The CAB will include the Light Utility Helicopter (LUH), Tactical Battle Support Helicopter (TBSH), Light Combat Helicopter (LCH) and, of course, the AH, with all these airborne assets being *"orbatted"* to what is called a pivot corps. Observe the vast array of rotary-wing machines to be integrated into the CAB, which pre-supposes the continued existence and deployment of strike corps whose tasks and roles have been revised in the new subcontinental scenario. The article further adds that each corps will have one CAB which precipitates into at least three to four CABs in India. Imagine the cost and quantity of assets to create these CABs. And for what? To strike deep and hold enemy territory, which is contrary to declared policy, and highly debatable in the existing nuclear equation. Witness the hullabaloo because the Pakistan high commissioner talked to the Hurriyat. Imagine the international reaction, when Indian armed forces declare their capacity to overwhelm and capture enemy territory with two strike corps supported by their CABs? The USI article also talks about the need for multiple communication networks

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with data links and redundancy within the army and between the army and air force to control all the flying machines that comprise huge investments with enormous recurring costs. The AH keeps getting referred to as a force multiplier which sadly it is not. Because to be a force multiplier, the AH will have to be constantly available, without unacceptable attrition and we are fully aware that high attrition is on the cards given the long history of AH and other helicopter losses during and since the Vietnam War. It is specifically pertinent to add that the latest communication networks of the army and air force are not integrated with each other as a policy. The article also deals with integration of UAVs and RPVs being used along with all the other rotary-wing machines of the CAB. Which brings us to the issue of AH or UAV. To decide what to add into India's arsenal of weapons needs knowledge and wisdom too: for example, *knowledge is knowing that the tomato is a fruit, wisdom is knowing not to add it to the fruit salad.*

SHOULD WE GET MORE ARMED HELICOPTERS ?

In the struggle to acquire AHs, the one aspect given the go-by has been the utility of the UAV and RPV, both used extensively and rather successfully by the USA. Weigh, if you will, the cost, the inventories, the manpower, the technologies, and the support systems necessary for maintaining the AHs and other rotary-wing machines to support those strike corps. The numbers are staggering and in all probability, such funds will not be released in the near future, given India's economic health and the direction in which the nation must move. Defence is critical, but we cannot overstretch ourselves for an offensive concept that

has lost its relevance. The author wants to place before readers some similar unexecutable plans like getting the AH and CAB and, finally, an independent air arm, wearing olive green only. He was closely involved in them. Recall the hierarchy and think-tanks of that era that produced the concept of huge sweeping mobile forces. Recollect the exercises, on both land and sea, for revalidating staff papers and sand model war-games. It was during this time that a plan of dropping paratroopers across Siachin was mooted. Yes, the mood then was such, and many young readers today may not fully appreciate the gung-ho temper of that era. How such a para-drop would be executed was never war-gamed. How the troops would get oxygen at 25,000 ft, the drop height, for more than 10 minutes under depressurised conditions, was unanswered. How many soldiers would be fit to fight after falling on steep mountain slopes was not factored in. Mercifully, we did not attempt the drop. Another plan was to recapture Trincomalle airport with a para-drop if the Liberation Tigers of Tamil Eelan (LTTE) had taken it. Trinco airport has a lagoon on three sides, a tall rice mill building next to the runway, high derricks, and obstructions in and around the runway. More than 80 percent of the troops would have gone into the water. Once again, abandoned, because the LTTE never wanted to take Trinco airport anyway. But such was the mood when the strike corps was being tested, honed, and the General Services Qualitative Requirement (GSQR) for AH was being generated. The very same group of 'visionaries' insisted in putting two squadrons of T-72s into Leh to fight in the badlands near Pangong Tso ahead of Darbuk. No 44 Squadron inducted 30 AFVs into Leh from Agra over 15 consecutive days without a break, so that before a particular

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individual retired, the T-72s would be in location. Sadly, those tanks were of no value at Pangong and were flown back two years later. It is inconceivable that these planners did not visualise the uselessness of the T-72 in Leh and beyond Darbuk. That vision now needs to blossom into pragmatism and infuse maturity into many such unwieldy ideas, one being the acquisition of AHs under the command and control of corps commanders.

UAV / RPV

The use of the UAV / RPV is universally accepted as the least susceptible to interception and destruction. The infrastructure to create large units of such UAVs is insignificant compared to that for CABs or AHs. Manpower is safe from enemy action, destroyed UAVs have insignificant impact on morale, they are cheaper than the AH and pilot combination, complex communication networks are dispensed with, replacements are easily injected into the battle, weapon delivery onto enemy targets can be done remotely, and all this can be fully automated. The advantages of RPVs / UAVs in preference to AHs in the close support role are many, and indeed these advantages are enough to tilt the balance in favour of the unmanned vehicle. An unbiased appreciation without rancour must deduce that the AHs can be replaced by the UAVs/RPVs. It must be recalled that the definitive destructive firepower expected from the AH is not assured because of the extreme vulnerability of the AH. Then, the huge initial and recurring investment necessary to acquire, maintain and integrate the AH into the command and control network when weighed against its ability to destroy enemy armour again tells us that it is not a win-win situation. Then why pursue it when everything says, don't do it? However, let the decision to integrate RPVs / UAVs into the offensive firepower of the corps / division be discussed elsewhere and let us return to the best use of the AH. The idea here is not to promote the UAV, but to decide what needs to be done with India's AH fleet and how many more AHs should we acquire and where should they be located and under which system should they function?

There is Indeed a Very Special Niche Utility for the AH

What can be done with the AHs already with the IAF? What will they do if not support huge mechanised army formations? Contrary to scepticism, there are indeed very specific tasks that only a flying machine like the AH can do, and those tasks are best performed by those whose sole persuasion is flying helicopters and not as a stop-gap deviation from their original career path. The AH is best used for special operations where stealth, surprise, limited opposition and cover of darkness reduces its vulnerability. Our ability to intercept and attack Pakistani infiltrators from the air who escape from hamlets/villages after being attacked on the ground, is lacking, and the AHs can do this swiftly and efficiently. The AHs can be used to insert troops in the escape route of the terrorists as well as bring fire onto them, far away from civilian populations. We have wanted to target terrorist ingress routes into India when the actual infiltration is happening: the AHs can do that by day and night. We want to intercept Naxals as they roam freely, unseen by the ground-based Central Reserve Police Force / Border Security Force (CRPF/BSF). The inherent flexibility and speed that the AH can inject into such operations is invaluable. The AH will not be involved in a fire-fight with the Naxals or infiltrators, making itself vulnerable to their weapons, but will use its weapons as a deterrent and morale bruiser, causing great confusion among them. There will be no massed AFVs/ICVs targeting the AH, no elaborate communication infrastructure required to integrate the AH with the Rashtriya Rifles (RR) or CRPF. Used with imagination and not as a *'killer of our own people'*, the AH can become the fulcrum of destroying the hideouts and escape routes of the Naxals. We may wish to sanitise an area from aerial or surface intervention, like bridges/dams/buildings, ports, vital points, Republic/Independence/Army/Navy/IAF Day parades, sports stadiums and oil rigs. Another example is religious processions/gatherings like the Amarnath Yatra, Puri Chariot Yatra, massed prayers on Eid, Ramlila gatherings, large public protests like we saw with Anna Hazare/Kejriwal. Deploying the AH for surveillance and, where necessary, interception, is truly its classic role. It may be recalled that helicopter reconnaissance by the unarmed Chetak is being done during

many such events. For the tasks mentioned and many more that will emerge from the Ministry of Defence, Ministry of Home Affairs, Special Protection Group, National Security Guards, Prime Minister's Office (MoD, MHA, SPG, NSG, PMO) and Defence Headquarters (HQ), India needs no more than 40 AHs, distributed around India, keeping their range, maintenance and operational sector as defining parameters.

What about the Army and Navy?

From the foregoing, it is abundantly evident that the AH is incapable of supporting a land or sea battle where it will have to expose itself to well trained and, indeed, well armed adversaries with lethal shoulder-fired weapons, SAMs, and other small arms. It is a fallacy to believe that heli-borne special naval commandos can capture a ship on the high seas, as is often shown in Hollywood movies. Knowledgeable sailors are aware of this. Use of the AH in anti-piracy operations is very much feasible if the AH can operate outside the range of small arms normally used by pirates. As mentioned earlier, the use of AHs against terrorists in, say, J&K, is purely in support of the army/RR/BSF. The question then is: where should we keep these sophisticated expensive flying machines which need dust-free maintenance facilities and high technology simulation support? It is to be clearly understood that mounting AH operations must be undertaken after repeated simulation as is being followed by IAF aircrew on all types of aircraft. Pilots have to fly the mission in simulators, again and again, to eliminate and limit the margin of error. Such simulators are very expensive with advanced technology and only one can be installed in India where aircrew come for training/refresher courses. Now where should this simulator and the AH be and under whose care will it function at its most cost effectiveness for superior training, quality maintenance and proven professionalism?

Where Else But With the IAF

Before there are protests of parochialism, let the author state clearly that while he served proudly with the air force, he has strong and endearing

links with the Indian Army—after all, it is his "parent service" is it not? The author has spent thousands of flying hours in support of the Indian Army as a transport pilot flying the AN-12, IL-76, C-46 aircraft. That said, I must hasten to state firmly and unquestionably that AH assets are best retained with the air force, readily available for all contingencies. Specialised training for aircrew will be centralised, maintenance will be centrally controlled, the logistics and supply chain will be under the same commander, the flight simulator will be under the control of those who have installed, and are maintaining, many such sophisticated flight simulators for different types of aircraft of both Russian/Western origin. The expertise residing with the IAF in all these disciplines far exceeds that residing with the army which must be gracefully accepted. The IAF has been operating AHs for many years, with training/operational concepts refined and upgraded. To now place the AHs under the army would entail a duplication of this effort with no visible advantage since the AH is of doubtful value in the plains, and zero value in the mountains, for close and direct support for corps and divisions troops in both offensive and defensive battles. That the future acquisitions of the AH should be with the IAF needs no further elaboration or justification. And pray, does the IAF have the facilities and wherewithal to take care of, say, 40 AHs? The answer is an emphatic yes.

Air Force Stations are Ready and Prepared

We have enumerated some essential and probable tasks for the AHs and while non-offensive tasks can be anywhere in India, the close support to army/police units battling terrorism and insurgency are essentially in the northeast, J&K, and what is termed as the Naxal corridor. IAF stations already exist in Assam, Arunachal, Nagaland, Manipur, Tripura, Meghalaya, West Bengal, Bihar, Odisha and, of course, J&K. Adequate hangar facilities with huge tarmacs are available; more hangars can be swiftly erected, thus, parking/shelters/maintenance pose no problem at all. Infrastructure by way of logistics/refuelling/administration/accommodation/civic amenities/schools/hospitals/proximity to railhead are in place. Building similar brand new facilities elsewhere would become inescapable if the

AHs were placed under corps/division commanders and the impact of the investment with recurring costs will be prohibitive and unsustainable. Existing air force station tarmacs and open spaces will be most suitable for training and rehearsals by day and night, away from undesirable eyes. Troops from police/army units will get combined training at airfields closest to them with the flying time to operational zones being minimum, resulting in cost effective utilisation of the AHs/anti-insurgency forces. Inspections and evaluation of operational readiness can be done by the respective agencies/HQ /and experts of that very sector with live rehearsals, simulated operations, on-the-job continuation training with para-military and special forces. There will be no duplication of resources and no creation of new locations with each state of the Union seeking its quota as was seen after the terrorist attack on the hotels of Mumbai. Helipads in the operational zones will facilitate swift induction and extrication with speedy relocation to counter terrorist reactions. Storage and safety facilities, along with fully qualified manpower are available at every air force station to inspect/ maintain and activate weapons for AH operations. IAF stations across India are intrinsically configured and customised to maintain, support, and launch special AH operations at short notice. Can there be any doubt or debate about which locations and under which Service India's AH fleet would carry out assured unhindered operations?

CONCLUSION

Senior military commanders have a sacred duty towards procuring weapons which will genuinely enhance the fighting capabilities of the Indian armed forces as well as infusing confidence in the reliability of those weapons and equipment. New weapons cannot have severe inherent limitations while operating in the Indian environment, and be highly susceptible to attrition. The AH is one such weapon: it has little use for India if used in close support for mechanised land forces in the plains, with innumerable anti-helicopter weapons available with our adversaries. In the mountains, the AH is as dead as a dodo, which is abundantly proven. The certitude

with which the success of the AH is still propounded is amazing and needs to be remediated once and for all. The AH has value for money in a relatively benign environment for short, swift, special operations where the opposition has restricted ability to interdict it. Because other nations have huge air arms for each Service does not justify India following suit. Untried and, indeed, failed concepts developed by Western military strategists for European and Middle East scenarios mislead us into a weapon procurement minefield. Thereafter, wasteful expenditure prevents us from getting what we really need to keep India secure and safe. Most certainly, the navy and army must have their special air elements under their command and control, but the Indian armed forces cannot afford the luxury of creating duplicate parallel offensive air forces which are not force multipliers. Like the Hercules, the AHs are ideally suited for very specialised tasks and, naturally, must be operated and maintained by the IAF, which already has the infrastructure and expertise in flying crew, maintenance engineers, logistics and administration, all specifically indoctrinated and trained for airborne operations. These human assets will work for, and with, the AHs throughout their career and not for short durations. The custodian and repository of attack helicopters has to be the Indian Air Force.