

# AIR POWER IN HYBRID WAR

MANMOHAN BAHADUR

## INTRODUCTION

The evolution of war and conflict has been in step with the progress of mankind and civilisation. What probably started as simple differences, when two or more humans started cohabiting, and conflicts between and amongst clans, transformed over time to war as one now knows it – long, bloody and with killings that have progressed to being based on a myriad reasons, and sometimes on issues that are baffling to a sane observer. Thus, from territorial disputes to issues of ideology, and from economic dissonance to religious disagreements, conflict has mutated further with the introduction of new elements that have brought about a change in the way conflicts pan out. Technology has been one of the elements that has been instrumental in these changes and has been a big disrupter down the ages. Though human nature and intrigue were always part of the discourse on war, the globalisation of thought and information flow brought about by Information and Communication Technology (ICT) has become a game changer, as the end game of warfare has moved from capturing territory directly to sometimes being content with ‘capturing’ it through influencing human minds. The participants too have changed from state actors to non-state ones, as also now a mix of the two, controlled by a central authority managing the conflict. The results have been manifest in what has come to be termed as hybrid warfare.

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Wars were land-centric in the early part of human civilisation till the advent of naval power altered the equations; nations with strong navies set out on colonisation expeditions to benefit from unexplored and untapped areas of the planet but, in the bargain, changed the way wars were fought. However, a more disruptive change occurred when man took to the skies in a heavier-than-air machine and air power demonstrated that he who ruled the air above the land and water could dictate the outcome of wars. As technology enhanced the capability of nations to dominate others, either economically and/or militarily, the power asymmetry that developed between them increased and brought in the use of non-state actors by states themselves—their use would be discussed in detail later. This essay would discuss, in four sections, how air power comes into play in hybrid war. First, there would be a resume of what is hybrid war, followed by an analysis of how air power gets involved in the melange that constitutes this type of conflict. This would then lead to a case study of Israel's engagement in Lebanon in 2006, which is a classic example of how a hybrid war should not be fought, and how Israel learned, and successfully implemented, the lessons in the next engagement in Gaza in 2009. Since technology enables all parties in a conflict, how advancements in ICT have enabled both air power and the non-state actors would be discussed next, before a summation closes this essay.

## **BACKGROUND**

The term hybrid war was introduced in an article in 2005 in the US Navy's *Proceedings Magazine*, written by Lt Gen James Mattis (then commandant of the US Marine Corps)<sup>1</sup> and Lt Col Frank Hoffman, also of the Marine Corps. The authors, elaborating on the types of war that America was likely

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1. Lt Gen James Mattis is now the US secretary of defence.

to face, wrote, “We do not face a range of four separate challengers as much as the combination of novel approaches – a merger of different modes of war. This unprecedented synthesis is what we call hybrid war.”<sup>2</sup> Frank Hoffman, in another work, called it a “blend of the lethality of state conflict with the fanatical and protracted fervour of irregular war.”<sup>3</sup> Yet another work deems it as being part of “pervasive warfare” as against being an element of a military operation,<sup>4</sup> implying that hybrid warfare would be a long ongoing process in the life of a nation; in continuation, another study puts it as “hybrid adversaries test the strategic patience of their opponents.”<sup>5</sup>

**Is hybrid war actually a 21st century phenomenon or is it that the political and military scholarship of the past century has neglected to analyse earlier wars and campaigns as being undertaken by both regulars and irregulars – acting alone or in consonance, depending on the necessity of the conflict?**

But, is hybrid war actually a 21st century phenomenon or is it that the political and military scholarship of the past century has neglected to analyse earlier wars and campaigns as being undertaken by both regulars and irregulars – acting alone or in consonance, depending on the necessity of the conflict? The latter appears to be the case, as a detailed study of nine wars ranging from Germania (AD 9-16) to Vietnam conducted by two academics

2. Lt Gen James N Mattis and Lt Col Frank Hoffman, “Future Wars: The Role of Hybrid Wars,” *Proceedings Magazine*, vol 132/11/1,233, November 2005 issue, available at <https://www.usni.org/magazines/proceedings/2005-11/future-warfare-rise-hybrid-wars>. Accessed on November 27, 2017.
3. Frank G. Hoffman, *Conflict in the 21st Century: The Rise of Hybrid Wars* (Arlington, VA: Potomac Institute for Policy Studies, 2007), p. 28, available at [http://www.potomac institute.org/images/stories/publications/potomac\\_hybridwar\\_0108.pdf](http://www.potomac institute.org/images/stories/publications/potomac_hybridwar_0108.pdf). Accessed on February 7, 2018; Frank G Hoffman, “Hybrid Warfare and Challenges,” *Joint Forces Quarterly*, Issue 52, 1st quarter 2009, available at <http://smallwarsjournal.com/documents/jfqhoffman.pdf>. Accessed on November 25, 2017.
4. Kenneth C Coons, Jr and Glenn M Harned, “Irregular Warfare is Warfare,” *Joint Forces Quarterly* issue 52, 1st quarter 2009, available at <http://www.dtic.mil/dtic/tr/fulltext/u2/a515615.pdf>. Accessed on February 7, 2018.
5. Peter R Mansoor, “Hybrid Warfare in History,” in Williamson Murray and Peter R Mansoor, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present* (Cambridge University Press, 2012), p. 7.

of the Ohio State University shows.<sup>6</sup> Even as ‘regulars’ and ‘irregulars’ were involved since long, it has only been in the past century and a half that these terms have acquired a legal definition. A ‘regular’ armed force was defined by the Third Geneva Convention of 1949, which itself is based on the definition of ‘belligerents’ as laid out in The Hague Conventions of 1899 and 1907. It is interesting to note that these and many more such conventions/agreements are based on the Lieber Code of 1863;<sup>7</sup> the Lieber Code is named after Francis Lieber, a Columbia Law School professor, who was tasked with drafting rules for combatants and conduct of warfare in the American Civil War. The Lieber Code lays down the definition of a belligerent, and those not qualifying for this definition as being non-combatants; thus, Lieber says, “So soon as a man is armed by a sovereign and takes the soldier’s oath of fidelity, he is a belligerent.”<sup>8</sup> ‘Sovereign’ signifies a state in the present context and, hence, an organised group of ‘belligerents’ would constitute a regular armed force of a state; any other grouping would constitute an ‘irregular force.’ To be called a regular force, the following conditions are mandated by The Hague Convention of 1899<sup>9</sup>:

- To be commanded by a person responsible for his subordinates.
- To have a fixed distinctive emblem recognisable at a distance.
- To carry arms openly.
- To conduct operations in accordance with the laws and customs of war.

The Annexe to The Hague Convention 1899 further clarifies, “In countries where militia or volunteer corps constitute the army, or form part of it, they are included under the denomination ‘army’.” It is, thus, important to understand how regulars and irregulars are used in the four types of wars that take place.

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6. Ibid.

7. Patryk I Labuda, “Lieber Code,” available at <http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e2126>. Accessed on November 14, 2017.

8. Ibid.

9. The Hague Convention 1899, Annex Section 1, Chapter 1, Article 1 available at [http://avalon.law.yale.edu/19th\\_century/hague02.asp](http://avalon.law.yale.edu/19th_century/hague02.asp) and [http://avalon.law.yale.edu/19th\\_century/hague02.asp#art1](http://avalon.law.yale.edu/19th_century/hague02.asp#art1). Both accessed on December 26, 2017.

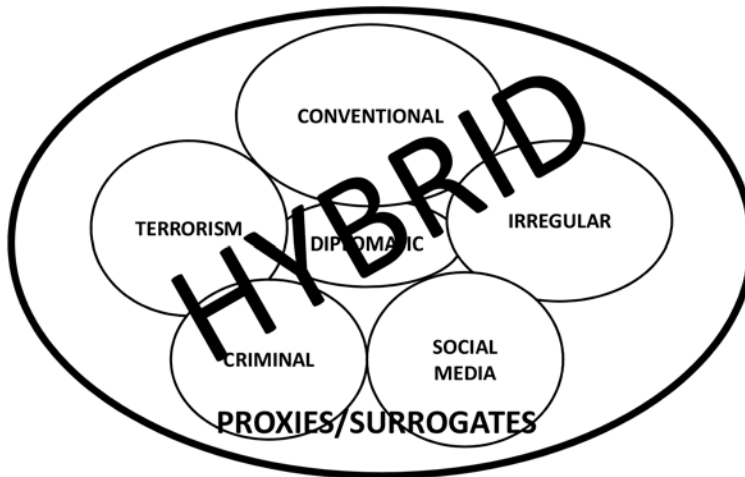
- In conventional wars, only states and their regular forces are involved.
- Irregular wars comprise insurgency and/or guerrilla warfare; these involve only irregulars or the term commonly used now, non-state actors.
- A compound war is a combination of conventional and irregular conflict in which war is planned and executed through strategic planning and direction; *the execution, though, is decentralised.*
- In a hybrid war, there is both strategic direction and strategic control on state and non-state actors. There is a synthesis of regulars and irregulars in this type of war, where both types of actors act as per a common plan, with each having a specific role to enact; the progress is assessed centrally and revised tasks are issued, which again get monitored and modified as the war progresses. There is a common storyline or plot, as in the Indo-China conflict in the 1950s where the Vietminh had a narrative of throwing out the French whereas the colonial French had none; the propped-up Emperor Bao Dai was seen as a French puppet by the locals, and despised.<sup>10</sup> The effect of the proliferating communication media, at that time, just the radio, was slowly being felt in the transmission of the 'big picture' in which the state actors and irregulars were involved.

The communication media has evolved exponentially since then, both in its range of transmission and the large variety that is available to nearly everyone. With the advent of computers and computing technology, and with technology enabling the doubling of computing power every eighteen months, the landscape of hybrid war has changed. More arenas have been added to both conventional and irregular wars, bringing hybrid war into play; this is depicted below in Fig 1 that shows hybrid war spanning at least six fields of activity wherein the principals may be advancing their own agendas through proxies and surrogates.

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10. Mansoor n. 5, p. 8.

Fig 1



While public media in the form of print and television has been active for many decades, it has been the advent of Social Media (SM) in the past 20 years that has changed equations in many ways, leading to an all encompassing term, 'Information War' representing a new addition to the hybrid war menu. Information war, in simple terms, comprises starting a new narrative or injecting into an ongoing narrative, information, misinformation or disinformation so as to influence and/or shape opinions, attitudes and the subsequent behaviour and actions of a population. Thus, besides the use of the print and electronic media that constitute Main Stream Media (MSM), the actors (both state and non-state) are using media like What's App, Facebook, Instagram and the like to influence human thought. Since the reach of SM is instantaneously worldwide, it has become the key instrument for belligerents on both sides of the divide for use in propaganda and shaping opinions.

There is one aspect of SM that has not garnered enough discussion, and that is its contribution towards enhancing 'cumulative deterrence' in the peace, or quasi-peace that prevails before the outbreak of kinetic hostilities. The Israelis have been using this very effectively in their,

almost continuous, engagement with hostile neighbours and non-state actors.<sup>11</sup>

In a 2012 engagement, a spokesman of the Israeli Defence Force (IDF) tweeted, "We recommend that no Hamas operatives, whether low level or senior leaders, show their faces above ground in the days ahead." They also posted data on air strikes and rocket launches and attempted to shape world opinion by putting "infographics" on the internet purporting to show how Hamas uses Palestinian homes as military command centres.<sup>12</sup> The other side (non-state actor) too has not been quiet and the Izz a-Din al-Qassam Brigade tweeted

in response, "Our blessed hands will reach your leaders and soldiers wherever they are (you opened hell gates on yourselves)."<sup>13</sup> Has this succeeded? One Israeli military writer claims that it has, and quotes that there have been cases of people not giving girls for marriage to Hamas fighters due the short life they are expected to have because of Israeli surveillance and kinetic action.<sup>14</sup>

Thus, the milieu that presents itself, with some examples of what the Indian security establishment is facing, is painted in the following graphic (Fig 2).

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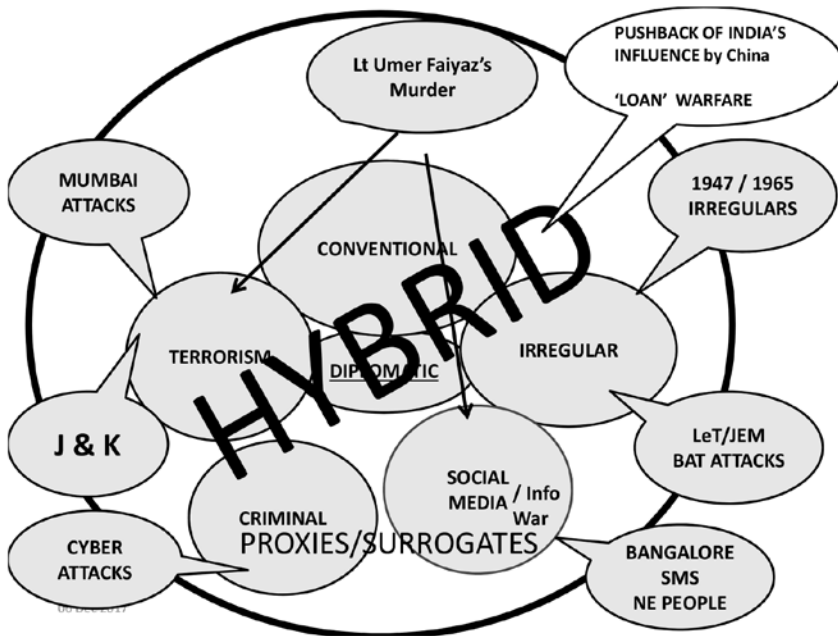
11. For more on the Israeli concept of cumulative deterrence, see Manmohan Bahadur, "Israel's Concept of Cumulative Deterrence: Will it bring Peace to the Region?" *Air Power Journal*, vol 8, no.4, Winter 2013 (Oct-Dec), pp. 107 -126. Also available at <http://capsindia.org/files/documents/APJ-vol-8-no-4-Oct-Dec-2013.pdf>

12. "Israel vs Hamas on Twitter too," Associated Press report of November 16, 2012, available at <https://www.ndtv.com/world-news/israel-vs-hamas-on-twitter-too-504724>. Accessed on November 26, 2017.

13. Ibid.

14. Dorong Almog, "Cumulative Deterrence and the War on Terrorism," *Parameters*, Winter 2004-05, pp. 4-9, available at <https://pdfs.semanticscholar.org/e5a3/ee38a1b3f25339925997d3294c688a2e3a64.pdf>

Fig 2



The above layout does not mean that there has to be ongoing conflict in all the arenas concurrently for it to be classified as a hybrid war. In fact, more often than not, the conventional part is generally missing, and the protagonists engage in other aspects that get constituted as ‘small’ wars. Small wars are *not* smaller versions of conventional wars; small wars last long and have their own unique characteristics that need to be addressed, especially by air power—these will be covered later in this paper. But it would be prudent at this stage to first summarise the key characteristics of hybrid war before proceeding further.

Hybrid war is a Janus<sup>15</sup>-faced threat that encompasses the doctrinal tenets of both conventional and unconventional (irregular) war in which the centre of gravity tends to be nebulous. It is conceptually distinct in that it envisions a *low tempo* but, nevertheless, *lethal action* at *different points* along the spectrum of conflict, *all at the same time*. The Russians use deception,

15. Janus was a Roman God who, the legend goes, could look both ways. For more on Janus, see <https://www.britannica.com/topic/Janus-Roman-god>. Accessed on February 3, 2018.



which they call *Maskirovka*, based on the idea that the main battle space is the human mind.<sup>16</sup> They understand it as a new generation war that would be driven by information and psychological war and feel that it is a must to attain superiority in troops and weapons control, as well as to morally and psychologically depress the enemy's armed forces personnel and civil population; the Russians' actions in the annexation of Crimea in 2014 and their involvement in the Ukrainian crisis since 2013 testify to their adherence to their belief in, and usage of, *Maskirovka*. The Chinese too are adept at this kind of 'people's war.' Two colonels of the People's Liberation Army (PLA), Cols Liang and Xiangsui, wrote a far-reaching paper in 1990 titled "Unrestricted Warfare."<sup>17</sup> The colonels wrote that the first rule of unrestricted warfare is that there are no rules, and nothing is forbidden in conflict. The arenas of warfare include trade, finance, ecology, psychology, smuggling, media, drug related activities, network, technology, manufacturing, natural resources, economic aid, cultural engagement *and* international law. This brings out clearly that the aim in hybrid war is interfering with, or manipulating, civic and military life, in short all aspects of an adversary's society. Thus, the response required to counter a hybrid war imposed on a nation has to be, what else but hybrid itself – nothing short of an all encompassing effort and seamless integration on the part of different agencies of the targeted country will suffice! And air power forms one part of that all out effort.

The four basic 'arms' of the government that constitute the anti-hybrid warfare force are the civil administration and land, sea and air forces.

- **Civil Administration:** The hybrid actor, through its irregulars and through irregular activity (like mis/disinformation through the media, spreading disaffection in society *et al*), attempts to target elements of daily life like general law and order, food, water, shelter, medical and health, justice dispensation and the economy of its target nation; as can be discerned, these are all non-kinetic actions that are to be addressed by the state.

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16. For more on *Maskirovka*, see [www.dtic.mil/get-tr-doc/pdf?AD=AD1022096](http://www.dtic.mil/get-tr-doc/pdf?AD=AD1022096). Accessed on February 7, 2018.

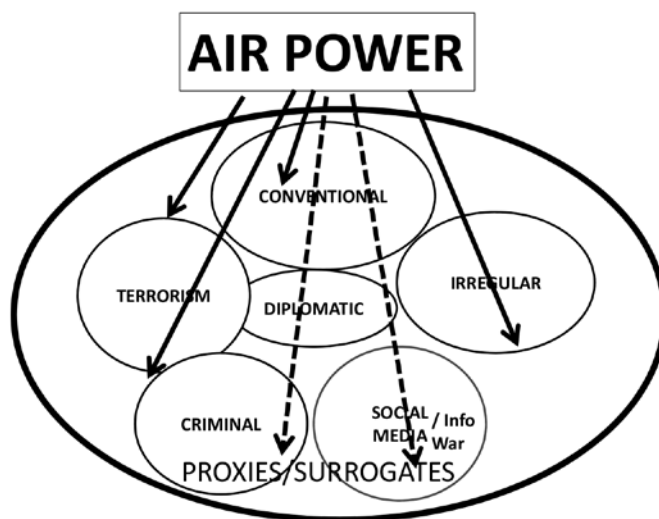
17. David Barno and Nora Bensahel, "A New Generation of Unrestricted Warfare," in *War on the Rocks*, Available at <https://warontherocks.com/2016/04/a-new-generation-of-unrestricted-warfare/>. Accessed on February 7, 2018.

- **Land Forces:** The land power of a nation has the advantage of being present amongst the people and comes into the assistance role (including for maintaining law and order) when requested by the civil administration. However, on its own, it gets activated for the anti-hybrid war strategy in conventional war and anti-insurgency tasks.
- **Maritime Forces:** The maritime forces have a limited presence amongst the people due their shore basing, but have an important role in offshore surveillance that is part of coastal security. This was brought home to India in a grievous way during the Mumbai terrorist attacks on November 26, 2008.
- **Air Power:** The air power of a nation is not present amongst the populace but is directly involved in providing critical assistance to the other three arms while they discharge their respective tasks; in some cases, it is called upon to discharge its strike functions too.

### AIR POWER EMPLOYMENT

Air power is an integral part of the counter-hybrid force that is required to fight hybrid war. Using the earlier graphics, it gets involved in two forms: directly and in an associated manner (see Fig 3).

Fig 3



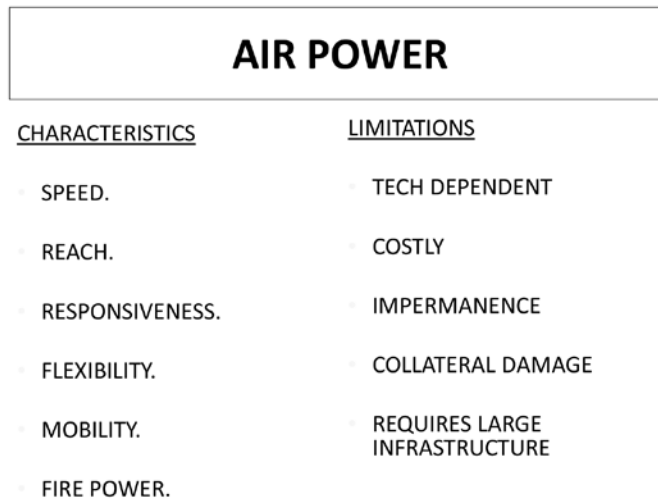
The continuous lines show where air power is directly involved, viz., in conventional conflict, terrorism and irregular war while the dotted lines show its involvement in a supportive role. That leaves out the diplomatic drive – but it is here that the diplomatic prowess and astuteness of a nation's Foreign Service community leverages the 'authority' of the air power of the nation (and other elements of national power) to influence events. This can only happen if there is a coherent national strategy, and air power users know how, when and where they come into the equation at the field level.

What happens in the field is that during the period when there are no hostilities, the irregular force aids the regular forces by provisioning supplies, tactical information, easing passage and augmenting subversive personnel; in a way, during peace-time, they prepare the battlefield for the regulars, if and when the latter are called in to action. In parallel, during peace-time, the regular forces are tasked by the government of the day to aid the irregulars through provisioning of training, funds, strategic intelligence, equipment, safe havens and the eradication of people who are not loyal to their cause, or 'collaborators,' as they term them. Hence, a counter-hybrid war strategy has to be *strategic in conception* to simultaneously deal with the following issues:

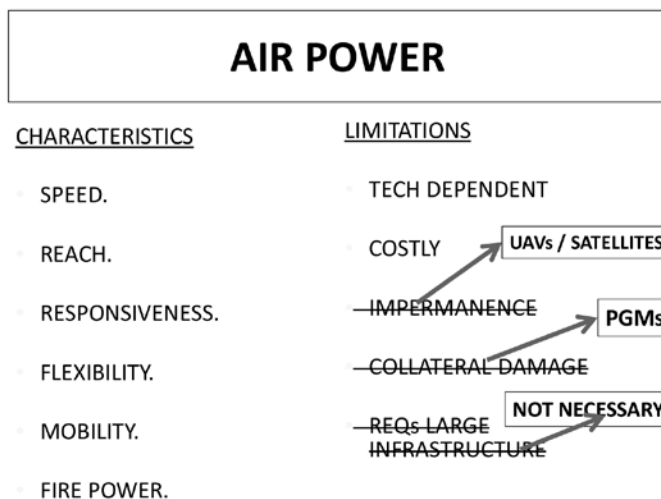
- To counter criminality;
- To counter terrorism and insurgency;
- To diplomatically isolate the 'cause' of the entity that has inflicted the hybrid war on one's country; all the while
- **Retaining** and improving the capability to fight a conventional war; loss or depletion of this aptitude can be disastrous, as would be soon seen in the case study that follows.

To plan and operationalise all the above mentioned aspects through the prism of an anti-hybrid war role would require detailed planning and an assessment of the sustenance ability of the nation; this is necessary since, as brought out earlier, hybrid war is spread over the complete spectrum of conflict and the government would have to discharge the anti-hybrid war role for a long duration of time. This would necessitate a 'whole of government approach' where no agency is left out at any point on the time line. Here,

the use of air power needs to be done judiciously, keeping its characteristics and limitations in mind.



The above figure is well understood and needs no elaboration. However, technical innovations have reduced a few limitations, some partially and some in a substantial manner.



Collateral damage, that was associated with the high destructive power of air armaments, has been reduced substantially through the enhanced availability of precision munitions; though the danger of non-combatants being hit still exists, the new generation of low yield armaments has ameliorated this problem to some extent. However, it is the reduction in the impermanence of air power that has played a big role in its enhanced contribution in anti-hybrid war operations. Unmanned Aerial Vehicles (UAVs) and satellites have now brought the element of 'stare' to the list of capabilities of air power, especially with respect to UAVs. With increasing numbers of satellites, and progress being made towards launch on demand in the coming decades, satellites too would come into this category. How these aspects come into play becomes clearer as the utilisation of air power in all aspects of anti-hybrid war is analysed.

#### **SUPPORT BY AIR POWER**

Air power provides Intelligence, Surveillance and Reconnaissance (ISR) and mobility, and assists in ensuring Command and Control (C2) besides its basic task of bringing to bear fire power through focussed strikes. The importance of ISR collection requirements in the hybrid warfare scenarios is driven by one fundamental fact which is, that when the population is the centre of gravity, "intelligence is king...(and) if insurgents lose in the minds of the people, they lose, period."<sup>18</sup> Thus, provisioning to the civil administration of satellite and UAV imagery to preempt disaffection due to issues of food and water security, moving equipment and material to provide shelter and succour in natural calamities, and quick mobilisation and moves of the security forces in case of a civil disturbance, help the civil administration in maintaining social security – aspects that a hybrid actor aims to disturb. Accurate parachute drops of food and other essentials to outlying villages in northeast India that are difficult to reach by road has been, and continues to be, an important task for the Indian Air Force. This

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18. Colin S. Gray, *Irregular Enemies and the Essence of Strategy: Can the American Way of War Adapt?*, Strategic Studies Institute (US Army War College, Carlisle, Pa., March 2006), p. 20, available at [http://ptbrown.net/Small%20Wars/Gray\\_Irregular%20Enemies%20and%20adapting%20way%20of%20war.pdf](http://ptbrown.net/Small%20Wars/Gray_Irregular%20Enemies%20and%20adapting%20way%20of%20war.pdf). Accessed on February 6, 2018.

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not only provides for the physical comforts of the locals but also adds to the emotional connect with the national administration: "the nation has not forgotten us and will look after us," is the message that goes across to the villagers and prevents any dissatisfaction from developing that the irregulars can work to their advantage.

Air power is intricately involved in the conduct of elections in India's insurgency prone areas like in Jammu and Kashmir (J&K) and the Naxalite hit states in central India through the transportation of election material and staff to inaccessible areas. Similarly, in the inaccessible areas of the northern hills (due lack of roads and/or due to natural causes like being snow-bound), the carriage of ballot boxes and the staff of the Election Commission of India is done with the aim of ensuring 'inclusion' of the population who may otherwise get a feeling of being alienated from the governing of the nation, and may get swayed by insurgent propaganda.

In some cases, air power can also be tasked to use force within a nation's borders to prevent a law and order situation from becoming a threat to its unity; Pakistan is a prime example in its kinetic strikes in its western and northwestern border regions during the past decade or so. Israel also is a prime example of proactive use of air power to fight a hybrid war; it would be instructive to study how its air power has been effective or found wanting in its recent conflicts in a hybrid war milieu. This would be done through two case studies; the first would be of the 2006 Lebanon War, and the second being Operation Cast Lead conducted by Tel Aviv in 2009 in the Gaza Strip.

#### **LEBANON, 2006**

After studying the trends in warfare from the mid-1980s, and especially considering the advent of precision munitions and their effective employment in the Gulf Wars, Serbia and Kosovo, the Israeli security establishment had come to the conclusion that future conflicts with its detractors would be

in the form of Low Intensity Conflict (LIC). That would comprise engagements with insurgents waging guerrilla warfare so that they do not directly confront the very superior Israeli conventional forces. They surmised that the conflict would be long drawn and the best way of tackling it would be through precision strikes by standoff artillery and air power, which Israel had in abundance. They trained and equipped for that; funds too were accordingly allotted.<sup>19</sup> In the event,<sup>20</sup> the standoff strikes did not force Hezbollah to meet the Israeli demands and when the ground forces were sent in, they could not

manoeuvre well, as they had lost the art due to the doctrinal change that had come about. As a RAND study put it, "...Unfortunately for Israel, as operations in Lebanon in 2006 would show, the Israeli Army's almost exclusive focus on LIC resulted in a military that was largely incapable of joint combined arms fire and manoeuvre."<sup>21</sup>

The Hezbollah, too, had studied the changing trends in technology and the prowess that the Israeli armed forces possessed. Accordingly, they trained to counter the superior conventional fire power with a mixture of conventional war-fighting and guerrilla tactics. The Hezbollah forces were disciplined and trained to operate in cohesive small units.<sup>22</sup> They acquired standoff weapon capability and used anti-tank guided missiles, mortars, and rockets. They even had the C-802 Iranian made anti-ship cruise missiles which they used

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19. Mohammad Naved Ferdaus Iqbal, "The Second Lebanon War: Failures, Lessons Learned and the Future," available at <http://smallwarsjournal.com/jrnl/art/the-second-lebanon-war-failures-lessons-learned-and-the-future>. Accessed on February 8, 2018.

20. The 2006 Second Lebanon War started on July 12, 2006. It has generated many studies on how and why the IDF, and Israel as a state, failed in its mission.

21. David E Johnson, "Military Capabilities for Hybrid Warfare: Insights from the Israel Defense Forces in Lebanon and Gaza," RAND Paper, available at [https://www.rand.org/content/dam/rand/pubs/occasional\\_papers/2010/RAND\\_OP285.pdf](https://www.rand.org/content/dam/rand/pubs/occasional_papers/2010/RAND_OP285.pdf). Accessed on November 22, 2017.

22. Ibid.

to target and damage an Israeli Navy's ship in the Mediterranean.<sup>23</sup> A greater surprise element was the use of the Mohajir UAVs to gather intelligence on Israeli deployments. The Hezbollah foot soldier lived and operated from within the civil populated areas, while the leadership was safely entrenched in underground concealed bunkers. This was classic hybrid warfare that was waged by a conventionally weak force that stood no chance against a technologically state-of-the-art military machine, but which had not planned to fight the opponent with a counter hybrid strategy.

Defeating the Hezbollah required disrupting and cutting off its supplies and communications routes by interdiction; this required ground forces that could manoeuvre and bring the adversary out into the open from its hidden locations. But, as brought out earlier, the Israeli Defence Force (IDF) had been budgeted, equipped and trained to fight a projected LIC scenario and had lost the art of manoeuvre.<sup>24</sup> Standoff air power was used extensively but it came up short as its limitations were exposed against concealed targets due to the following reasons:

- The Hezbollah leadership hid in bunkers.
- Direct escalation to kill the Hezbollah leadership was not permitted due to the adverse fallout that would be generated worldwide.
- The previous covert tracking of individuals done during peace-time, thus, came to nought and could not be used for decapitating the core.
- The air campaign against long range rockets was militarily successful but the one against small 'Katyusha' rockets was a failure.
- 13,000 Katyusha rockets were placed close to Israel's border in tunnels, houses and dense vegetation.
  - Even when the launch plume of a rocket became visible, an attack was often not feasible due to the risk of collateral damage.
  - Katyushas continued to strike north Israel over the three-week conflict.

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23. Ramit Plushinick-Masti, "Israel: Iran Aided Hezbollah Ship Attack," Associated Press report, July 15, 2006 <http://www.washingtonpost.com/wp-dyn/content/article/2006/07/15/AR2006071500189.html> The report states that Iran denied any involvement, but the fact is that a cruise missile damaged an Israeli Navy ship in which one Israeli died and three went missing.

24. Johnson, n. 21.



- Israel did try to minimise the civilian casualties by taking the following steps:
  - 165,000 telephone calls were made to the occupants of houses due to be struck, asking them to relocate.
  - Almost 2.5 million leaflets were dropped.

Hezbollah, however, comprehensively won the influence campaign and it became a political disaster for Israel,<sup>25</sup> with the IDF withdrawing from Lebanon in September 2006.

What went wrong? While the IDF, being the most professional user of air power, knew its characteristics and limitations well, it was the factor of casualty aversion that made the political and military leadership overreliant (and may be, overconfident) on its long distance precision strike capability. Forgotten was the reality that an irregular adversary, who is a major part of hybrid war, merges with the populace and uses his anonymity as a shield to defeat long range precision weaponry – in hybrid war, there is no getting away from a ‘physical’ interaction with the irregular in the latter’s home turf. Small or irregular wars are not smaller versions of conventional war but are long and intelligence intensive campaigns. Though high-tech aspects of air power, like smart bombs, space assets and UAVs come in handy in small wars, low-tech aspects of air power too are important; simple aircraft may be better, as evident from the decision of the US to provide slower moving Super Tucano propeller driven aircraft to the Afghan Air Force in their counter-insurgency operations.<sup>26</sup> The Israeli leadership was a quick learner from the Lebanon debacle and recast their budget, procurement and training priorities, the results of which were seen in the next ‘round,’ this time in Gaza in Operation Cast Lead that was launched in 2009.

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25. Ibid.

26. Franz-Stefan Gady, “US Buys 6 more Light Attack Aircraft for Afghan Air Force,” *The Diplomat*, available at <https://thediplomat.com/2017/10/us-buys-6-more-light-attack-aircraft-for-afghan-air-force/>. Accessed on February 8, 2017.

**Small or irregular wars are not smaller versions of conventional war but are long and intelligence intensive campaigns. Though high-tech aspects of air power, like smart bombs, space assets and UAVs come in handy in small wars, low-tech aspects of air power too are important.**

#### **OPERATION CAST LEAD, 2009**

Gaza has a terrain that is sandy and flat, unlike the hilly one that helped the Hezbollah in Lebanon. The preparation comprised collection of accurate intelligence and meant that the Israelis knew the locations of rockets which were then attacked using Global Positioning System (GPS) munitions—most during the first night of the attacks. The rockets were treated as time sensitive targets with the ‘sensor to shooter’ time delay being very short; 20 percent of the rockets were destroyed

before they could be launched while the other 80 percent were neutralised very shortly after launch, in some cases as little as forty-five seconds later. The ‘Iron Dome’ anti-missile system was the key to neutralising the stream of rockets that were fired into Southern Israel.<sup>27</sup>

ISR was the *critical* enabler, with most of the work having been done *prior* to the conflict – in peace-time. UAVs provided the bulk of real time ISR and were used to assist the ground forces shadow evacuation missions, enable prosecution of time sensitive targets, and ensure target validation and adherence to rules of engagement. Re-supply, often to isolated pockets of Israeli forces was done by helicopters, which also inserted special and conventional forces. This brought to the fore the fact that air power provided flexibility and initiative, which are the hallmarks of irregular combat. All this while, a well trained and adept (unlike in Lebanon 2006) ground force was kept ready to move in; in the event this did not happen, its readiness was well publicised as part of the perception management to have the required effect. Thus, the IDF used technology to overcome its deficiencies

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27. Zachary Goldman, “More than a Missile: Judging Iron Dome,” *War on the Rocks*, August 11, 2014, available at <https://warontherocks.com/2014/08/more-than-a-missile-judging-iron-dome/>. Accessed on February 7, 2018.

**ACTIONS TO NULLIFY ADVANTAGES OF AIR POWER**

As states and their forces have modernised, so have the non-state actors and states practising hybrid warfare by developing 'antidotes' to counter air power. Hybrid actors seek *not* to engage conventional air power symmetrically. Surface-to-Air Missiles (SAMs) have been brought into conflict zones, forcing air power assets to step up their operating altitudes. This was seen in North Vietnam where fixed SAM sites meant that control of the air was not absolute and introduction of the SA7 shoulder launched SAM in 1972 changed the equation till Electronic Counter Measures (ECM) had been generated. In Kosovo also, North Atlantic Treaty Organisation (NATO) aircraft largely remained above 15,000 ft,<sup>28</sup> where the Serbians used their radars fleetingly, negating the effectiveness of anti-radiation missiles. Similarly, the loss of a MiG-21 and Mi-17 helicopter in the initial stages of the Kargil conflict forced the Indian Air Force to innovate, step up and resort to using the GPS for bombing from high altitudes in addition to Precision Guided Munitions (PGMs).<sup>29</sup> In future, in the space arena, adversaries will seek to jam GPS signals as such jammers are easily available on the open market. Kinetic anti-satellite technologies would be with very few nations and, hence, the hybrid actor would like to use other, cheaper options to cripple a system.

**As states and their forces have modernised, so have the non-state actors and states practising hybrid warfare by developing 'antidotes' to counter air power. Hybrid actors seek *not* to engage conventional air power symmetrically.**

As technology advances further, and proliferates too, the F-35 represents what an air power asset can do in the battle space. An F-35 can provide top cover for a ground convoy and, at the same time use, its Active Electronically Scanned Array (AESA) radar as an offensive cyber weapon. Simultaneously, it can use its advanced air-to-ground surveillance radar to track insurgents

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28. See RAND Paper, available at [https://www.rand.org/content/dam/rand/pubs/monograph\\_reports/MR1365/MR1365.ch3.pdf](https://www.rand.org/content/dam/rand/pubs/monograph_reports/MR1365/MR1365.ch3.pdf). Accessed February 8, 2018.

29. Benjamin S Lambeth, *Air Power at 18000': The Indian Air Force in the Kargil War* (Washington: Carnegie Endowment for International Peace, 2012), pp. 16 and 26.

moving on foot and detect an incoming cruise missile. Technological advancements will enable the hybrid actor to reduce the asymmetric advantage of air power by using even the more lethal Man-Portable Air Defence System (MANPADS) (in the physical domain) and the media and cyber offensive to its advantage.

### AIR POWER AND PERCEPTION MANAGEMENT

As discussed earlier, the media as a medium has become a vital tool in the hands of both sides. Its criticality arises from the fact that the principles of *Jus ad bellum* (ethics and laws regarding a nation's right to go to war) and *Jus in bello* (ethics and laws of waging war) have become vital factors in governing perceptions that get generated.<sup>30</sup> Warfare has become accountable and a military commander is now responsible, not only upward to his next higher official in the reporting chain and downward to his subordinates, but also *outward* to non-combatants or the civil population. It must be remembered that *precision weapons, if not used correctly, kill more precisely*. Thus, to avoid collateral damage and loss of goodwill amongst the civilian population, the destructive potential of air power has to be tempered with the 'outward factor.' It has to be accepted that the benign aspects of air power, like mobility, ISR, medevac and Search and Rescue (SAR) may sometimes be more useful in hybrid war where non-combatants can get caught in hostilities. Since hybrid war(fare) is a mix of social, political, economic and *may be* military issues, the desirable end state possible could perhaps just be a favourable state of peace.

### SUMMATION

Hybrid war is not new and has been practised for many centuries. It is a multi-faceted and multi-spectrum conflict that requires to be countered by a strategy that acknowledges this multi-arena existence and guides actions in

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30. Major Mary T. Smith, "Air Power in Hybrid Warfare: Ethical Implications for the Joint Force Commander," *Journal of National Security Studies*, United States Naval War College, Fall 2014, available at [https://usnwc2.usnwc.edu/Publications/-Luce-nt-/Archives/2014/Special-Edition/Fall\\_2014\\_Full-Volume.aspx](https://usnwc2.usnwc.edu/Publications/-Luce-nt-/Archives/2014/Special-Edition/Fall_2014_Full-Volume.aspx) pp. 106 - 108.

them simultaneously. Since there is no silver bullet to tackle hybrid war, a multi-agency approach, which is actually a whole of government approach, is necessary. It would also be imperative to keep up with the march of technology as both state and non-state actors would use technological prowess to gain, and retain, the upper hand. Air power is technology intensive and, besides being an independent actor in counter-hybrid war operations, it is also a vital tool to support all other arms of the government in this generally long drawn out fight. India has been fighting a hybrid war in J&K and the Naxalite hit areas for decades now and even as this struggle is ongoing, its manifestation in the spectrum of irregular combat should not introduce a doctrinal change that brings down the traditional war-fighting capabilities of its armed forces *a la* the IDF at the beginning of this century. In hybrid war, all segments of the counter-hybrid war force must be adept at their tasks and discharge their functions as part of the strategic plan drawn up by the government; anything short would only extend the trauma of the populace and the nation.