

Lessons of the Ukraine War: Air Aspects

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Being prepared for war is one of the most effective means of preserving peace.

- George Washington

Abstract

The Russia – Ukraine war has become a long-drawn affair. The war has brought into focus the issues related to the new emerging world order, multilateralism, collective security, nuclear deterrence, economic sanctions, information warfare, and food & energy security. Russia, in spite of the military balance of power in its favour, has followed a delicate approach and has not used the full potential of its airpower. Ukraine's approach has been air defence centric, waging war like an urban jungle guerrilla warfare. The war has a direct effect on India, and it brings out some important lessons. Since the war is still on these lessons would require a fresh look in the future when the fog of war clears. To that extent these lessons would need a review in the future.

Introduction

The Russia – Ukraine war has entered the fourth month, with no end in sight. This war has affected every aspect of warfare and international engagement. The war has brought into focus the issues related to the new emerging world order, multilateralism, collective security, nuclear deterrence, economic sanctions, information warfare, and food & energy security. Russia has not used the full potential of its military power — especially its air force — against Ukraine. The question intriguing the military

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analysts is why the airpower has not been utilised fully and freely. While Russia is being criticised by the West for its lack of capabilities, another school of thought is that Russia is following a delicate approach towards the use of the air force and the ensuing destruction. While the world is eagerly waiting for the end of this conflict, a number of lessons are emerging from the prevailing situation which affect the future contours of war in all its dimensions.

General Aspects of War

Objectives. Officially, Russia stated her objectives of the “special military operation” as “demilitarisation, denazification and assurance about the neutral status of Ukraine (i.e., not joining NATO)”. The operations were justified by Russia, citing help call from the Donbas Region for its liberation from Ukraine. In retrospect, it appears the undeclared objective was also to consolidate the Russian hold on Crimea.

Orchestration of Operations. The operations were initiated by Russia with hybrid warfare using disruption (cyber-attacks) and destruction (using surface to surface and air-delivered long-range vectors). Surface operations were three-pronged, with attacks from North, East and South. In the North, the advance was towards Kyiv and Kharkiv. History will tell whether going for the Ukrainian capital was a part of the plan that went wrong or was it just a diversionary tactic to divide and tie down the Ukrainian forces. In the east advances towards Donbas, Luhansk, Donetsk, and Mariupol were obviously to liberate the Donbas area and create a Russia friendly corridor. In the south addressing Kherson, Mykolaiv, Odesa and Snake Island was to consolidate the hold on Crimea and deny sea access to Ukraine (making Ukraine a landlocked country). A few weeks into the war the Russian forces were reorganised and concentration shifted from the northern area to the eastern and southern areas. What stands out in the entire operation is that the full potential of the airpower is not being utilised by the Russians. The operations have reached a phase of medium tempo, urban guerrilla warfare, with Russian forces surrounding the cities and Ukrainian forces employing defensive, hit and run tactics.

Achievement of Objectives. Russia seems to be achieving most of its military objectives.

- Ukraine had already accepted that it would not join NATO.
- Ukrainian combat potential has been considerably reduced. Russia has attacked and destroyed most of its military targets and selective defence industry.
- Russia is now focused on the eastern region and gaining success in creating a Russia friendly corridor.
- Russia now has a land corridor to Crimea. It has also ended Crimea's water and power blockade (the freshwater canal connecting the Dnieper River to the arid Crimean Peninsula is now in Russia's hands, and so is a nuclear power station to the north of the peninsula, along with the power grid in south-eastern Ukraine).
- Russia has claimed control of the southern region of Kherson and is trying to move westward, along the Black Sea coast towards Odesa and beyond. This would cut off Ukraine's access to the Black Sea making it a landlocked country.

Information Warfare, Narrative and Legitimacy. Information warfare has become an intrinsic part of any war and is being considered a separate domain of operation. A convincing and acceptable narrative is essential to shape public opinion, provide legitimacy to the actions taken, and enhance the morale of its forces. In this case, the western narrative was that "Russia is the aggressor, trying to rebuild its lost empire, with Ukraine being the victim, and the west (the USA, NATO and EU) supporting the democratic rights of the victim country". The Russian narrative is that "The US-led West is the aggressor, using Ukraine against it as a pawn, not honouring its commitment and expanding the NATO westwards, bringing it to the Russian doorstep, and compelling Russia into taking this drastic action".

Sanctions. Economic and trade sanctions have become an effective tool of statecraft, being used extensively against unfriendly nations. India has also faced sanctions earlier at the time of nuclear tests and during the 1971 Bangladesh liberation war. History has shown that the sanctions by themselves have not deterred military actions but have added to the difficulty levels. The effect of these

sanctions needs to be factored in the long run. In this case, Russia has faced severe sanctions from the West to threaten the Russian economy.

Aspects of Air War

Comparative Analysis. There is a large disparity between the strength of the defence forces of Russia and Ukraine. Russia is the number two military power globally. The Russian Air Force is ranked second, whereas, the Ukraine Air Force is ranked 27th in the world. Numerically Russian Air Force is about 8 to 10 times the size of the Ukraine Air Force. Comparing the Army manpower and equipment, the Russian army is 3 to 6 times that of the Ukraine Army.

Use of Airpower by Russia. The Russians have followed a delicate approach and have not used the full potential of their airpower. They are being criticised by the western media for their poor planning, tactics, and training, the poor performance of weapons and equipment and lack of synergy between defence forces. One of the reasons for the self-imposed restraint could be to avoid too much destruction and collateral damage, keeping in mind the public opinion (domestic and worldwide) and long-term problems of insurgency, revolution, and resistance. Maybe for the same reason, Russia has not jumped into the fray of information warfare.

- **Opening Salvo.** Russia started the kinetic warfare with surface and air-launched air vectors. In the opening salvo, it attacked all the military targets including airfields, command and control centres, ammo dumps, early warning radars and air defence systems. Russia put down the Ukraine Air Force to a large extent.
- **Selective Targeting.** Russia has continued to use its long-range precision weapons. It has targeted all the military targets and degraded the military power of Ukraine considerably. Even the defence industry has been selectively attacked and damaged. Besides, attacks on military targets, Russia attacked some targets to send a message e.g., the attack on Lutsk airfield, 70 miles from the Polish border, was in all probability a message that military aid from the West would also be targeted in western Ukraine.

- **Control of Air.** Western media has been asserting that Russia failed to control the air space over Ukraine and it remains contested. The degree of control of air space cannot be ascertained but, no military commander would send its ground forces in kilometres of a long open convoy without assurance of non-interference from the enemy.
- **Airborne / Heli-borne Operations.** Airborne forces are trained and equipped to fight with speed, surprise, and aggression. They are ideal for taking over an airfield and forming an airhead. One of the main Russian targets in the initial hours of the invasion was the Antonov airport near the Ukrainian town of Hostomel, about 20 miles from Kyiv. The airfield was captured but the airhead could not be established due to the threat from shoulder-fired anti-aircraft weapons.

Use of Airpower by Ukraine

The use of airpower by Ukraine is being overstated in the propaganda. Some of the salient aspects of the utilisation of airpower by Ukraine are as follows:

- Ukraine's approach has generally been air defence centric.
- Shoulder-fired anti-aircraft weapons are being used extensively.
- The war has become like an urban jungle guerrilla warfare.
- Unmanned platforms are being used extensively.
- Ukraine kept asking the West to declare a no-fly zone over Ukraine. This request was denied, as the West does not want to get involved in a direct confrontation with Russia.
- The West keeps providing intelligence to Ukraine, without this intelligence it would not have been possible for Ukraine to use its limited fixed wing, missile and drone capabilities effectively.

Airpower Specific Lessons

Importance of Unrestricted Use of Airpower. Effect based, offensive application of airpower yields faster results due to the shock and awe effect that it creates. Applying airpower with restrictions is like fighting with one hand tied behind the back.

Unrestricted use of airpower accelerates the achievement of military objectives.

Integrated Offensive and Defensive Air Campaigns. Airpower is inherently offensive in nature. Even the concept of air defence has become offensive with the philosophy of active defence. The offensive counter-air and defensive counter-air campaigns are enmeshed with each other. These cannot be planned and executed independently in isolation. The idea of a separate AD command is not viable.

‘No Fly Zone’ Efficacy. The declaration of a ‘no-fly zone’ is one of the tools for strategic coercion and signalling in air warfare. However, it is viable and effective only if it is backed up by the wherewithal to implement it, in terms of air defence radars, weapons, platforms, and networks. Willingness to use them and readiness for escalation are other two important factors for the effectiveness of the no-fly zone.

Importance of Precision and Stand-off Capability. These two capabilities are important in grey zone operations, punitive strikes, and operations in urban areas, to avoid threats to the launch platform and to avoid collateral damage. Both quality and quantity need to be ensured in the arsenal of surface to surface and air to surface weapons.

Efficacy of Airborne Operations. Airborne operations (using fixed-wing and/or helicopters) yield quick results, speeding up the achievement of military objectives. However, the issue of their vulnerability is important. With the proliferation of shoulder-fired anti-aircraft missiles, the vulnerability of these platforms has increased manifold. These weapons can cause a prohibitively high cost to airborne operations, especially in urban and hilly areas.

Protection of Own Assets. Protection of own high-value assets from the enemy’s aerial attack with long-range vectors and standoff weapons is essential, especially during the opening phases of the war. Hardened aircraft shelters are essential and they should be able to withstand the destructive power of the enemy weapons. Future hypersonic weapons will have enhanced destructive power due to high kinetic energy. Dispersal of the assets, using the principle of not keeping all the eggs in one basket, would increase the enemy’s effort and cost.

Importance of Joint Warfare. Coordinated application of surface and air force is very important. The operations need to be planned and executed jointly. Joint training and joint exercises during peacetime are required, to increase interoperability between land and air forces. Joint organisational structures are required to increase the synergy. Joint theatre commands are one way of achieving it, but not the only way. The structural reorganisation should be done keeping in mind the factors like existing threats, availability of resources, economic strength, and the prevailing geopolitical situation. The restructuring should be able to deal with changing ways and new domains of warfare in future.

Importance of ISR and Information Sharing. In modern warfare, a high degree of situational awareness is of utmost importance. The space and air-based assets are becoming the only means to gain operational and strategic situational awareness. Multi-domain surveillance and reconnaissance capabilities are required. AI enabled hybrid systems are essential for processing the plethora of gathered data. A network environment is also required for speedy dissemination of raw and processed data on a need-to-know basis.

Conclusion

The tempo of war has slowed down with the area of operation restricted to the east and south of Ukraine. Russia seems to be prepared for the long haul and is pursuing its military objectives with single minded focus. With the balance of military power in its favour, it can afford to continue the war of attrition. The West is encouraging Ukraine to continue resisting. It is the Ukrainians that are suffering the most. A few questions that remain unanswered are, is Russia preserving its modern next-gen equipment for a stronger enemy? Are two sides looking for an honourable exit? The world is waiting and watching as to how this conflict will end.

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