

Modern Positional Warfare and How to Win it: A Logistician's Perspective

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Abstract

The protracted conflict in Ukraine has underscored the evolving nature of modern positional warfare and the critical role logistics play in achieving strategic objectives. This paper examines Valerii Zaluzhnyi's analysis of the challenges faced by Ukraine's armed forces and his proposed solutions to overcome the stagnation inherent in positional warfare. It highlights five operational aspects influencing this stalemate—air superiority, mine barrier breaching, counter-battery effectiveness, reserve creation and training, and electronic warfare capabilities—underscoring the need for technological innovation and adaptive strategies. The discussion pivots to the rational organisation of military logistics, a central theme in Zaluzhnyi's framework. Key factors include training investments, North Atlantic Treaty Organization interoperability, decentralised sustainment innovations, and seamless integration of international military assistance. Ukraine's ability to manage a diverse arsenal and sustain operations under contested conditions is remarkable but fraught with challenges. The article emphasises the significance of building war reserves, highlighting lessons from the war in Europe for recalibrating India's defence production and logistics paradigms. As logistics serve as the 'Oxygen of battle', the paper argues that adopting technologically advanced platforms, optimising information systems, and

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fostering rational logistics frameworks are imperative for modern militaries. It calls for an urgent review of existing paradigms to address the complexities of contested logistics, ensure readiness, and maintain competitive advantage in future conflicts. The insights drawn from Ukraine's experience resonate universally, providing a blueprint for enhancing military efficiency and resilience in an era defined by rapid technological shifts and asymmetric warfare.

Introduction

Valerii Zaluzhnyi, Commander-in-Chief of the Armed Forces of Ukraine, in his recent essay titled 'Modern Positional Warfare and How to Win it', has analysed the present state of the war his armed forces are involved in, and has suggested possible ways out of the stagnant situation.¹

The essay needs a critical analysis for a variety of reasons. Firstly, on account of its author's credentials, who has been in command of the Armed Forces of Ukraine since 27 Jul 2021. According to Politico, he epitomises the new generation of Ukrainian officers who have cut their teeth in the grinding eight-year war in Donbas, and when not on the front, trained across Europe with the North Atlantic Treaty Organization (NATO) forces²; apart from their experience in the ongoing operations which commenced on 24 Feb 2022. Zaluzhnyi is popularly referred to as the 'Iron General', and perhaps has one of the most challenging military assignments on the planet. Secondly, in terms of intensity, scale, and particularly the duration of operations, the war stands out in contrast to the prevalent military axioms and has been a subject of intense study by all major powers. Thirdly, what Zaluzhnyi has written, both with respect to the challenges they face and the probable solutions, will have relevance in all future wars; even more so because the conflict has seen an accelerated technology creep. Fourthly, given the asymmetry between the two sides, the positional nature of the conflict gives rise to immense curiosity in any military mind. Lastly, but not the least, lessons from a prolonged war that has acquired a positional form are much relevant to India, notwithstanding the differences in terrain.

In an interview to the Economist, Zaluzhnyi admits that the war is at a stalemate.³ Five months into its counter-offensive, his army has advanced only 17 kms; by NATO standards, to which his army is more or less aligned, they should have been in and out of Crimea by now. Similarly, on the other side, the Russians fought for ten months around Bakhmut to take a town of size six square kms.

The main body of the essay is divided into three distinct parts: reasons for transition of hostilities to the positional form; ways to overcome the positional nature of hostilities; and essentials for implementing the proposed ways. In the first part of the essay, five operational aspects are analysed—gaining of air superiority, breaching of mine barriers in depth, effectiveness of counter-battery, creation and training of reserves, and build-up of electronic warfare capabilities. What emerges is that despite the glaring asymmetry between the opposing sides, the aforesaid aspects have acquired a neatly balanced parity which has stagnated movement on either side of the line of control. In the second part of the essay, technological solutions have been proposed with respect to these operational aspects. Zaluzhnyi believes that early adoption of technological solutions and innovative approaches in these operational aspects are necessary for changing the status quo. In the third part of the essay, essentials for implementing the proposed ways have been detailed. The first being the aspect of command and control, and the second being logistic support. With respect to command and control, the main recommendations are—widespread use of information technology, ensuring formation of a single information environment, fostering conditions for information superiority, and emphasis on the processes of organising communications, intelligence, surveillance, and reconnaissance. What Zaluzhnyi has to say on logistics is the principal interest of the article and is discussed at length in the succeeding paragraphs.

Rational Organisation of Logistics

It has been explicitly stated that ‘One of the determining factors that significantly impacts the success of the implementation of the proposed ways to change the nature of the war and achieve goals is the rational organisation of logistics support for the state defence forces’. More conspicuously, the oft repeated peacetime stress on

reducing the 'Tail' and the trendy focus on 'Lean and Mean' is missing in the essay, even when human resources are the most premium commodity for the defence forces of Ukraine. Evidently, the necessity for rational organisation has larger significance and is being felt, even though the Ukrainian Armed Forces (UAF) have done exceedingly well in the field of logistics support. This is apparent from the following:

- Ukraine invested heavily in the training of its logistics workforce. A large fraction of it has been trained by the United Kingdom (UK) as a part of Operation Orbital and by other NATO states.
- Ukraine adopted centralised automated inventory solutions, reformed its procurement processes, and implemented a process termed 'Smart' or 'Tailored' procurement.⁴
- Ukraine implemented NATO standards and guideline documents within the framework of the NATO–Ukraine Partnership Goals, which has helped it become interoperable with the armed forces of the NATO member states.⁵
- Ukraine pioneered new forms of wartime sustainment, as desperation at the operational front proved to be the mother of invention. The 3-D printing of spare parts in buildings near the front has led to the decentralisation of its supply chain. It is also being used extensively to adapt commercial drones for military use. Over 200 drone start-ups are engaged in supporting the country's armed forces.⁶
- Ukraine built the capacity to absorb military assistance. As many as 30 flights a day land in Rzeszów, in eastern Poland, carrying military aid for Ukraine. The receipts are transported across land borders, with the state, private industry, and civil society participating seamlessly in the endeavour.
- Ukraine is supported by a 'Coalition of the willing', organised as the United States (US) European Command Control Centre, Ukraine/International Donor Coordination Centre (IDCC), which coordinates diverse needs, including resources, transportation, training, and funding. The IDCC has a unique ability to create workable combinations across

nations and geographies. For example, in one instance, the UK donated 105 mm howitzers, New Zealand provided training support conducted in the UK, and the US supplied ammunition and tactical vehicles to tow the howitzers.⁷

- Nico Lange, a former German defence official, says, “It is probably no exaggeration to state that no European NATO state would be capable of achieving the military logistical feats accomplished by Ukraine during this war”.

Reasons which may have prompted the need for demanding rational organisation are numerous and a few of them are appended in the following paragraphs:

- There is a large gap between the requirements and domestic production capabilities, particularly in the case of munitions. The imports are allocated and supplied based on operational priorities.
- Much of Ukraine’s storage locations have been targeted and destroyed in the operations.
- Managing the Soviet-era platforms along with the inventory supplied by partner nations is a massive challenge for any defence force. According to an estimate made in Apr 2023, if all the pledged military aid arrives in Ukraine, it would have 40 different tracked armoured personnel carriers or infantry fighting vehicles; 11 different main battle tanks; 21 different wheeled combat vehicles; 50 different types of artillery, rocket, and mortar systems; 32 different unmanned aerial vehicle systems; 19 different anti-tank weapons; seven different helicopters; 28 different air defence systems; and 18 different missiles.⁸
- A gross assessment suggests that Ukraine will need to have an inventory of no less than a million spare parts to support the systems it has and will acquire.
- Anecdotal data suggests that half of the equipment that have been received by Ukraine need spares or repairs at any given time, compared to the 95 per cent operational readiness rates achieved by the US in Iraq.⁹

The wartime challenges for military logistics are phenomenal and unpredictable. Logically, the necessity of being rational in organisation of logistics should dominate the discourse whenever any force is discussing or considering 'Transformation', 'Optimisation', or 'Mobilisation'. However, any further discussion on rationality in the organisation of logistics needs to be preceded by defining military logistics. The definition of military logistics has evolved over time. It has also seen a swing between 'Art', if one considers the qualitative aspects, and 'Science', if seen purely from a quantitative perspective. Even today, there are many definitions of logistics, and two of these, selected based on relevance to the context, are discussed below:

- Eccles, in his oft-quoted passage, has stated that "Logistics provides the means to create and support combat forces. Logistics is the bridge between national economy and the operation of combat forces. Thus, in its economic sense, it limits the combat forces which can be created; and in the operational sense, it limits the forces which can be deployed".¹⁰ What Eccles wrote was influenced by his experience of the Second World War and remains true for any modern war. Zaluzhnyi is seeking a rational organisation that acts as a bridge between his nation's economy (and the economies of partner nations) and the UAF, so that he has sufficient means to create and maintain the forces in combat. Axiomatically, it would only be prudent for us to evaluate the bridge that connects the three services to the national economy. The military organisation of the logistics and the core processes are fundamental to the efficiency and effectiveness of the bridge that brings in the means to create and support the combat forces and needs to be reviewed accordingly.
- The NATO Logistics Handbook defines logistics as 'The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, the aspects of military operations which deal with design and development, acquisition, storage, transport, distribution, maintenance, evacuation, and disposition of materiel; transport of personnel; acquisition or construction, maintenance, operation and disposition of facilities; acquisition or furnishing of services; and medical and health service support'.¹¹ How is NATO organised to deal with the aforesaid logistics

functions? The Joint Logistics Staff/General Staff Logistics (J4/G4) staff of all member nations at joint/service headquarters are organised under a single authority deal with these functions. The one-to-one relation between the scope of logistics as per their definition and the job profile of J4/G4 staff largely simplifies the organisational challenge. The Ukrainians have tried to emulate the model. In the Indian context, the definition of logistics, as contained in the relevant pamphlet, is almost similar to the NATO definition. However, functions contained, therein, are dealt by at least five different principal staff officers at the service headquarters, along with several line and staff directorates. Zaluzhnyi's argument has universal validity and ignoring it could be perilous in future conflicts.

War Reserves

The next area of emphasis by the Commander-in-Chief is reflected in the lines: 'At the same time, the experience of the Russian-Ukrainian war testifies to the renewed relevance of almost forgotten concepts, such as the accumulation of stocks of missiles, ammunition, and other logistical assets'. He is candid in admitting that post-Cold War, both side had given up on building war reserves, and their availability is now a grave concern for both Russia and Ukraine. The issue is far more serious for the defender and slightly less so for the aggressor, as the latter had the opportunity to address it first. On the issue of building capacity, the General states: 'According to various assessments, it takes at least a year to deploy large-scale production of weapons and equipment, missiles and ammunition, and other logistical assets, and for some types, up to two years'.

The adequacy of peacetime war reserves has since been analysed by all major military powers worldwide, considering the challenges posed by the war in Europe. The UK military ranks fifth most powerful in the world, and the following lines published in a Royal United Services Institute publication make an interesting reading – 'It is abundantly clear that the British military is woefully deficient in its stockpiles across domains. At the height of the fighting in Donbas, Russia was using more ammunition in two days than the entire British military has in stock. At Ukrainian rates of consumption, British stockpiles would potentially last a week. Of course, given that the UAF fielded more than 10 times

as many operational artillery pieces as the British Army at the beginning of the conflict, it might take more than a week for the British Army to expend all its available ammunition. All this demonstrates, however, is that the British Army lacks the firepower to deliver the kind of blunting effect that the UAF achieved north of Kyiv'.¹²

Similar concerns are also evident in the Pentagon, which is a big supplier of ammunition to Ukraine. An extract of communication from the US Department of Defense to the Speaker of the House¹³ is inserted below:

The other funding tool we need are those funds provided to replenish our military's inventories for the weapons and supplies we've provided to support Ukraine in their fight via dropdown. We have only USD 1.6 bn remaining of the USD 25.9 bn Congress has provided. We have already been forced to slow down the replenishment of our forces to hedge against an uncertain funding future. Failure to replenish our military services on a timely basis could harm our military's readiness.

On a different note, and more importantly, provisions exist in the US Defence Production Act of 1950 that let the administration guarantee private-sector loans 'For the purpose of expanding and accelerating the domestic production capability of critical weapons and equipment needed for national defence', which have been invoked by the Biden administration in Oct this year.

The need for ramping up investment in defence production goes beyond Ukraine, the US and the UK cited above. It is palpable all across—particularly in Russia, in Europe, NATO member states, and also in Iran and China. Quite clearly, the war is demanding a reverse shift. The end of the Cold War brought in emphasis on 'Velocity' rather than 'Mass', and the present conflict in Europe has highlighted the necessity for mass. Obviously, for India, the ideal solution lies somewhere between the two. The consumption pattern of the war is suggesting a re-calibration of our approach, the necessity of aligning it with the capability of domestic industry to meet a surge in requirements, and in terms of the quality of the country's arsenal. Case in point, the numbers required for precision guided munitions versus the ordinary—the higher the asymmetry, less the need for mass.

Zaluzhnyi also writes, "... when planning and organising logistics support, it is necessary to take into account the enemy's ability of fire effects on the mobile and stationary components of logistics support assets of troops (forces)".¹⁴ Realisation of this aspect in some form has always been there, but the way it is accounted for is the issue at hand. Western armies have recently focused on what is described as contested logistics, and all militaries need to quantify the impact of degradation and address it in a manner most relevant to their context.

Conclusion

Zaluzhnyi concludes his essay by reiterating the principal argument that a competitive advantage can be gained by acquiring technologically sophisticated platforms, exploiting information technology to the hilt, and organising logistics rationally. The war in Ukraine affords all militaries an opportunity to review their paradigms, and the necessity of doing so in the realm of military logistics stands out visibly. Historically, all military campaigns, the current being no exception, have thrown up enough facts to confirm that weakness in organisation of logistics support makes the war unwinnable, despite valour, high morale, tactical brilliance, and even technological superiority. It would be appropriate to end this perspective in the words of the commander of the US Army Pacific— "Logistics is (and will remain) the oxygen of battle, and how armies organise it is something which will continue to dictate outcomes in all wars".¹⁵

Endnotes

¹ V. Zaluzhnyi, "Modern positional warfare and how to win it", *The Economist*, 4 Nov 2023.

² D. M. Herszenhorn and P. Mcleary, "Ukraine's 'iron general' is a hero, but he's no star", *Politico*, 8 Apr 2022, accessed Dec 2023, <https://www.politico.com/news/2022/04/08/ukraines-iron-general-zaluzhnyy-00023901>

³ V. Zaluzhny, "Ukraine's commander-in-chief on the breakthrough he needs to beat Russia", *The Economist*, 4 Nov 2023

⁴ Deborah Sanders, "Ukraine's third wave of military reform 2016–2022 – building a military able to defend Ukraine against the Russian invasion", *Defense & Security Analysis*, vol. 39, no. 3, pp. 312-328, 2023.

⁵ Rusnak, "White Book 2021, Defence Policy of Ukraine", Ministry of Defence of Ukraine, Kyiv, 2022.

⁶ "3D printing and DIY: Ukraine's drone revolution", *The Economist*, 21st Sep 2023.

⁷ Vivienne Machi, "Inside the multinational logistics cell coordinating military aid for Ukraine", *Defense News*, 22 Jul 2022, accessed 06 Jul 2023, <https://www.defensenews.com/global/europe/2022/07/21/inside-the-multinational-logistics-cell-coordinating-military-aid-for-ukraine/>

⁸ Jeff Jager, "The long Ukraine war: It's time to transition to a more rational military assistance paradigm", Middle East Institute, 04 Apr 2023, accessed 05 Dec 2023, <https://mei.edu/publications/long-ukraine-war-its-time-transition-more-rational-military-assistance-paradigm>

⁹ Ibid.

¹⁰ D. E. Eccles, "Logistics in the National Defence", Newport, Rhode Island: *Naval War College Press*, 1997.

¹¹ NATO Logistics Handbook, Brussels: Senior NATO Logisticians' Conference Secretariat, 1997.

¹² M. Zabrodskyi, J. Watling, Oleksandr, V. Danylyuk and N. Reynolds, "Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022", *Royal United Services Institute*, London, 2022.

¹³ Congressional Record- Proceedings and Debates of the 118th Congress-First Session Vol. 169 No. 163, p.18, https://www.govinfo.gov/content/pkg/CREC-2023-10-04/pdf/CREC-2023-10-04-senate.pdf?utm_source=chatgpt.com

¹⁴ Valerii Zaluzhnyi, "Modern Positional Warfare And How To Win In It", *National Security Archive*, Nov 2023, p.9, <https://nsarchive.gwu.edu/sites/default/files/documents/semon9-ryglx/2023-11-00-Zaluzhny-Modern-Positional-Warfare-and-How-to-Win-It-Economist-website.pdf>

¹⁵ George R. Shatzer et al., PLA Logistics and Sustainment: PLA Conference 2022, *US Army War College*, 03 Feb 2023, p.13, https://core.ac.uk/download/553348319.pdf?utm_source=chatgpt.com