



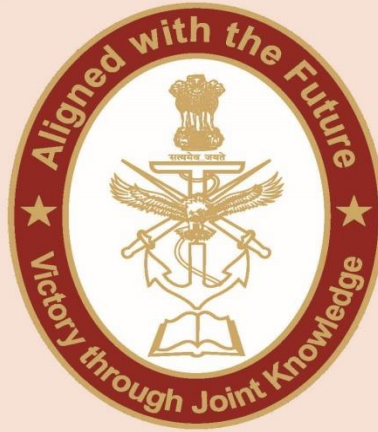
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WEB ARTICLE

RANDOM BUT RELEVANT LESSONS FOR OP LOGISTICS PLANNING FROM THE RUSSIA-UKRAINE WAR

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Russia Ukraine War has been unprecedented in History by the sheer stamina in time beyond a year and space localised in Ukraine with no respite and a possibility of nuclear threat. It is the first post Y2K, and the global communities, enabled with the world wide web, mutely spectate the mass destruction in hush wonder. In a dynamic world order where United Nations has come of age, G 20, G 7 and a large number of friendly most favoured Nation alliances like AUKUS, BRICC and the like are rife, this apathy for a war drawn much beyond a year is reminiscent of a big morass in the global peace and tranquillity assurance support systems. Obviously, as is evident, the flames of war continue to be stoked by US, NATO for Ukraine and China for Russia. There are many lessons in diplomacy, matured good neighbourly relations, maturity of political leadership, focus on Nation building and infrastructure development, creation of deterrence and continued negotiations/dialogue short of war on the one hand and revamping United Nations through restructuring into an agile organisation for not only ensuring global peace and security but creation of structures for proactive global policing to create war avoidance as a strategy.

Nation Building

Nations build resilient capacities and capabilities through infrastructure development, revamping manufacturing sector through industrial corridors comprising public and private enterprises, OEMs, MSMEs and ancillary low tech support tiers for meeting wide range of products, defence industrial bases to meet long term capabilities for weapon systems and life cycle MRO support, agriculture sector, energy needs and integrated services support sector to cater for regular and surge requirements of the

Nation during crisis and calamities. Armed Forces do an in depth net assessment of combat ratios and brainstorm scenarios for operations and matching logistics support. That said, Russia Ukraine War has huge lessons on the inadequacies of strategic thought and mis-management of infrastructure and allied support for a full scale long drawn war. In Russia, the **Military-Industrial Commission of the Russian Federation** established in March 2006 is a permanent functional body responsible for supervising the defence and military affairs. Directly under the President of Russia, the Commission, coordinates and implements programs in concert with Defence Ministry of the Russian Federation, the Armed Forces of the Russian Federation, and the defence industry. Given their focus on defence technology and status as a global net weapon systems provider, Rosoboron, the export wing of Russia has been providing aircrafts, tanks, missile systems globally and providing life cycle sustenance support with Ukraine, Poland and other erstwhile USSR allies. In fact, on 24 Feb 2022, the date of the Russian invasion of Ukraine, the Ukrainian military was still dependent on Russian-made military equipment with mutual dependence on weapons and technical spares support. The interdependencies prior to the war, have had an adverse impact during the course of war. Nation building must factor defence needs for surge and long term life cycle sustenance needs. The National Mission Gati Shakti must factor the hub and spoke infrastructure from industrial corridors to Tactical battle areas.

Supply Chain Beyond Borders

The tenuous lines of communication and tardy supply chain support with the fast paced operational plans, inhibited the combat potential of the Russian Forces in Ukraine, due to lack of matching logistics stamina. Russian Forces were found wanting as they carried the offensive beyond the Russian borders into Ukraine. Lack of basic food resupply of troops resulted in mass plundering of meagre local resources causing problems in good order and military discipline. Replenishment of ammunition and missiles could not happen intime resulting in frequent logistics pause. The combat force regeneration of military equipment was sub optimal. The repair and maintenance cover was inadequate for want of adequate trained manpower, gross shortages in spares support, specialised tools and test equipment in the tactical battle area. The FOL refill supply and even the load carrier vehicles were woefully short to meet op logistics requirements and the turn around time was inordinately high to sustain the large combat force. The supply chain being a weak link was interfered a, disrupted and destroyed by Ukrainian aircrafts, drones, long range vectors and special mission teams. Russian Forces appeared unprepared for the war beyond their borders into the depths of Ukraine. It brings to the fore three major lessons – One, secure supply chain and logistics support must be committed to the operational plans for successful conduct of integrated battle groups and missions. Two, contingency logistics support plans must be well incorporated as a back up for meeting critical needs of integrated battle groups in TBA beyond well into enemy territory. Three, Combat Ratios are a necessary reasonable matrix during peace time, in war the matrix that is necessary and sufficient is the ability to sustain high combat ratios through combat force regeneration. Armed Forces would do well to redefine logistics support through combat force regeneration capabilities and capacities and not combat & teeth to tail ratios.

Technology Transition Management

Ukraine started the War with a large number of equipment of their own and partly with Russian equipment which were antiquated in technology. However, as the war progressed the support from US and NATO countries changed not only weapon systems with enhanced technology thresholds but also gave Ukraine adequate combat potential to blunt Russian offensive. This real time induction of technology has been a major challenge in technology absorption by user units and maintenance agencies for Ukraine. This issue of management of technology transition in war and peace needs to be factored in training and creating structures akin to Corps Technology Centres for better technology management by the field Army.

The Power of Military Diplomacy

Ukraine Armed Forces have emerged as a modern, effective fighting force during the course of war due to abundance of technology and equipment support provided by the United States and its NATO allies. It is an apt example on how favourable diplomatic alliance can integrate technologies and weapon systems to create combat superiority by facilitating adaptability and agility. Russian Armed Forces, on the other hand, epitomise mismanagement of resources, poor op logistics and contingency planning, lack of logistics support on the edge despite a formidable technology, adequate supplies in the hinterland and a robust industrial base. In effect, in this crisis, Russia has demonstrated lack of adequate foresight, planning and professional competence, poor command and control and inadequate leadership demonstrated at all levels of command. The peace time exercises with troops as a Multi National Combat Force must be encouraged as a Tri Service and CAPF capability building strategy.

Recommendations for Enhanced Effectiveness – Sharpen the Edge

War is a Whole of Nation Approach supported by friendly Nations specially when it comes to logistics. The importance of logistics becomes profound in war with the multi-faceted surge needs specially when it comes to long drawn multi dimensional campaigns, as is being witnessed in the Russia Ukraine War. The major challenges and key drivers for **seamless uninterrupted integrated sustenance support** in the TBA which is the cutting edge comprise soldier readiness, equipment readiness, stamina for effective and efficient supply chain to support operational plans and employment of enabling technologies, when viewed from an operational logistics lens. There is a need to address macro operational logistics issues with focus on the edge, as a TBA perspective, to draw out lessons for India.

- (a) **Soldier Readiness.** Victory is measured with foot and Army marches on its belly are age old home truths. The crux of war fighting and victory in the TBA is to a great measure soldier dependent. Hence, guaranteeing logistics support to the troops on ground is of paramount importance in war. Soldier readiness comprises physically strong, technically capable, mentally agile soldier provided

with sustenance support to troops on the edge in tactical battle area with food, water, other supplies and ammunition, clothing based on the climatic conditions, billets for rest and refit, timely medical attention leading to cas evac based on the nature of casualty and also communication with families back home whenever there is a lull, to name a few big tickets. There is also a need to cater for labour in the TBA, displaced civilians, soldier stragglers and prisoners of war which puts additional burden on logistics. This issue has been found wanting in Russian Ukraine War and needs to be planned in the multi dimensional varied terrain that obtains on our Northern borders, Western borders and IOR. Swarm of Integrated Seeker Shooter and Logistics drones, robot mules and underground infrastructure in the TBA edge would need to be planned.

(b) Equipment Readiness. Equipment Readiness defines the operational effectiveness of combat formations and units. Timely repair, major interventions and maintenance in situ as far forward as possible ensures equipment sustenance support. The pillars of equipment support comprise skilled trained manpower, availability of specialised tools and test equipment, essential infrastructure and spares. Total quality equipment management guarantees that the right equipment is at the right place at the right time in the right condition. To achieve this, there is a dire need to build condition based monitoring systems in critical weapons systems including AFVs for health monitoring to ensure that the failures and residual life can be precisely predicted for prescriptive maintenance. Humanising Critical War Assets by using sensors, IoT and associated technology stack, specially for legacy critical equipment will be the game changer in any future conflict. A systemised approach to condition based reliability centric agile predictive prescriptive maintenance must replace the archaic preventive periodic maintenance.

(c) Integrated Logistics Support Planning. Once the battle is joined, offensive operations by design tend to be intense in consumption and hence replenishment of critical resources – ammunition, missiles, spares and assemblies, FOL, supplies and other resources for defence works to consolidate territorial gains. The fog of war, adhoc infrastructures and weak lines of communications, vulnerability of feebly guarded logistics supply chains to enemy action and ever increasing lines of communication resulting in high turn around time need detailed contingency planning and back up plans for operational effectiveness. Ambitious op plans will be contingent on well orchestrated op logistics plans. The gross inadequacies in Russian operational logistics planning is a lesson on the importance of integrated logistics support in operational planning. Operational plans duly supported by matching Operational Logistics plans must be tied in with an integrated C7I2S2R, Command, Control Communication, Computer, Cyber, Cognition, Combat, Intelligence, Information, Surveillance, Security and Reconnaissance based decision support system (DSS). This DSS recipe enabled by technology will be the game changer, and more or less favour if not decide the victor.

(d) Defence Technology Strategy. National Security Strategy and Technology Strategy are the DNA intertwined as inseparables. Despite being one of the global vanguards in technology and its weaponization, Russia has been found wanting in this long drawn war both in its employment and sustenance of resources. Technology forecasting, planning and its management must be based on a well thought through technology strategy which should be factored in defence operational strategy at the macro theatre and operational levels and merging technology with tactics must be the hallmark in the TBA for best impact. There is a dire need to have a well documented Tri Service Technology Strategy to cull out a cogent Technology Capability Road Map – a single integrated document incorporating Technology Readiness Level 1 to 9 time bound Technology Mission Program.

Conclusion

Russia – Ukraine War is a window into future of warfare. The next wars will also hinge on Combat Forces which are better organised in command and control, better prepared for meeting the operational logistics needs of the forces on the edge in the TBA, are better prepared with the wherewithal for adequate combat force regeneration and management, leverage technology and be able to integrate them into a coherent military strategy. Let's introspect and do it.

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