

## Article

# Russian Military Campaign in Ukraine: Prognosis and Impact

Rakesh Sharma

### Abstract

*The Russian invasion of Ukraine has raised many issues regarding war aims, strategy, military operations and the far reaching consequences. Russian policy-makers and political hierarchy must have determined that this war is worth fighting for, with all its costs, consequences and ramifications. Since the 2014 annexation of Crimea, war was on the horizon. For the past eight years Ukraine with NATO military support and training, was preparing for it. The concentration of Russian Forces over months prior to the war was also clearly discernible. The invasion underscores that conventional wars are here to stay, and can commence with limited preparations or notice. It has lessons for India which has faced for the past two years large Chinese forces prepared to invade across its northern borders, and a hostile Pakistan allied with China. The nature of warfare is undergoing dramatic transformation. The Indian armed forces should build combat capabilities, train for and prepare for the current threats and an uncertain future in total consonance with the larger political goals, on whose shoulders must ride the current military doctrine and future military strategy.*

**T**he best teacher of war is war itself! With several months of the Russo-Ukraine war behind us, it is imperative to rationalise and focus on the geopolitics, geo-economics and geo-strategy of the war.<sup>1</sup> With the plethora of largely one-sided narratives, it is a Herculean task to sift through and piece together a rational explanation of the whys and wherefores.

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Indeed, the Russian policy-makers and political hierarchy at the outset must have determined that this war is worth fighting, with its costs, consequences and ramifications. In the pre-emption to it, the military brass would have candidly and directly advised on military strategy, the options available, the appreciation of the defenders and their will to fight, military training, wherewithal, and culture and values and conduct of the campaign. The leadership would have thereafter established the policy and guided the military in planning a military end-state that would facilitate the envisaged political end game. In the visualisation of politics of war and the envisaged future peace, the political goal would have laid out inviolable parameters and restrictions for the military operations. Political goals and military strategy are hence equally accountable for the conduct of war.

The paper analyses the course of the ongoing war and its military implications for India. The course of the war is being intensely studied globally, including by China. Even with the in-depth knowledge that the Russian political and military hierarchy had of Ukraine and its military and irregular forces prowess, the developments could not be pre-determined. Wars can never be linear, conditions are bound to change, there would be mistakes and the adversary gets to vote in response strategy! The level of military support from the US, NATO and the allies, and the weaponisation of economic sanctions by the West may not have been foreseen.

### **Russian Political Goals**

The likely Russian Political Policy on the war can be examined in five foundational parts:

First, President Putin's Feb 21<sup>st</sup> 2022 speech underscored the political policy for the war, "...modern Ukraine was entirely created by Russia." He insisted that Ukraine never had "stable traditions of real statehood." He added: "*Ukraine is not just a neighbouring country for us. It is an inalienable part of our own history, culture and spiritual space. (Ukrainians) ...are our comrades, those dearest to us – not only colleagues, friends and people who once served together, but also relatives, people bound by blood, by family ties...*" Russian President Vladimir Putin had often expressed the view that Russians and Ukrainians, as well as Belarusians, are one people – 'a nation divided'. As per some estimates, there were approximately three million Ukrainian citizens living in Russia in 2018, including migrant workers who send remittances back home – and

though many are Russian citizens now, yet consider Ukraine as their homeland. There are also about 0.9 million Russians settled in Ukraine. Though Ukrainians had held a positive view of the Russian people, the 2004 Orange Revolution, the 2014 annexation of Crimea, the insurgency that followed in Donbas and the allure of economic prosperity of the European Union, have greatly enhanced Ukrainian nationalist identity. It includes a strong anti-Russian animus. However, the Russian hierarchy has seemingly relied heavily on the people-to-people relationship, common cultural and Eastern Slavic ethnicity in expecting public support while making the war policy. Second, on February 21<sup>st</sup>, 2022, three days prior to the commencement of the war, President Putin had clearly stated: , “... if it (Ukraine) joins NATO then it will be “a direct threat to Russia’s security”. A principal war aim was to ensure that Ukraine would not join the North Atlantic Treaty Organization (NATO), that no offensive weapons would be stationed near Russia’s borders and the NATO troops and equipment that had moved into Eastern Europe since 1997 would be moved back to Western Europe.<sup>2</sup> The success or otherwise of these aims can best be analysed on war-termination, though presently it seems that the NATO, which was previously declared by President Macron as ‘brain dead,’ has a new breath of fresh air and new-found jointness.

**A principal war aim was to ensure that Ukraine would not join the NATO.**

Third, since the 2014 annexation of Crimea, Russia has channelled billions of dollars to restore Crimea’s infrastructure, such as the \$3.7 bn spent on 19 km-long bridges linking the peninsula to mainland Russia over Kersch Straits inaugurated in 2018. The population of Crimea, however, has lost the markets for its products in Southern Ukraine. The worst was that the Soviet-built North Crimean Canal that took off from the Dnieper River at Kherson supplied 85 percent of the water for agriculture and other uses by the population of Crimea. Ukraine had shut down the canal in 2014 on the ground that it nearly obliterated agriculture in Crimea and forcing a rationing of water supply in urban centres for three hours a day on weekdays and for five hours on weekends. There was a large shrinkage in the land under cultivation in Crimea, from 130,000 hectares in 2013 to just 14,000 in 2017. Southern military offensive from Crimea and restoration of water supply to Crimea from Kherson would have been a political diktat and led to the destruction of the dam on North Crimean Canal and the rush to contact and occupy Kherson within 24 hours of commencement of hostilities.

Fourth, 'denazification' has been a stated political aim of Russia and the Azov Battalion based in Mariupol and other similar outfits in the restive regions of Donbas have often been cited as ultra-rightist/ultra-nationalist outfits. Indeed, the military uniforms of the Azov unit feature Nazi insignia and its fighters have been photographed with tattoos of Nazi symbols such as the swastika and its troops have a Nazi-style raised-fist salute. The Office of the UN High Commissioner for Human Rights and Amnesty International have accused Azov fighters, and other volunteer battalions of human rights violations, including torture, kidnappings, and extra-judicial executions. In 2015, the US Congress passed a resolution denying military aid for Ukraine for funding, arming or training the Azov Battalion. There have also been attempts to designate the Azov Battalions as a 'Foreign Terrorist Organisation'. The capture of Mariupol thus became a political necessity for Russia.

Finally, the focus of Russia is on the "main goal, liberation of Donbas".<sup>3</sup> Donbas, once the centre of Soviet heavy industry, plays a highly symbolic role. Donbas is Ukraine's industrial heartland, with its coal-based economy, the coalfields extending across the east to Russian territory, with extractable reserves estimated at over 10 billion tons. About a quarter of the population of East Ukraine overall are ethnic Russians. Overall, it's a mixed population. Numerous companies in eastern Ukraine provide important raw materials and products to Russia - especially for the Russian space and defence industries. Twelve types of Russian intercontinental ballistic missiles, along with spare parts and maintenance, come from the eastern Ukrainian city of Dnipropetrovsk alone. In the Donbas, special steel is produced for the tanks of the Russian armed forces, and most Russian combat helicopters fly with engines from Zaporizhia. The self-proclaimed Donetsk People's and the Luhansk People's Republics held referendums in May 2014, which showed 'about 90 percent of the population were in favour of independence from Ukraine'. These Republics were officially recognised by President Putin ahead of the war.

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### **The Conduct of the War: 24 Feb-15 July 2022**

It is obvious that since the 2014 annexation of Crimea, war was on the horizon. For the past eight years Ukraine with NATO military support and training, was preparing for it. Given the international support and well-planned supportive mediatisation, there was little SHOCK and AWE, and hence no early capitulation of Ukrainian Government and Military Forces.

As the war commenced, the international media claimed grave damages to the cities as part of a propaganda campaign against Russia and to build international opinion. With the hindsight of military operations, and in the light of the above examined political policy underpinnings, it is necessary to sift through the fog and assess the execution of the military strategy.

It was evident that the concentration of Russian Forces over months prior to the war, became potentially a weakness, as the movement in the battle space was clearly discernible. There was no advantage of surprise or deception at scale, even of timings and, to an extent, intentions. Mass mobilisation, even deceptive concentrations and movements, cannot be hidden from the discerning analysts with state-of-the-art technology in this century. There was no SHOCK, hence, of the Russian offensive.

The political aim that would have affected the military strategy is the concept of Military Application of Force. The Soviet Union had committed massed troops in Hungary (1956), Czechoslovakia (1968) and Afghanistan (from 1979 onwards). The military strategy dictates the quantum of military force to be concentrated and applied to achieve decisive military objectives. The quantum of Russian military ground force arrayed at the commencement of operation on 24<sup>th</sup> February and in the first forty days did not indicate plans for the capture of cities like Kyiv and Kharkiv. In hindsight, the US Intelligence reports had correctly estimated that the Russian plans involved extensive movement of 100 odd battalion tactical groups (BTGs) with an estimated 175,000 personnel, along with armour, artillery and equipment. In an intensely urbanised environment, the force was dispersed over a very large multi-axial front, obviating any initial disadvantage to the Ukrainian armed forces. Limited force levels were applied on both sides of the River Dnieper through Belarus towards Kyiv or for offensives towards Sumy and Kharkiv. This indicated the Russian military's strategy of NOT capturing major cities and getting embroiled in urban guerrilla (irregular) warfare.

The use of massive firepower as a key component of the Warfighting Doctrine of the Russian military was seemingly very restricted. It must be stated that war is a dirty business, a destructive endeavour, and there have been loss of lives and property, but these are nothing closely akin to what has been witnessed in other wars even in the 21<sup>st</sup> century. In hindsight, this was no-Grozny, Fallujah, Baghdad, Raqqa or Aleppo in terms of the damage and plastering/annihilation they experienced in the initial stages

of warfare. The proximate location of Russian forces around Kyiv and its suburbs Sumy and Kharkiv, and the seeming lack of progress in capturing them, with the audio-visuals/ social media extolling the Ukrainian resistance and damage to Russian equipment, however, did point towards the Russian offensive having well-nigh bogged down!

It seems, in hindsight, that the Russian political establishment was hoping for an early capitulation – as a result of its politico-military coercive strategy.<sup>4</sup> Eastern Ukraine’s demography is largely Russian speaking or ethnic Russians – as in Kharkiv and Donbas, and Russian armed forces were banking on the population’s support. Apparently, these were unrealistic assumptions, and with Ukrainian nationalism paramount the population did not rise in support of the Russian offensive. This may have forced some innovation in the military plans.

**It seems that the Russian political establishment was hoping for an early capitulation – as a result of its politico-military coercive strategy.**

Templating from previous 21<sup>st</sup> century wars, at the outset it was expected that the Russian Air Force would quickly destroy the Ukrainian Air Force and the Air Defence assets to achieve air superiority. It is apparent that Russia’s air force has played a minimal and subordinate role, and relied on volleys of cruise and ballistic missiles towards Ukraine’s air bases in an attempt to ground its planes and air-defence systems, and against radars and anti-aircraft missiles sites. The Russian military offensive from Crimea towards the Ukraine mainland was fierce, strong in force levels and firepower that ensured early capture of Kherson, destruction of the Dam and restoration of water flow to the canal linking the Dnieper River to Crimea within 48 hours. Its capture was part of the policy end-game for Russia and hence a part of the military strategy. The Ukraine armed forces anticipated strong offensive towards Donbas, and had apparently planned for a stoic defence. This, along with the strong defence by the Azov Battalion at Mariupol apparently denied early capture and link up with the Kharkiv offensive or the Southern offensive from Crimea.

Russian offensives into Western Ukraine were limited to missile strikes at seemingly military establishments. Apparently, the Special Operations training centre located near the town of Ovruch about 15 miles and the NATO-Ukraine PFP Centre at Yavoriv, 10km from the Polish border, were targeted with missiles, some reportedly hypersonic. There have been no signs of any plans for a ground offensive West of Dnieper River,

even towards the all-important port city of Odesa, which had been anticipated.

A significant trend has been the increasing use of private military and security companies (PMSCs) in conflict zones.<sup>5</sup> According to the BBC, some PMSC companies are offering between US\$ 1,000 and US\$ 2,000 a day, excluding bonuses, for those with combat experience who are willing to make the trip to the war-torn country.<sup>6</sup> Russia's Wagner Private Military Company (PMC) has recruited across Syria and beyond to bring troops to fight in Ukraine's Donbas region, with the company's ranks swelling by the thousands following the invasion. They reportedly participated in the assault on the town of Popasna. The "Borey" group, meanwhile, has posted about their participation in an offensive in the Donbas. The Cossack group, "Don", is also reported to have been operating on the Izyum front in the southern Kharkiv Region.<sup>7</sup> The Pentagon's military contractors have known to be training and advising several brigades of neo-Nazis backed by Ukraine's security forces in the Donbas region since 2014. Erik Prince, the founder of Blackwater (renamed Academi), along with his associates from several other private security firms, personally visited Kyiv early in February 2022 following the Russian troop build-up and met with security officials of the Zelensky regime.<sup>8</sup> The International Legion of Territorial Defense of Ukraine, or the Ukrainian Foreign Legion, is a foreign military unit of the Territorial Defense Forces of Ukraine. It was created on 27<sup>th</sup> February 2022 by the Ukrainian government of President Volodymyr Zelenskyy to fight against the Russian invasion of the country.<sup>9</sup>

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With the Russian offensive into Ukraine, analysts worldwide had warned about the danger of catastrophic cyberattacks. Indeed, in the days leading up to the war, hackers had defaced Ukrainian websites, unleashed malware on government systems, and targeted the country's banking system—albeit with limited effect. As no cyber-Armageddon materialized, the threat still exists. Only time will tell, if the alarmism of cyber threat being the biggest existential threat, like a digital Pearl Harbour, is overblown or overhyped, or the threat of severe reciprocity becomes a deterrent. The reported cyber-attacks are given below:

- Ukraine's largest bank, Private bank (commercial bank), was hacked using a distributed denial of service (DDoS) attack.<sup>10</sup>

- Phishing campaign SunSeed (malware) targeting public sector.
- Foxblade (HermeticWiper) Trojan attacks targeting the public/private and military.<sup>11</sup>
- Cyberattack on Border Control Station, targeting the refugee related activities.
- IsaacWiper & HermeticWiper a malware attack, targeting the financial sector.
- SMS Spam/Disinformation Campaign.
- Defacement of Government Websites, targeting civilians and the public sector.
- WhisperGate Wiper attacks, targeting the private and public sectors.

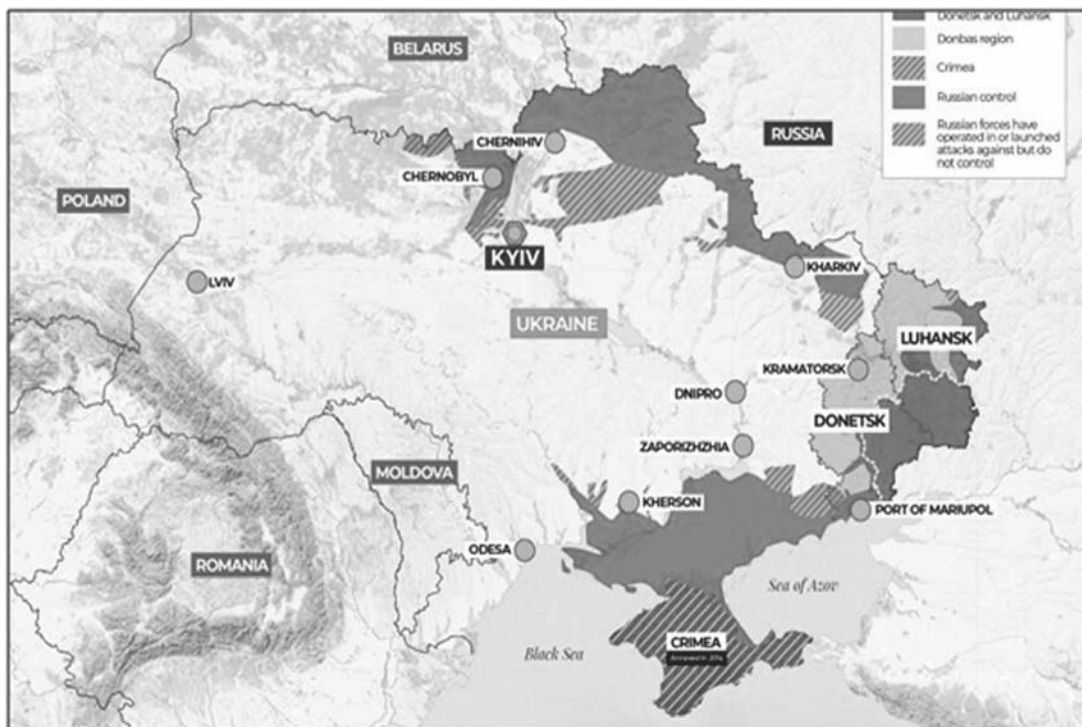
Reports indicate that: ‘Russians were successful in jamming Ukrainian as well as European Satellite Communications (SATCOMs) terminals in the initial stages of the war. When it launched its invasion of Ukraine on 24<sup>th</sup> February 2022, Russia managed to disable tens of thousands of KA-SAT SATCOM terminals. They ceased operating across several European states such as Germany, Ukraine, Greece, Poland, and Hungary. Germany’s energy producer Enercon even went so far as to admit that 5800 of its wind turbines which are operated remotely through a SATCOM connection located in central Europe, suffered a loss of contact with its Supervisory Control and Data Acquisition (SCADA) server. All the countries that fell victim to the attacks even lost broadband internet service’.<sup>12</sup> Elon Musk’s SpaceX stepped in to assist the Ukrainians following a formal approach was made to SpaceX to provide its Starlink services for Ukraine’s GIS artillery. This helped restore SATCOM services that existed before the war. Even more remarkable is Starlink’s contribution to the Ukrainian war effort in not only circumventing Russian jamming and destruction of its satellites, but the space-based internet services of Starlink dispensed completely with ground infrastructure to transmit high bandwidth data. Starlink enabled internet email service, enabling Ukrainian forces to communicate and operate behind Russian lines.<sup>13</sup>

**Russians were successful in jamming Ukrainian as well as European Satellite Communications (SATCOMs) terminals in the initial stages of the war.**

It is necessary to mention the capture of Mariupol, a major strategic centre and therefore a target for Russian forces. It is the largest city in the Ukrainian-controlled



area of Donetsk Oblast, and is one of the largest Russian-speaking cities in Ukraine. The siege of Mariupol, which was part of the Russian eastern Ukraine offensive and southern Ukraine offensive, started on 24<sup>th</sup> February 2022 and concluded on 20<sup>th</sup> May 2022, when Russia announced the surrender of remaining Ukrainian forces in Mariupol after they were ordered to cease fighting. By 22<sup>nd</sup> April, the remaining Ukrainian forces had retreated to the Azovstal Iron and Steel Works, a large and highly defensible industrial complex.<sup>14</sup> Ukrainian officials reported that at least 95 percent of the city had been destroyed during the fighting, largely in Russian bombardments. Control of its port on the western shore of the Sea of Azov is vital to the economy of Ukraine. For Russia, it opens up a land route to Crimea and the passage of Russian marine traffic. Capturing the city gave Russia full control over the Sea of Azov. Before withdrawing from the outskirts of Kyiv, by 30<sup>th</sup> March 2022, Russian military had captured over 1,00,000 square km of territory from the West of Kyiv to Kherson, along the periphery of the border between Russia and Ukraine, as given below:



Source: Institute for the Study of War

The armed conflict in Donbas, Eastern Ukraine actually started in 2014. Between then and early 2022, it had already killed over 14,000 people. Over the course of eight years, the Ukrainian government forces fought Russian-backed separatists for control over the two heavily industrialised regions of Donetsk and Luhansk. Fierce battles in 2014-2015 ended with one-third of the regions' territory, its most urbanised part, occupied by two self-described Donetsk and Luhansk People's Republics. The fighting transformed into a trench war, with roughly 75,000 troops facing off along a 420-km-long front line cutting through densely populated areas. The war ruined the area's economy and heavy industries, forced millions to relocate and turned the conflict zone into one of the world's most mine-contaminated areas.

### **Analysis of the Current State of War**

The withdrawal from Kyiv-Sumy-Kharkiv after 30<sup>th</sup> March 2022 indicated adaptability and understanding by the Russian military of the nature of the ongoing war. The battle for the capture of Luhansk Oblast commenced thereafter. The Ukrainian defences in the Donbas region have been marked by trenches with linear defences, partly based on rivers, and urban warfare. The April to June 2022 period has witnessed a slow, but steady advance by the Russian forces, with Luhansk having been captured by early July 2022.

**The April to June 2022 period has witnessed a slow, but steady advance by the Russian forces.**

### **The significant issues observed in warfighting are:**

- Russian electronic warfare (EW) is denying Ukraine an effective kill chain to destroy Russia's artillery. EW Complexes are integral to the Russian concept of operations. Russian EW employment is not preventing Ukrainian communications and denying access to the Electromagnetic Spectrum. However, it is disrupting, limiting the accuracy of positioning and slowing down vital kill areas and imposing limitations on Ukrainian reconnaissance in-depth. Because long-range strike depends on precision systems, which are only available in limited numbers, Russian EW is a critical barrier to effective employment by Ukrainian forces of highly capable Western systems that could enable them to win, fight and undermine Russia's most important advantage.<sup>15</sup>



Source: Institute for the Study of War

- Russian artillery is a mission critical force multiplier. The Russian artillery is preventing the Ukrainian military from undertaking offensive manoeuvres. Russia is firing 20,000 shells of 152mm Artillery per day compared to Ukraine’s 6,000.<sup>16</sup>
- Russian cruise and ballistic missiles are imposing a high economic and political cost on Ukraine. Russia’s invasion of Ukraine has turned into the largest testing ground for ballistic and cruise missiles in modern warfare. According to a senior U.S. official, as of 29<sup>th</sup> April, 2022, Russia had launched more than 1,950 missiles — far more than the 955 cruise missile strikes U.S. forces carried out during the invasion of Iraq in 2003.<sup>17</sup> The shortage of skilled infantry and armoured operators is limiting Ukraine’s offensive combat power. The huge losses suffered by Ukrainians daily in its war against Russia could be a tipping point in the ongoing conflict. Ukrainian casualties are reportedly somewhere between 600 and 1,000 a day.<sup>18</sup>
- Despite all the support by NATO, Ukraine has a limited ability to plan and execute combined operations at scale. The un-standardised NATO/US equipment – different

**Russian cruise and ballistic missiles are imposing a high economic and political cost on Ukraine.**

training, ammunition, maintenance and logistics —are grave issues. To successfully defend while shifting from Russian-derived heavy weaponry to an unfamiliar arsenal of Western howitzers, armoured vehicles, and NATO-standard ammunition is difficult. To survive, everything from training to supply chains must change—and all while under combat. The logistical challenge is immense. Western ammunition and other military consumables are incompatible with most Russian-designed heavy weapons. The logistical streams for both the old and new weapon systems involve getting the right supplies to the right places in Ukraine’s fast-moving battlefield.<sup>19</sup>

- Russian operations are excruciatingly slow but steady in Donbas. Higher reliance on artillery saves on casualties in men and material! The Russian army, stung by its apparent operational failures in the war’s opening weeks, has adapted its way of war, abandoning its early attempts at grand encirclements using fast-moving armoured columns. It now relies on artillery to grind down defensive positions and the Ukrainian army’s ability to resist. It then masses infantry and armour in localised spearheads to seize the ruins with overwhelming force, currently outnumbering the Ukrainian defenders seven to one. This allows “Russian forces to make greater progress in urban fighting, with casualty rates among Russian and Ukrainian units currently approaching parity, despite the Russians usually being on the offensive”.<sup>20</sup>

### **Lessons for India**

The war is ongoing and is currently being studied worldwide. It is apparent that conventional wars are here to stay, and can commence with limited preparations or notice. Wars will have to be fought by India with its own prowess and combat capabilities, with very limited, if any, assistance likely from friendly nations. What is most significant is the political policy and military strategy interface in the conduct of war. The Russo-Ukraine War 2022 has indicated that historical similarities will not provide any guidance to the future. War is changing at a dramatic rate and scope, where the experience of past wars would be divorced from the current realities. India has structural fault lines with two adversarial neighbours and contested borders. In the light of the ongoing Russo-Ukraine war, there is a need to contemplate the transformation that modern warfare is undergoing. Ten such propositions are examined to draw lessons relevant to the Indian context.

First, wars are a costly gambit, a greatly destructive endeavour. War is a constant teacher, albeit a very brutal and costly one. Questions had previously been raised about the utility of large conventional forces involved in long-drawn attrition warfare in hostile battlefield conditions, to gain territory or to break the will of the adversary to fight. The ongoing war has put paid to many such posers, though it does not foretell that wars cannot be swift, short, lethal and intense. But the adversary has a vote too in war, and would have planned its counter-strategy. The course of the war could not be pre-determined, even with the in-depth knowledge that the Russian political and military hierarchy had of Ukraine and its military and irregular forces. As in the current case, mass concentration of own and adversary's forces for training exercises that culminate in war, would be clearly discernible by commercial and military technologies. There will be little advantage of surprise or even deception at scale, even of broad timings and, to an extent, intentions. The defender in such a campaign will be singularly advantaged.

Second, in the Russo-Ukraine War 2022, there are apparently political constraints in the use of combat force. Doctrinally, Russian armed forces have emphasised mass fire offensive strategies, leveraging improved ISR capabilities, wide array of platforms, and using speed, surprise and integrated combined arms manoeuvre forces to disrupt and overwhelm enemy forces. It was apparent that Russia's military strategy in Ukraine incorporated tenets of measured response and precision fire, in the initial stages of the war. The issue that needs emphasising here is that the Indian military must train and exercise, and create the force design that facilitates a wide range of options—ones that are in concordance with the Government in peacetime. Shortly before the commencement of war, any dramatically modified military strategy, without the use of preponderant firepower, will bring about a situation like the one that the Russian military faced at Kyiv and its suburbs. War is not predetermined, not linear, mistakes will happen, conditions will change and innovations are demanded. At the end of three months, there have been obvious adaptations in the Russian strategy as is evident in the destruction wrought in Mariupol and the operation in Donbas. In sum, we need to make political and military strategic choices, based on outcomes, in peacetime.

**Russia's military strategy in Ukraine incorporated tenets of measured response and precision fire.**

Third, terrain plays a tremendous role in territorial wars. Urban warfare is an absolutely different kettle of fish! Recent examples of urban warfare, Grozny (31<sup>st</sup> Dec

1994 to 08<sup>th</sup> Feb 1995 and 25<sup>th</sup> Dec 1999 to 06<sup>th</sup> Feb 2000), Fallujah (04<sup>th</sup> Apr 2004 to 01<sup>st</sup> May 2004, 07<sup>th</sup> Nov 2004 to 23<sup>rd</sup> Dec 2004 and 22<sup>nd</sup> May 2016 to 29<sup>th</sup> Jun 2016) among others, saw great devastation. A significant case is of Mosul from 16<sup>th</sup> Oct 2016 to 04<sup>th</sup> Jan 2017, when US-backed Iraqi security forces conducted a full-scale city attack to liberate the city from the Islamic State. The operation was the largest conventional land battle since the attack on Baghdad during the US-led invasion in 2003 and one of the most destructive urban fights in modern history – a force of over one hundred thousand attacking somewhere between five and twelve thousand irregulars. Ukraine is a modern urban state, with very large cities and large suburbs, Kyiv is a huge metropolis. The four to five Combined Army Armies (CAA) applied against even Kyiv's suburbs were grossly insufficient as a combat force. Mariupol, a key objective for the Russians, and the city of Severodonetsk in Luhansk were nearly devastated by artillery fire used to facilitate its capture without urban warfare of street to street fighting. This brings to the fore the immense urbanisation (in addition to the water-obstacle ridden terrain) in plains of Pakistan and India. We ought to draw the right lessons from the modern day urban wars in contemplating military strategies in an urbanised environment.

Fourth, many thinkers have opined about the demise of the tank or otherwise. It is necessary to observe the battlespace intensely. There is indeed no replacement to boots on the ground or tank as a platform. However, the urban environment, modern technology, and irregular warfare practised by the Ukrainian defenders clearly indicate the limitations of mechanised warfare. The survivability of the tank has come into question. Much has been written about Javelins, New generation anti-tank weapons (NLAW) and Stinger missiles. While 84mm Rocket Launcher (RL) has serious limitations against 1000mm effective rolled homogeneous armour (RHA), NLAW is six times more expensive than the 84mm RL and Javelin is ten times more expensive than the NLAW. The NLAW and Javelin can effectively target from a closed environment, i.e., a many times more expensive tank. To add to this are the drones and loiter ammunition that will eventually be with Artificial Intelligence and autonomy.

There has been a conservative use of tactical air force. The aircraft have been avoiding low-level operations, and in the future would require advanced defensive aids to survive. Attack helicopters may have limited use in contested airspace. Long-range precise artillery has been and would be playing a decisive role, though collateral considerations may demand more precision ammunition. ISR is the key, as, for example,

requisite data to Ukraine provided the opportunity to effectively use Neptune missiles against the Russian ship *Moscova* – other considerations notwithstanding. About 125 ballistic and cruise missiles were launched against pre-selected targets in the first 24 hours of war – radar positions, electronic warfare systems, S-300 sites, runways, airports, air assets and bases. Over 1200 ballistic and cruise missiles were fired in the first 30 days of the war. It brings into focus the PLA’s system confrontation and system destruction strategy that has a distinctly similar focus.

The large Russian tank and Infantry Combat Vehicle (ICV) destruction must not be pushed under, by ascribing to poor tactics or lack of combined arms support. The tank will have to take another avatar, sort out its ‘cook off’ of ammunition issue, get some directed energy weapons, different metallurgy and protection, and improve its survivability— all without gaining weight. The use of mechanised forces through urban contested environment, or even gullies of Eastern Ladakh, with preponderance of precision firepower, clearly need reanalysis. Contextually, light tanks will have serious survivability issues.

**The use of mechanised forces through urban contested environment with preponderance of precision firepower, clearly need reanalysis.**

Fifth, the modern trends in warfare that have been highlighted in the ongoing operations include: the conjoined targeting by ballistic and cruise missiles and rockets fired from air, fixed wing helicopters and drones. Firepower coordination with EW changed the character of warfare in Donbas. Is there a need for a geospatial intelligence agency and creation of a unified information space in the battlefield? Defensive and offensive Cyber-EW amalgamation and leveraging has become imperative. Cyber-EW will not replace conventional war, though their disruptive potential must not be understated. Terrestrial/ space communication and GPS may be denied from the early stages of the war, as was done by the US in the Iraq War and Russia on 24<sup>th</sup> February 2022.

Sixth, the major armies of the world – the US, Chinese and Russian— have gone in for combined teams at the tactical level, with Brigade Combat Team (US), Combined Arms Team (PLA) and the Battalion Tactical Groups (Russian). The success of the Russian BTG ought to be studied and analysed. The PLA’s CAB were seen in Eastern Ladakh in 2020 and thereafter. India has to compose and organise its forces as per its own war fighting doctrines. However, the concept must not be negated on the narrower scoped altar of human resource issues, but on a deliberate operation think.

Seventh, is the distinctive emphasis on ethical issues, such as rules of warfare, human rights, humanitarian corridors and evacuation of civilians from the thick of battle zones, and war crimes investigations, many of which appear to be motivated. These were not so apparent in other conflicts such as Afghanistan, Iraq, Syria, Libya and Yemen. Perhaps, the future has largely precision and principled use of combat power in store.

Eighth, is about logistics planning. Much has been stated about poor logistical planning by the advancing Russian columns, terrain conditions for movement, limited road space management and focussed targeting of logistical convoys and trucks by irregulars. The Russians follow the model of push system logistics, as against the West's pull model, when it comes to managing inventory as it is distributed to the combat forces. Russian push network operates from forecasted data and delivers supplies based on estimated and pre-determined requirements. Demand for combat-enabling supplies such as rations, fuel, ammunition, and repair parts are difficult to forecast because of the nature and unpredictability of conflict. The actual demand for items for the forward combat echelons is never truly known, only projected. The practice of holding reserves is common to offset possible shortages.

Pull system is preferable when it comes to following lean principles. It relies on demand-driven data; requirements are made, and exact quantities are delivered. As a result, pull networks can be seen as more dependable. Pull systems can be criticised for being slower because of the time required to deliver supplies to the requesting forces. We need to learn from large operations that have happened in this century and contemplate revising to pull model logistics, avoid creating cumbersome logistics echelons. This will require logistics automation and dedicated communication that must be fully tried out in peacetime.

Ninth, is the issue that has been constantly debated- information warfare (IW) and information dominance. Understandably, today viral-ity triumphs veracity and negative information goes viral in no time. Creation of narratives is a process that mandates specialisation and requires specialists, or social media will become hand maiden of inimical elements and adversaries. This is indeed the era of TikTok warfare, and Indian audio-visual media also tends to get over-emotional. We need to get on with creating the strategy, the structures and the specialists for future IW.



Last and tenth is the human resource, which is enmeshed in all domains. Russian ‘special military operations’ were so named and not called war in order to avoid mass mobilisation and call in of reservists. The Russian battalion tactical groups remained sub-strength because of the non-availability of reservists and conscripts that had been pulled out and could not be used in combat as per law. Human Resource is critical to warfare, very difficult to train and retrain. The success of Ukraine in urban areas also rested upon the trained reservists who joined the Territorial Brigades and undertook the task of irregulars. This is a critical element of analysis for the armed forces in India, presently on the cusp of immense changes.

**Human Resource is critical to warfare, very difficult to train and retrain.**

## Conclusion

In sum, predicting future scenarios is a majorly onerous task. What caused the conflicts of yesterday is unlikely to be useful to anticipate those of tomorrow. Historically armed conflicts are too complex to allow prediction. The greatest challenge of our times is to be able to make correct and timely assessments of the changes taking place and the nature and extent of challenges and opportunities they present, and to learn and relearn from ongoing wars. The easiest way out for the militaries is to remain in the status quo; the power of inertia is just too strong! It is critical to obtain a firm analytical foundation – the *why* of prospective war, understand the likely political objective or aim, politico-military strategy, the technological changes that have overriding implications on warfare, and create a dynamic sectoral profiling on the use of combat force. Each sector in India requires to be studied separately, for the quantum of force that can be applied keeping in view the terrain and the adversary. A single template must not be applied. This transformation to modern warfare requires careful and holistic analysis, as exhorted by PM Narendra Modi at Kevadia in March 2021, India needs to create a ‘*future force*.’

Military history will be the best judge of the rationale and conduct of war. It can be surmised that the enunciation of Political Policy for the war by the Russian hierarchy, took cognizance of the close relations between the populations of Russia and Ukraine and the end-game that seeks not to have an inimical Ukraine post-War. There were humanitarian corridors established (rarity by itself in warzones), the trains kept transporting refugees to safety and the internet services were not curbed or jammed. The firepower employed hence was limited, in order to avoid causing mass destruction

in the urban centres.

The Indian armed forces should build combat capabilities, train for and prepare for the uncertain future, in total consonance with the larger political policy, on whose shoulders must ride the current military doctrine and future military strategy. If restrictions or restraints are envisaged in the political thinking, it is best that the military hierarchy becomes aware of them now and draws up its plans accordingly. There is also a need to professionalise information warfare. Case in point is the overdrive of Western (and Indian) media in creating narratives-- with some truth, many half-truths and more blatant lies and fakery-- showing gross failures of the Russian war machine and extolling the virtues of the stoic Ukrainian defence.

In Latin it is said, "*Igitur qui desiderat pacem, praeparet bellum;*" in English, "if you want peace, prepare for war!"

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