

## BRIEF

## RUSSIAN MILITARY LOGISTICS

RUSSIA'S WAR IN UKRAINE  
SERIES NO. 3

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The size, scale, and scope of the military failures Russia has suffered during its war in Ukraine have surprised many Western observers. Russia's invasion has exposed multiple systemic deficiencies in its military, which appear to be substantial and to extend across every Russian joint combat function.<sup>1</sup> A leading cause of its operational failures has been the critical deficiencies apparent in Russia's military logistic support. The inadequacy of Russia's military logistic system has consequently been a major

comprising mainly soft-skinned, unarmoured vehicles, backed up for 60 km on a road to the north of Kyiv. Several explanations have been offered for this highly unsound tactical formation; however, whatever the reasons, these pictures illustrated the overall poor operational planning process that characterised Russia's opening offensive. As part of this, the invasion was marked by inadequate logistics, with multiple sources confirming critical shortages of essential logistic materiel and functions such as food, fuel, and medical support. Footage of abandoned equipment in good working order further attests to critical logistic failures.

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factor in its inability to achieve its war aims. This brief will provide a summary of the key factors behind Russia's logistic failures in the first phase of the war – roughly until Russia abandoned its attempts to take Kyiv – and present some immediate lessons for the Baltic states. The main takeaway is that the explanation (and thus the solution) for Russia's military logistic failure in Ukraine is not simple. It is, rather, the result of complex interactions between a diverse set of organisational, command, doctrinal, cultural, and historical factors.

Russian commanders have also shown an alarming lack of tactical acumen in their neglect of protection for logistics convoys, as evidenced by footage of numerous Ukrainian strikes on unarmoured, soft-skinned, logistic vehicles. This situation appears to have been greatly exacerbated by their failure to appreciate the impact of the proliferation of both sensors

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## FAILURES IN PLANNING AND EXECUTION

The Russian armed forces' logistic failure reflects global deficiencies in its overall planning and execution of the campaign in Ukraine. Few observers could fail to be impressed by the pictures that appeared in the media in the early stages of the war of a Russian logistic convoy,

and Uninhabited Aerial Vehicles (UAV) on tactical movement in the contemporary battlespace.<sup>2</sup> Operational planning for a multi-front offensive of the kind initiated by Russia on 24 February would be challenging for any military. Put simply, with inadequate planning and inadequate timeframes, even the best military logistic system will likely fail to fulfil its mission. If this is coupled with a lack of tactical appreciation, as was the case with Russia in Ukraine, failure will be compounded.

## RUSSIA'S NON-EXPEDITIONARY LOGISTICS

A key factor in Russia's logistic failure is that the Russian military logistic system is not organised, trained, or equipped to provide the kind of expeditionary logistics that would be required for a successful campaign in Ukraine.<sup>3</sup> This is a system that is not fit for purpose. The reasons are complex and require a brief discussion of 'expeditionary logistics', 'push and pull' logistics, the Russian military doctrine of 'active defence', and finally, legacy Russian command philosophy and military culture.

Very simply stated, expeditionary logistics is required when forces operate at some distance from their national support base. What constitutes expeditionary distance will depend on circumstances, but self-sufficiency, flexibility, robustness, and – particularly – independent mobility in transport and distribution systems are essential to success in expeditionary logistics. Expeditionary forces, which must apply their combat power over much greater distances by sea or land, require correspondingly robust logistic support. Sustaining a major amphibious landing on a hostile littoral with 'across the shore' logistics would be an example of expeditionary logistics *par excellence*.<sup>4</sup>

*The continuing importance of railways and pipelines reflects a doctrinal foundation of Russian territorial defence*

This example contrasts strongly with Russia's approach to military logistics which relies heavily on supply movement utilising railroads and fuel resupply by pipelines.<sup>5</sup> The continuing importance of railways and pipelines reflects a doctrinal foundation of Russian territorial defence, part of its overall 'active defence' strategy for the defence of both domestic and proximate 'near abroad' areas.<sup>6</sup> This reliance on railways and railheads that are relatively close to the anticipated forward edge of battle area means that Russian military logistic organisations include substantial numbers of both railway and pipeline troops, while operational-level Russian military logistic systems possess markedly fewer trucks than equivalent western formations. This results in reduced capability compared to

equivalent Western formations when operating at any distance from railway supply disembarkation points.

## PUSH AND PULL LOGISTICS

'Push' and 'pull' are terms used to describe two generic logistic approaches. The terminology refers to the point at which the principal logistic demand signal is generated. In pull logistics, the demand signal originates from the consumer end – in any given battlespace, the combat force at the 'sharp end' is the consumer that generates the demand. Pull logistics thus provides ongoing requests for materiel based on real-time demand and consumption. It is responsive to surges and variations in the shifting tactical situation because of demand generation by forward logistic elements embedded within combat formations. Pull logistics requires flexibility and independent thought, which in turn relies on the existence of de-centralised command systems that allow for effective delegation to lower-level logistic managers.

Push logistics is the opposite of pull logistics in that materiel and resources are pushed forward, usually according to pre-determined usage rates. Rather than a consumer demand signal being the chief determinant of the flow of materiel as in pull logistics, in push logistics, pre-determined usage schedules, often originating from higher-level planning sections, predominate. Push logistics works well if demand and consumption are relatively stable and predictable, however its relative inflexibility is its greatest disadvantage in conflicts. This inflexibility can quickly transform into a critical vulnerability in a shifting, unpredictable tactical battlespace – this was the case for Russia in Ukraine.

*The Russian military primarily employs a relatively inflexible, centrally-driven, logistic demand system*

Few logistic systems are exclusively either push or pull and in real situations, the two approaches will be blended and modified by operational circumstances. In most logistic systems however, one approach predominates. In the case of Russia, it is push logistics that is given emphasis. In summary, the Russian military primarily

employs a relatively inflexible, centrally-driven, logistic demand system. This system is also compatible with Russia's centrally-driven, top-down command philosophies.

## CENTRALISED COMMAND

Effective pull logistics requires decentralisation and delegated decision making, both key features of the 'mission command' philosophy practised by most Western militaries. On the other hand, push logistics requires lower degrees of delegation and works best with Russia's top-down, directive command philosophy. This philosophy entails a system based on central command and control, which discourages middle management and individual decision making and initiative. The combination of push logistics and centralised command makes Russia's military logistic system even less responsive in the face of the unpredictable and inevitable variations in supply encountered in highly fluid battlespaces.

## A LACK OF NON-COMMISSIONED OFFICERS

Shortcomings in capability are exacerbated in Russian military logistic structures by the low ratio of support to combat personnel, expressed as a simple ratio termed the 'tooth to tail ratio'(T2R). This ratio is less favourable in the Russian military compared to Western militaries, where the T2R can be as high as 1:10, as in the example of the US Army, meaning 10 support personnel for each combat soldier. The problems caused by the low proportion of Russian support personnel are worsened by hollowness in two critical areas. The first critical area is the lower numbers of Senior Non-Commissioned Officer/ Non-Commissioned Officers (SNCO/NCO) compared to Western militaries. In the Russian military, the middle management function centred on these personnel is also markedly less developed than in Western militaries.<sup>7</sup> The weak middle management link represented by the lesser numbers of SNCO/NCOs reduces communication between officers and enlisted personnel hindering command and control. This hollowness is further evident in the second critical area: logistic maintenance personnel,

many of whom are also at the SNCO/NCO level.<sup>8</sup> The lack of maintenance and repair contract personnel has been frequently commented on by Russian military commentators.<sup>9</sup> Thus in logistics, the lack of Russian military SNCO/NCO personnel has a double effect at both middle management roles and at key logistic repair and maintenance supervisory roles.

*Present-day Russian military attitudes to its own personnel remain Tsarist in nature*

## A CULTURE OF BULLYING AND CORRUPTION

Culture is another factor that facilitates or hinders organisational success. Combat power in both the Russian Imperial and Red Army was built on a select officer corps with masses of peasant soldiers and little middle-level representation, a situation which essentially persists to this day. Russian soldiers have been regarded as merely expendable units, with mass (in the words of Stalin) "having a quality all of its own". The poor levels of personnel support and disregard for the welfare of individuals seen in the modern Russian military have their roots in 19<sup>th</sup> century Russian military philosophy. Indeed,

*Russian military culture reflects a Russian military-industrial system rife with corruption*

it could be said that present-day Russian military attitudes to its own personnel remain Tsarist in nature. A further Tsarist relic is the Russian system of *dedovshchina*, or bastardisation. This term is normally used to describe the treatment of recruits, but in fact bullying permeates every level of the Russian military.<sup>10</sup> A lack of interest in key areas of personnel support resulting from this philosophy is partly responsible for Russia's poorly developed military medical support, which in turn has detrimental effects on individual morale. Poorly developed mortuary services likewise reflect official cultural disregard for individual personnel support and may have strategic effects.<sup>11</sup> Deficiencies in the key 'niche' logistic areas of medical support and mortuary affairs have been noticeable Russian logistic failures in this campaign.

Lastly, Russian military culture reflects a Russian military-industrial system rife with corruption. This corruption resonates at tactical levels too, and amongst its effects are the diversion and wastage of considerable amounts of materiel, capability, and human talent.<sup>12</sup> Viral footage from the war of leaking tyres on Russian logistic transport vehicles illustrates the corrupt diversion of funds in Russia's logistic procurement and acquisition. In summary, the root cause of much of the failure of Russia's logistic planning and execution is a lack of regard for individual personnel support based on a cultural bias towards mass and the needs of the group over individuals. This has been made worse by widespread corruption and lack of transparency.

## LESSONS

A principal lesson for the Baltic states and others is cautionary: planners should not assume that the Russian military will stage a repeat of its

February 2022 performance. Defence planning should assume that Russia will have learnt its lessons and should not make assumptions about persistent Russian military incompetence.

The other key lesson is that logistic tails will always be soft and important targets. Up-arming logistic vehicles is simply impractical. Concentrating on targeting logistic supply lines with a combination of offensive fires, UAVs, and hunter-killer teams will likely allow the Baltic militaries, for example, to repeat Ukrainian tactical success, notwithstanding any improvements in Russian tactics.

A final encouraging thought concerns Russian military culture which, like embedded organisational culture everywhere, is highly resilient, persistent, and difficult to change. If this hinders the Russian military from making any positive changes in its military logistic planning and execution, this can only be good for its potential adversaries.

## ENDNOTES

- <sup>1</sup> Joint function: a grouping of related capabilities and activities. NATO, "Allied Joint Doctrine for Operations, AJP 3", Edition C, Version 1, February 2019, 1-21-25.
- <sup>2</sup> For commentary on the proliferation of sensor technology, see: Jack Watling, "[The Key to Armenia's Tank Losses: The Sensors, Not the Shooters](#)", RUSI, 6 October 2020.
- <sup>3</sup> Some commentators have cited Syria as an example of successful Russian 'expeditionary logistics'. This author takes the view that Syria was characterised by relatively fixed, 'base-centric', immobile logistics coupled with relatively steady demands. The Russian deployment in Syria was essentially an air component deployment requiring platform-based logistic support, altogether a different type of logistics provision to land combat. Compared to the United States, the Russians have yet to execute a comparable level of expeditionary logistics.
- <sup>4</sup> Garrett Chandler and Matthew Carstensen, "[Lots to be desired: why the US Army needs to invest in logistics over the shore](#)", Modern War Institute, 28 April 2022.
- <sup>5</sup> Alex Vershinin, "[Feeding the bear: a closer look at Russian army logistics and the fait accompli](#)", War on the Rocks, 23 November 2021.
- <sup>6</sup> The term 'active defence' is more than what has been described here and integrates offensive and stand-off distance strike capabilities. For a comprehensive summary see: Michael Kofman, Anya Fink, Dmitry Gorenburg, Mary Chesnut, Jeffrey Edmonds and Julian Waller, "Russian military strategy: core tenets and concepts", Centre for Naval Analysis, August 2021, 10-17.
- <sup>7</sup> Lester W Grau and Charles K Bartles, "The Russian Way of War: Force Structure, Tactics, and Modernization of the Russian Ground Forces", Foreign Military Studies Office, 2016, 9. The preceding section discusses the 'contract NCO' concept and in particular the 'devolution' of the WW2 Russian NCO system to its present-day state.
- <sup>8</sup> Grau and Bartles, "The Russian Way of War", 325.
- <sup>9</sup> Grau and Bartles, "The Russian Way of War", 325.
- <sup>10</sup> Diederik Lohman, "[The Wrongs of Passage: Inhuman and Degrading Treatment of Recruits in the Russian Armed Forces](#)", Human Rights Watch, 19 October 2004.
- <sup>11</sup> Sarah Ashbridge: "[Mortuary Affairs as a Strategic Priority](#)", RUSI, 5 October 2021.
- <sup>12</sup> Sam Cranny-Evans, Olga Ivshina, "[Corruption in the Russian Armed Forces](#)", RUSI, 12 May 2022.

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ISSN 2228-2076