



BACK TO BRIGADES: WHY THE CANADIAN ARMY MUST REEMPHASIZE THE BRIGADE LEVEL

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JCSP 49

Exercise Solo Flight

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INTRODUCTION

The Russian invasion of Ukraine in 2022 should cause much reflection within Western militaries as large-scale warfare returns to the European continent. This conflict, along with renewed great power competition and the ever-increasing importance of multi-domain operations (MDO) must force the Canadian Army (CA) to reconsider how it organizes and trains for current and future operations.

As a result of this global instability, there is increasing demand for Canada to commit more forces around the globe with greater frequency. It is no longer just battlegroup (BG) sized elements that the CA is requested to provide. They are now being asked to provide brigade-size elements and headquarters (HQ) to fulfill crucial NATO commitments.¹ These larger formations will demand additional training and integration with enablers across multiple domains which is inherent in operating at the brigade level and above.² Preparation for these types of operations requires analysis of how the CA expects to fight today and in the future. This analysis must consider the modern operating environment, lessons learned from current conflicts, and how the CA is expected to integrate into allies' methods of conducting warfare at scale. In doing so, the CA must consider how and why it emphasizes organizations and how it trains them. A famous quote states that, "We don't rise to the level of our expectations; we fall to the level of our training"³ and if the CA does not prepare, train and organize for large-scale combat operations (LSCO) with emphasis on appropriate organizations, it may be setting itself up for failure.

This paper's analysis of the modern operating environment, informed by the war in Ukraine as well as renewed great power competition indicates that LSCO is something that the CA needs to be prepared to fight. An additional analysis of battalion-sized elements in Ukraine shows that they have largely been a failure due to their size, lack of integration and misalignment with the demands of LSCO in the modern combat environment. Findings from these analyses indicate crucial issues were an emphasis on the battalion level and a lack of proficient brigades and divisions above the battalion-level to resource, coordinate, and effectively control battalion combined arms organizations and joint enablers.⁴ A key deduction from this analysis is the need to emphasize larger fighting organizations for LSCO which requires examination in the CA context.

In identifying potential changes to the CA, it is important to look internally as well as externally. From a Canadian defence policy perspective, Strong Secure Engaged

¹ Government of Canada. "Canada and Latvia Sign Joint Declaration to Augment NATO's Enhanced Forward Presence Latvia." June 7, 2022. <https://www.canada.ca/en/department-national-defence/news/2022/06/canada-and-latvia-sign-joint-declaration-to-augment-natos-enhanced-forward-presence-latvia.html>.

² Canada. Canadian Army. *Advancing with Purpose: The Canadian Army Modernization Strategy* (4th Edition). (Ottawa, ON. 2020), 18.

³ This quote is largely attributed to the Greek poet, Archilochus, however, the exact source is unclear.

⁴ Dennis S. Burket, ed. *Large-Scale Combat Operations: The Division Fight*. (US Army Command and General Staff College Press, 2019), 14.

states, “The Army’s operational effectiveness relies on realistic, challenging and regular training up to the brigade group level. This ensures that deployed Army formations can succeed in any environment regardless of condition.”⁵ This paper’s overview of the CA’s high-readiness training over the last decade demonstrates that they are no longer prioritizing brigades but have instead focused on BGs. As a result, the CA is accepting risk in focusing on emphasizing smaller tactical groups, specifically the BG level in that it limits the CAF’s ability to respond to LSCO which are the domain of brigades, divisions and corps.⁶ Furthermore, this is potentially leading to a gap in warfighting competency and capability within the CA, specifically at the brigade level and above.

Overall, the CA needs to train, equip and organize with an emphasis on the brigade level in order to adapt for modern combat operations. This will be demonstrated through an analysis of modern combat operations, centred on operations in Ukraine to show that the battalion level was ineffective and brigades must be emphasized for LSCO. This will be followed by an overview of how the CA has trained for combat operations since Afghanistan, demonstrating the emphasis on the BG level. Finally, it will provide recommendations on how the CA must train for success in modern combat operations and why that is centred on the brigade level with annual field training.

THE NEED TO EMPHASIZE BRIGADES OVER BATTALIONS

Analysis of the Russian Invasion of Ukraine and Implications for LSCO

Russian forces demonstrated numerous failures in their 2022 invasion of Ukraine.⁷ The invasion of Ukraine in both 2014 and 2022 was conducted largely through the use of the Battalion Tactical Group (BTG), a Russian combined arms organization “based on a motorised rifle battalion with an attached tank company, self-propelled howitzer battalion, air defence platoon, engineer squad, and logistic support”⁸. This organization has similar characteristics to a Canadian BG, which is “an ad hoc and temporary combined arms organization based on a manoeuvre unit HQ⁹ and consisting of a combination of integral and attached infantry and armour subunits, with their integral service support elements”¹⁰. Although not identical organizations, enough similarities exist to make comparisons and identify key lessons regarding BTG’s use in Ukraine and considerations regarding the organization and employment of Canadian brigades and BGs.

⁵ Department of National Defence, *Strong, Secure, Engaged: Canada’s Defence Policy* (Ottawa: DND Canada, 2017), 36.

⁶ Burket, *Large-Scale Combat*, 12.

⁷ James K Greer. "LSCO Lessons: What the Army Should Be Learning about Large-Scale Combat Operations from the Ukraine War." (Modern War Institute, June 24, 2022). <https://mwi.usma.edu/lSCO-lessons-what-the-army-should-be-learning-about-large-scale-combat-operations-from-the-ukraine-war/>.

⁸ Lester Grau and Charles K Bartles. "Getting to Know the Russian Battalion Tactical Group." (Royal United Services Institute, April 14, 2022). <https://rusi.org/explore-our-research/publications/commentary/getting-know-russian-battalion-tactical-group>

⁹ A ‘manoeuvre unit HQ’ is a Battalion sized HQ. Only infantry and armour units form the core of Canadian BGs.

¹⁰ Canada. Department of National Defence, *B-GL-321-005/FP-001 Battle Group in Operations*. (Canadian Army, 2017), iii.

For differences, first, Canadian BGs are by definition, “ad hoc and temporary”¹¹ and although can be used independently for limited theatres, would be used as part of a brigade for command and control during LSCO.¹² BTGs, although doctrinally also temporary, were used as semi-permanent organizations in Ukraine.¹³ BTGs in Ukraine were either independent or had poor brigade C2.¹⁴ In terms of size, although similar in organization and structure, the BTG is approximately 700-800 personnel while the BG may be larger at up to 1200 personnel.¹⁵ There are additional differences based on command and leadership principles and styles between the Russian and Canadian forces which are important but are outside the scope of this paper. For similarities, both organizations are combined-arms battalion organizations (infantry or armour) that have robust enablers and are designed for limited tasks and objectives at the tactical level.¹⁶

One of many reasons for the failure of Russian forces in Ukraine is the BTG. Simply put, the BTG is not the right organization for large-scale conventional warfare and the type of high-intensity fighting seen in Ukraine.¹⁷ The use of the BTG on its own was effective in 2014 and in small-scale theatres¹⁸ but during LSCO, effects and enablers need to be integrated at the brigade and division levels.¹⁹ The failure of the BTG is due to several factors, the most important of which are size, lack of enabler integration and ability to conduct combined arms at scale, and training and organizational misalignment, all of which have applicability within the Canadian context at both the BG and brigade levels.

The BTGs size is inadequate for the demands of large-scale conventional operations and is more suited for small and medium-sized theatres.²⁰ As BTGs were engaged in contact, they did not possess the size and ability to withstand attrition required to penetrate far into Ukrainian lines, causing only small parts of un-cohesive units to arrive on objectives.²¹ This lack of appropriate size and scale, specifically with regards to the proportion of enablers meant that when enablers within the BTG became attrited, the entire BTG ceased to function and was ineffective at completing combat tasks even at

¹¹ Canada. *Battle Group*, iii.

¹² Canada. *Battle Group 2-3*.

¹³ Grau, *Getting to Know*.

¹⁴ Grau, *Getting to Know*.

¹⁵ Marcel Boudreau. *What is a Battle Group in the Canadian Army?* (Royal United Service Institute of Nova Scotia. February 24, 2017). <https://rusi-ns.ca/battle-group/>

¹⁶ Canada. *Battle Group*, iii; Grau, *Getting to Know*.

¹⁷ Verity Bowman. "Russia Largely Abandons Battalion Tactical Groups in Ukraine, Exposing Weaknesses." (The Telegraph, November 29, 2022). <https://www.telegraph.co.uk/world-news/2022/11/29/russia-largely-abandons-battalion-tactical-groups-ukraine-weaknesses/>.

¹⁸ Amos C. Fox. "Reflections on Russia's 2022 Invasion of Ukraine: Combined Arms Warfare and the Battalion Tactical Group." (Association of the United States Army, March 2, 2022). <https://www.ausa.org/publications/reflections-russias-2022-invasion-ukraine-combined-arms-warfare-battalion-tactical>.

¹⁹ Burket, *Large-Scale Combat*, 14.

²⁰ Fox, *Reflections*.

²¹ Rob Johnson. "Dysfunctional Warfare: The Russian Invasion of Ukraine 2022." (Parameters 52, no. 2. 2022): 5–20. 8.

high levels of overall combat effectiveness.²² Lastly, the BTG's size did not lend itself to cohesive combined arms at scale.²³ LSCO is the domain of divisions, and corps and large manoeuvre forces are required for these types of operations.²⁴ This failure, based on the size and scale of BTGs reinforces the need to emphasize larger tactical formations using a combined arms approach for LSCO.

BTG failures were also due to a lack of enabler integration and synchronization at the brigade and division level.²⁵ These failures were above the BTG level and can provide important lessons for the CA which reinforce the need to emphasize the brigade level for LSCO as well as the integration between the brigade and BGs. During operations, "Russian forces did little high-tempo, combined-arms warfare with brigades or divisions, or even more rudimentary combined-arms operations, above the level of battalion tactical groups"²⁶. Russian forces used ineffective BTGs but also failed to effectively use formation-level headquarters to command, control and synchronize the BTGs or other arms, suggesting either a lack of or ineffective use of the brigade and division levels.²⁷ Their poor C2 was unable to effectively synchronize combined arms at the joint force level, negating the effects of combined arms which was a contributing factor to their failure.²⁸

The final failing is regarding training in that the Russian army organized and trained differently than they fought. Army organizations must be flexible and are built for easy re-organization, however, in this case, they trained during their major exercises as organic organizations but then fought in Ukraine as BTGs with little command and control to integrate and synchronize enablers above the BTG level.²⁹ The end result of their training and organization, as well as reliance on BTGs was that a "peacetime army establishment of combined-arms armies, divisions and brigades appears in the field as scattered BTGs."³⁰ This reinforces the need to analyze the type of environment an army is expected to fight in and to train at that scale with an emphasis on appropriate organizations as well as an emphasis on proficient large-scale fighting organizations.

Deductions for the Canadian Army from the Russian Invasion of Ukraine

Deductions from the Russian analysis are numerous but two main points are critical to the CA. First, to conduct LSCO, armies must be able to conduct high-tempo, combined arms warfare with brigades and divisions which have the size and ability to mass effects rather than battalion-level organizations. LSCO is a division fight and

²² Mykhaylo Zabrodskyi et al. "Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022." (Royal United Service Institute, London: 2022), 46.

²³ Fox, *Reflections*.

²⁴ Burket, *Large-Scale Combat*, 12.

²⁵ Fox, *Reflections*.

²⁶ Robert Dalsjö, Michael Jonsson, and Johan Norberg. "A Brutal Examination: Russian Military Capability in Light of the Ukraine War." (*Survival* 64, no. 3, 2022): 7-28, 10.

²⁷ Dalsjö, *Brutal Examination*, 11.

²⁸ Fox, *Reflections*.

²⁹ Fox, *Reflections*.

³⁰ Dalsjö, *Brutal Examination*, 17.

competent, proficient brigades are the basic building blocks required³¹, not battalion-level organizations. This requires proper scaling of organizations, their supporting enablers and an emphasis on the unit of action at the brigade or division level. It also requires that the integration between battalions and brigades must be proficient in order to be successful. Secondly, armies must train as they are expected to fight, ie: with the proper force structure tailored to the environment. Russian forces conducted combined arms operations at the battalion level but failed when scaling up to the brigade and division levels. This is a reality that the CA could face with a similar model. If the CA expects to be able to conduct LSCO and avoid the failures that Russian forces are currently experiencing, it must do both and in doing so, must emphasize the brigade as the unit of action on the modern battlefield.

Brigades and Operations Across Multiple Domains

The differences between a BG and a brigade are more than just size and scaling. Although a brigade can consist of several BGs, there are important distinguishing elements that make brigades the building blocks for LSCO. Within the CA context, the single biggest difference is that combined operations are conducted at the BG level but the brigade level is the lowest level of headquarters that integrates and synchronizes joint effects.³² The synchronization of joint effects at the brigade level is crucial in the execution of pan-domain operations and this does not occur at the BG level.³³ Additional enablers are what allow brigades and divisions to fight differently than BGs. BGs are combined arms organizations used for a specific task and purpose while brigades and divisions “synchronize the actions of subordinate units in time, space, and purpose to produce maximum relative combat power at a decisive place and time”³⁴. In doing so, they do not simply coordinate and allocate resources to subordinate units but synchronize effects across the entire formation while keeping assets at their level to devote towards the main effort or the unexpected.³⁵

The operating environment has shifted and key allies such as the United States are focusing their efforts towards preparation for LSCO, requiring higher scaling.³⁶ The CA’s current force structure relies on contributing a brigade and potentially a division HQ to a multi-national effort under an allied higher HQ.³⁷ It is important that the CA not only analyze what allies are doing but ensure they are capable of integrating into their higher-

³¹ Burket, *Large-Scale Combat*, 13-14.

³² Canada. *Advancing with Purpose*, 17.

³³ Canada. *Advancing with Purpose*, 17.

³⁴ Burket, *Large-Scale Combat*, 14.

³⁵ Canada. Department of National Defence, *B-GL-321-003/FP-001 Army Brigade Tactics*. (Canadian Army, 2017), 2-9.

³⁶ U.S. Army, "Army of 2030." October 5, 2022.

https://www.army.mil/article/260799/army_of_2030#:~:text=Instead%20of%20the%20industrial%20age,w,hich%20they%20can%20best%20contribute.

³⁷ Anthony Kaduck, Ron Bell, Peter Gizewski, Canada. Dept. of National Defence. *Close Engagement: Land Power in an Age of Uncertainty: Evolving Adaptive Dispersed Operations*. (Ottawa, ON: Dept. of National Defence, 2019). 21-22.

level structures.³⁸ The US Army, as part of the Army of 2030 identified changes to its force structure as well as the way they train and fight for LSCO.³⁹ A US report on defence implications for renewed great power competition identified that this renewal has led to the development of new operational concepts, specifically MDO, creating more integrated capabilities to respond to their adversaries across multiple domains.⁴⁰ They revised training to focus on LSCO by “redefining our operational environment, focusing on the division (DIV) as the unit of action, and considering expansion opportunities within multi-domain operations”⁴¹. This shift to the division as the key unit of action, integrating key enablers is a move away from the brigade (specifically Stryker Brigade Combat Team) as the unit of action which was the case for the 20-plus years of counter-insurgency operations in Afghanistan and Iraq.⁴² The US Army’s focus is now at the division and corps level which are the primary tactical formations for the conduct of LSCO.⁴³ Based on the CA’s structure and doctrine, the brigade will fight LSCO within a Canadian division or a multi-national division so the transition to the division/corps level by key allies must translate into an emphasis on the brigade level for the CA.⁴⁴

The bringing together of joint enablers at the brigade level and above is what creates the joint effects required for LSCO, which is expected to be fought across multiple domains.⁴⁵ The US Army’s integration point for MDO is the division, the unit of action which integrates and coordinates these effects.⁴⁶ Within Canada, this is done at the division level (for 1st Canadian Division HQ) and the brigade level, specifically where pan-domain effects are integrated.⁴⁷ The US expects allies to be able to integrate into its organization in order to conduct MDO⁴⁸, therefore the CA must emphasize, train and organize at the appropriate level, which is the brigade in order to combine joint effects and conduct operations across multiple domains.

³⁸ Jack Watling and Daniel Roper. “European Allies in US Multi-Domain Operations.” Royal United Services Institute. London: 2019, 26.

³⁹ Caitlin M. Kenney. “Divisions, Corps Replace Brigades as Army’s Wartime Formation of Choice.” (Defense One. October 6, 2022). <https://www.defenseone.com/policy/2022/10/divisions-corps-replace-brigades-armys-wartime-formation-choice/378234/> and U.S. Army, *Army of 2030*.

⁴⁰ United States Congress. Implications for Defence – Return to Great Power Competition. Washington, D.C.: Congressional Research Service, 2018, 15.

⁴¹ John Dolan. “The Army is Getting Leaders Ready for a War Unlike Any the US Has Ever Seen.” Task and Purpose, July 7, 2022. <https://taskandpurpose.com/opinion/preparing-army-leaders-war-china-russia/>

⁴² Burket, *Large-Scale Combat*, 11.

⁴³ Burket, *Large-Scale Combat*, 12.

⁴⁴ The CAF has only one operational division headquarters which is 1st Canadian Division HQ, a joint HQ which belongs to CJOC, not the CA. While allies have made the decision to focus on the division as the unit of action, in a CA context, we must focus on the brigade as that unit.

⁴⁵ Burket, *Large-Scale Combat*, 22.

⁴⁶ Congressional Research Service. “Defense Prime: Army Multi-Domain Operations (MDO).” (CRS, November 21, 2022). <https://sgp.fas.org/crs/natsec/IF11409.pdf>, 2.

⁴⁷ Canada. *Advancing with Purpose*, 17.

⁴⁸ Watling, *European Allies*, 26.

Canadian Army Doctrine

The CA's two main doctrinal documents addressing the current and future operating environment are Close Engagement and Advancing With Purpose, which correctly emphasize the brigade level. Close Engagement is the CA's land operations capstone operating document while Advancing with Purpose is the CA's modernization strategy.

Key applicable concepts that underpin the principles of Close Engagement are:

...The Army structure is based on deployable formations (brigade groups and a division headquarters). The ability to operate at brigade group level is essential to ensure that Canadian land forces are interoperable with other CAF capabilities, allies and coalition partners, as it is the lowest level of headquarters that can integrate and synchronize joint effects. A brigade group consists of a headquarters that can command two to four manoeuvre units and employ enablers, integral combat support and combat service support (CSS) assets and supporting air and maritime assets.⁴⁹

It also identifies that the deployable element for major combat operations is a brigade group in either a Canadian or coalition division.⁵⁰ As well, the brigade HQ will "command integral combat support and CSS capabilities, control aviation assets, and employ higher-level land and joint assets to shape and synchronize battlefield activities"⁵¹ Based on close engagement, it is clear that the brigade is the main deployable force within a division context and this is the integration point for critical enablers, supporting joint capabilities required for operations across multiple domains.

Advancing with Purpose addresses CA modernization, identifying what the CA will do and how it will operate within a joint environment. It emphasizes the brigade as the heart of the CA as well as "the level at which the Canadian Army trains to fight in order to execute pan-domain operations"⁵² It also identifies the brigade as the "framework for integrating a wide variety of capabilities necessary to create the combined arms effect, and for creating proficiency necessary to succeed"⁵³ re-emphasizing the need to train proficiently at the brigade level as well as the lowest level in which integration of joint effects occurs.⁵⁴

An analysis of the conflict in Ukraine demonstrates several key lessons for the CA, notably the need to emphasize the brigade level over the BG level based on an analysis of BTG failures in Ukraine as well as the need to integrate and synchronize joint effects which occurs at the brigade level. It also highlights the changes to the modern

⁴⁹ Kaduck, *Close Engagement*, 10.

⁵⁰ Kaduck, *Close Engagement*, 21 - 22.

⁵¹ Kaduck, *Close Engagement*, 22.

⁵² Canada. *Advancing with Purpose*, 17.

⁵³ Canada. *Advancing with Purpose*, 18.

⁵⁴ Canada. *Advancing with Purpose*, 17.

battlefield environment where LSCO and MDO are emphasized and the importance of the brigade level in this environment, one that the CA must be prepared for. Lastly, a review of doctrine identifies that the CA correctly emphasizes the brigade in theory. The issue is that an analysis of CA training over the last decade demonstrates that the BG was prioritized within the CA, a risk which could leave them unprepared for LSCO.

CANADIAN ARMY TACTICAL TRAINING IN THE DECADE SINCE AFGHANISTAN

As Canada ended its mission in Afghanistan, the CA shifted its high-readiness training model away from counter-insurgency centric training towards training for conventional war with Exercise MAPLE-RESOLVE (MR) 13-01, which emphasized combined-arms training in a joint environment as part of JointEx 13-01.⁵⁵ The CA identified the need to transition towards training for LSCO in a peer-on-peer environment, a skill that was seldom practiced over a decade spent training for and fighting counter-insurgency operations.

The CA's high-readiness training has varied since 2013, specifically as it relates to validating brigades and BGs. Brigades were validated using a mix of field training and simulation with the majority simulation. BGs have consistently been validated using field training. The CA completes high readiness training through two main annual training exercises (Ex), Ex UNIFIED RESOLVE (UR) and Ex MR. Ex UR is a computer-assisted exercise that now validates a single CMBG HQ within a division context. Exercise MR is a field exercise which focuses on the validation of units in the field and has varied from validating a brigade complete with a division higher-control (HICON) to only validating two independent BGs. In terms of the status quo, Ex UR has become a brigade-level exercise, validating a single brigade HQ with a division HICON. Ex MR has become a BG exercise, validating two BGs with the brigade HQ which is not exercised but rather conducting an exercise control/HICON role. Recently, Ex MR focused specifically on preparing two BGs to deploy to Latvia as the NATO enhanced Forward Presence (eFP) BG.⁵⁶

⁵⁵ Government of Canada, "Canadian Army is Ready for Joint Exercises." May 13, 2013. <https://www.canada.ca/en/news/archive/2013/05/canadian-army-is-ready-joint-exercises.html>.

⁵⁶ Although Ex MR is designed to prepare forces for any operation or deployment, the primary training audience is the two BGs that deploy to Latvia as part of eFP.

Training Level Validation 2014-2022 (Simulation vs Field)		
	Exercise UNIFIED RESOLVE (Simulation Training)	Exercise MAPLE RESOLVE (Field Training)
2014	Brigade	BG
2015	Brigade	BG
2016	Brigade	Brigade ⁵⁷
2017	Brigade	BG
2018	Brigade	BG
2019	Brigade	Brigade
2020	Cancelled	Cancelled
2021	Brigade	BG
2022	Brigade	BG

Table 1. CA Training Level Validation.

There is no clear explanation as to why this training model was adopted within available CA records. A review of key training and simulation documents identifies that simulation is not a substitute for live training and is meant to prepare soldiers and organizations for live training.⁵⁸ However, simulation seeks to provide improved training and operational success while reducing training costs and risk.⁵⁹ Additionally, it is clear that this decision is a command assessment⁶⁰, and this model was approved with an emphasis on the BG in the field while simulation training was deemed sufficient for the brigade level.

This training model emphasizes BGs over brigades in several ways. First, validation through field training for BGs and simulation for brigades. This places the emphasis on the BG level for training where training is conducted over a longer duration in a field environment which has inherent benefits such as stress, friction, and rehearsing actual events. The brigade no longer trains in the field, leaving the potential for a skills gap between the BG and brigade since the brigade HQ is employed as EXCON, coordinating scripted events rather than dealing with and working through the friction inherent in field exercises with superior and subordinate elements. Secondly, the majority of funding and resources for training go towards Ex MR vice Ex UR.⁶¹ Lastly, is training consistency. Since 2014, BGs have consistently trained in as realistic an environment as can be created in the field through Ex MR. Meanwhile, brigades have had inconsistencies in their training validation methods until 2021. An analysis of this training model

⁵⁷ During brigade field training, subordinate BGs also conduct field training.

⁵⁸ Canada. Canadian Army. *Canadian Army Order (CAO) 28-1 – Simulation Policy*. 6.

⁵⁹ Canada, *Canadian Army Order 28-1*, 5-6.

⁶⁰ Canada. Canadian Army. *Canadian Army Order (CAO) 23-21 – Canadian Army Collective Training Policy – Foundation Training*. 11.

⁶¹ This is based off CMTC funding charts for Ex MR and UR found on the Army Collective Information Management System. Ex MR costs from 2016-2018 ranged from \$22-38 million while Ex UR costs ranged from \$2.1-3 million.

identifies that despite the realization of the need to train at all levels, the BG level is emphasized over the brigade level.

IMPLICATIONS FOR THE CANADIAN ARMY BASED ON THE OPERATING ENVIRONMENT

Given the observed failures in Ukraine and a shift in the modern operating environment, the CA must re-evaluate how it trains, equips and organizes. While BGs continue to be important organizations and tools, the CA can not culminate field training at the BG level. What needs to be emphasized more now than ever is the brigade level within the CA. Shaped by events in Ukraine, in order to conduct LSCO as part of a multinational division conducting operations across multiple domains, the CA needs to be prepared to field a brigade that is capable of joint integration. This can be achieved through a change to the annual high-readiness training model with adjustments to how the CA currently conducts its major training exercises. Specifically, the CA must train a brigade in the field annually by combining Ex UR and MR into a single field exercise which validates a brigade HQ and BGs within a division construct.

This model of conducting brigade-level field training was conducted in 2016 and 2019 and should serve as the example for training emphasizing the brigade level. Despite simulation becoming the validation mechanism for the brigade, simulation is not a panacea and there are several issues with this type of training most prominent of which is realism. In training for LSCO or any military operations, it is critical that organizations train in situations that mimic reality and face the real friction that is inherent in doing that. “Train as you will fight”⁶² is a common statement. Formations must train together if they are expected to fight together and should do so in as close to real environments as possible. As William S. Lind wrote in his theory of manoeuvre warfare, “Scripted, “scenario” exercises are useful only for training opera companies. Only free-play training brings in the central element of war, the free, creative will of an opponent”⁶³.

Brigades are fighting formations and must be trained in a fighting environment with stress and friction. UR has typically not been a 24/7 exercise and is often run indoors, within climate-controlled buildings and comfortable conditions that cannot replicate the stresses of field operations.⁶⁴ It also relies on controlled, scripted inputs with an emphasis on achieving specific tasks⁶⁵, reducing the friction inherent in LSCO and field operations. Virtual command post exercises have their limitations and do not

⁶² Stephen John Harris, Bernd Horn, H. P. Klepak, Bill McAndrew, J. L. Granatstein, Ross Pigeau, Carol McCann, et al. *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership*. (St. Catharines, Ont: Vanwell Pub, 2001), 532.

⁶³ William S. Lind. *The Theory and Practice of Manoeuvre Warfare*. “Westport, CT: Greenwood Press, 1985), 15.

⁶⁴ Canada. Department of National Defence. *1 CMBG Post Exercise Report – Exercise UNIFIED RESOLVE 2021, 3352-1 (COS)*. March 2021. 1.

⁶⁵ In the CA, these are defined as Battle Task Standards which are doctrine requirements broken down into performance requirements that units must achieve.

“adequately simulate the mental and physical strain of combat”⁶⁶ as well, “A large concentration of resources is required for very small outputs with a fixation on staff process over the execution of operations”⁶⁷.

This lack of realistic field training also has impacts on leader and soldier experience levels within the CA leaving the potential for a capability and skills gap. Within the US Army, there have been critiques regarding Warfighter Exercises⁶⁸ in terms of duration and scope and the fact that it uses simulation vice field training. Based on this critique, the US Army will now be sending divisions to the field for training.⁶⁹ Issues with the exercises emphasize that a generation of senior leaders have never conducted real LSCO training in the field over distance and time and that “The US Army simply has insufficient experience in LSCO over time and distance to be able to expect to perform considerably better than the Russians have in Ukraine”.⁷⁰ This is a damning statement but if the CA conducts training in its current manner, the expected outcome would be similar.

Concerning high-level enablers, there is a need to see them, in real-life and synchronize them in time and space which is what training with them in field environments does.⁷¹ When conducting LSCO, enablers will be pushed up to higher echelons and understanding proper scaling for this is critical.⁷² At the BG level and on Ex MR, there is potential for lower-level organizations to receive an excess of division and brigade enablers because there is no actual division or flanking units fighting for these resources. The CA should be more in line with US Army training methodology which imposes that resources are finite, organizations cannot guarantee allocations, and they must be employed thoughtfully to enable their preservation.⁷³ Lastly, the current training model has the potential to minimize actual interaction between BGs and a brigade HQ as the brigade is providing an EXCON role with a script rather than commanding through actual field events. This interaction is what was missing in Russian formations fighting in Ukraine and should be emphasized in CA training.

A review of post-exercise reports (PXR) demonstrates issues with the fundamentals required to conduct LSCO. The key themes identified through PXRs from Ex UR are poor integration of enablers/joint integration⁷⁴, a lack of realistic

⁶⁶ Steve B. "A New Approach to Command Post Training." (Wavell Room, July 10, 2018). <https://wavellroom.com/2018/07/10/a-new-approach-to-command-post-training/>.

⁶⁷ B. *A New Approach*.

⁶⁸ Warfighter Exercises are the US Army’s large-unit training exercises (Corps and Division level) which are typically conducted using simulation. Although larger in scope, the CA’s equivalent is Ex UR.

⁶⁹ Mark Pomerleau. "Division Headquarters Will Now Accompany Brigades to Combat Training Center Rotations." (February 13, 2023). <https://defensescoop.com/2023/02/13/division-headquarters-will-now-accompany-brigades-to-combat-training-center-rotations/>.

⁷⁰ Greer. *LSCO Lessons*.

⁷¹ Pomerleau, *Division Headquarters*.

⁷² Pomerleau, *Division Headquarters*.

⁷³ Dolan, *The Army*.

⁷⁴ Canada, Department of National Defence. *Post Exercise Report (PXR) : Exercise UNIFIED RESOLVE (Ex UR 22), 3350-UR 22 (J7-1)*. March 29, 2022. 8; Canada. Department of National Defence. *2 CMBG Post Exercise Report (PXR) – Exercise UNIFIED RESOLVE 2022 Series, 3350-1(Comd)*, April 5, 2022. Master Observations List, 2,5,6,9,17.

sustainment⁷⁵, and an overall lack of realism and friction experienced in actual field conditions⁷⁶. All of these issues are key requirements for LSCO and would be addressed through actual field training for the brigade and its units.

Putting a brigade in the field for annual high-readiness training under an actual division for HICON solves these issues. It forces integration because all supporting organizations are physically present and must work together, lessening the reliance on simulation where complex problems such as integration and sustainment can be overlooked. Since there is a brigade in the field, they must be sustained which requires the execution of actual tactical and battlefield sustainment to support personnel and units. Finally, this model introduces actual friction of units moving, weather, 24/7 operations, and communication, all while righting a real living, thinking enemy, not one designed to simply meet validation criteria. Training in the field with a brigade is the only way to conduct the most realistic training required for LSCO. This ensures that the key deductions from BTG failures in Ukraine are addressed. First by emphasizing the brigade level to ensure it is capable of conducting combined arms operations at scale with proper integration of enablers while integrating into a division HQ. Second by ensuring the CA trains as it will be expected to fight in the modern operating environment.

Challenges in This Model

There are two key challenges in training an entire brigade annually in a field environment, cost and personnel tempo. Although cost is important, this model of training was conducted in 2016 and 2019. An exhaustive cost analysis for CA collective training is outside the scope of this paper, however, a few key points are clear. An analysis of Ex MR costs from 2013 to the present does not show a correlation of higher cost with the level of elements that were validated.⁷⁷ The largest contributor to the cost of the exercise is based on geography and the distance that a brigade must travel with 3rd Division as the least expensive and 2nd/4th Divisions the most.⁷⁸ Additionally, there was a significant increase in overall costs over the last decade which can be attributed to COVID-19 and other financial realities outside the scope of this paper.⁷⁹ Ex UR costs have been approximately 10% of the costs of Ex MR, however, financial issues can be minimized by combining the exercises as there would no longer be a requirement for Ex UR should an entire brigade be trained in the field.⁸⁰

⁷⁵ Canada. *1 CMBG Post Exercise Report – Exercise UNIFIED RESOLVE 2021*, 2.

⁷⁶ Canada. Department of National Defence. *Exercise UNIFIED RESOLVE 22 (Ex UR22)- Post Exercise Report (PXR), 3352 (FTG)*, July 2022. 2; Canada. *1 CMBG Post Exercise Report – Exercise UNIFIED RESOLVE 2021*, 2.

⁷⁷ Ex UR 15-21 Historical Financial Summary, Excel File from CMTC page on Army Collective Information System; MR CT Redesign Funding v2, “Ex MAPLE RESOLVE Costs”; Col Scott MacGregor. “Ex MAPLE RESOLVE 23 Funding Presentation.” August 31, 2022, slide 3.

⁷⁸ Maj B. Rogerson. Department of National Defence. *BRIEFING NOTE FOR COMD CA BASELINE FUNDING FOR EX MAPLE RESOLVE*, November 24, 2021. A-2/2.

⁷⁹ Rogerson, BRIEFING NOTE FOR COMD CA, A-2/2.

⁸⁰ Ex UR 15-21 Historical Financial Summary, Excel File from CMTC page on Army Collective Information System.

The second issue is tempo for soldiers of the CA, especially during a time of reconstitution. In combining the exercises into a 10-14 day exercise, overall tempo could be reduced.⁸¹ This would reduce the tempo throughout the winter, albeit for a smaller number of soldiers. Also, over the last number of years, the CMBG HQ still deploys to the field to provide an EXCON/HICON role for the exercise and is already exposed to the same tempo demands. There is no debate that this model would increase the number of soldiers conducting field training, however, this should be seen as a positive benefit and a priority. Although increasing field time, the change would require fewer days away overall with those days away occurring in the field rather than in simulation.

Regarding the balance of training for LSCO and the CA's many actual operational commitments, training a brigade in the field satisfies both. If the largest element the CA is expected to deploy is a brigade, then an actual brigade is trained and prepared for operations, having conducted realistic field training. It is critical that the CA trains to the highest standard for LSCO as:

...Without question, the most demanding mission is to “engage in combat.” While the remaining missions are important, professional soldiers largely agree that an army capable of engaging in combat can cope with other missions. Any examination of the Canadian Army should therefore prioritize the demands of high-intensity warfare to ensure that the entire menu of options on offer to the Canadian government is executable.⁸²

By training to that highest standard in the field with a brigade, the CA is still able to meet its actual current NATO commitments of the eFP BG, NATO Readiness Initiative and NATO Response Forces through this training exercise and is better positioned to eventually provide up to a brigade for an increased NATO ask in Latvia.

CONCLUSION

Although BGs are not irrelevant by any means, they require competent and proficient brigades to coordinate their efforts. The war in Ukraine and the changes it has brought to the modern operating environment demonstrate that larger formations must be the emphasis of modern armies. The war in Ukraine specifically demonstrates that there is a requirement for organizations to have size, scale, and the ability to provide integration of joint effects and combined arms while ensuring that armies train as they expect to fight. This type of integration, at the brigade level and above is also a requirement for operations across multiple domains which Canada and its allies expect of them. This is reaffirmed by the Canadian defence policy and the CA's existing doctrine

⁸¹ This exercise would be the already established length of Ex MR (10-14 days). Although this does not account for additional preparatory exercises which are already required in the current training model, it would have the effect of reducing the dates of Ex UR.

⁸² Denis Thompson. “Canada’s 21st Century Army: The Changing Context of Conventional War.” (Canadian Global Affairs Institute, Calgary: May 2022), 1.

which both already emphasize the brigade level, yet the training and organization of the CA is not aligned with this. In order to ensure the CA is capable of following through with its policy, doctrine, and expectations from key allies, the CA must shift its emphasis to the brigade level.

An overview of CA training demonstrates that the emphasis is on the BG level through resourcing and field training exercises. This is understandable based on current operational commitments of predominantly BG-sized elements, specifically NATO commitments but the CA must take a more principled approach to future operations to ensure they are prepared for the eventualities that doctrine and defence policy demand of them. By not following doctrine, the CA is unprepared for LSCO at the brigade level and is accepting risk in its ability to conduct LSCO as part of a multinational division.

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In shifting its priority and emphasis to the brigade as the unit of organization, the CA must adapt its current training model to one which is field-based for the high-readiness brigade and its subordinate units. Simulation does not provide adequate realism for the crucial interaction between the brigade, subordinate units and enablers required for operations across multiple domains in real-time and with real friction and difficulty required for LSCO which can only be achieved through realistic field training. Critical to this preparation is renewing the emphasis on the brigade level within the CA and making sure they can effectively fight.

There are great challenges in achieving this level of training in a world where the CA has seldom been more committed while dealing with chronic personnel shortages, funding and resource constraints, however, these must be overcome if the CA expects to meet defence commitments and remain a credible ally in an increasingly dangerous world.

BIBLIOGRAPHY

- B, Steve. "A New Approach to Command Post Training." Wavell Room, July 10, 2018. <https://wavellroom.com/2018/07/10/a-new-approach-to-command-post-training/>.
- Boudreau, Marcel. *What is a Battle Group in the Canadian Army?* Royal United Service Institute of Nova Scotia. February 24, 2017. <https://rusi-ns.ca/battle-group/>
- Bowman, Verity. "Russia Largely Abandons Battalion Tactical Groups in Ukraine, Exposing Weaknesses." *The Telegraph*, November 29, 2022. <https://www.telegraph.co.uk/world-news/2022/11/29/russia-largely-abandons-battalion-tactical-groups-ukraine-weaknesses/>.
- Burket, Dennis S, ed. *Large-Scale Combat Operations: The Division Fight*. US Army Command and General Staff College Press, 2019. <https://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/lSCO-the-division-fight.pdf>.
- Canada. Canadian Army. *Advancing with Purpose: The Canadian Army Modernization Strategy* (4th Edition). Ottawa, ON. 2020.
- Canada. Canadian Army. *Canadian Army Order (CAO) 23-21 – Canadian Army Collective Training Policy – Foundation Training*.
- Canada. Canadian Army. *Canadian Army Order (CAO) 28-1 – Simulation Policy*.
- Canada. Department of National Defence. *1 CMBG Post Exercise Report – Exercise UNIFIED RESOLVE 2021, 3352-1 (COS)*. March 2021.
- Canada. Department of National Defence. *2 CMBG Post Exercise Report (PXR) – Exercise UNIFIED RESOLVE 2022 Series, 3350-1(Comd)*, April 5, 2022.
- Canada. Department of National Defence. *B-GL-321-003/FP-001 Army Brigade Tactics*. Canadian Army. Ottawa: DND, January 1, 2017.
- Canada. Department of National Defence, *B-GL-321-005/FP-001 Battle Group in Operations*. Canadian Army, 2012.
- Canada. Department of National Defence. *Exercise UNIFIED RESOLVE 22 (Ex UR22)- Post Exercise Report (PXR), 3352 (FTG)*, July 2022
- Canada, Department of National Defence. *Post Exercise Report (PXR) : Exercise UNIFIED RESOLVE (Ex UR 22), 3350-UR 22 (J7-1)*. March 29, 2022.
- Canada. Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*. Ottawa: DND Canada, 2017.
- Congressional Research Service. "Defense Prime: Army Multi-Domain Operations (MDO)." CRS, November 21, 2022. <https://sgp.fas.org/crs/natsec/IF11409.pdf>
- Dalsjö, Robert, Michael Jonsson, and Johan Norberg. "A Brutal Examination: Russian Military Capability in Light of the Ukraine War." *Survival* 64, no. 3 (2022): 7-28.

- Dolan, John. "The Army is getting leaders ready for a war unlike any the US has ever seen" Task & Purpose. July 7, 2022.
<https://taskandpurpose.com/opinion/preparing-army-leaders-war-china-russia/>.
- Edmonds, Kevin. "Not Built for Purpose: The Russian Military's Ill-Fated Force Design." War on the Rocks. June 23, 2022. <https://warontherocks.com/2022/06/not-built-for-purpose-the-russian-militarys-ill-fated-force-design/>.
- Fox, Amos C. "Reflections on Russia's 2022 Invasion of Ukraine: Combined Arms Warfare and the Battalion Tactical Group." Association of the United States Army, March 2, 2022. <https://www.ausa.org/publications/reflections-russias-2022-invasion-ukraine-combined-arms-warfare-battalion-tactical>.
- Government of Canada, "Canadian Army is Ready for Joint Exercises." May 13, 2013. <https://www.canada.ca/en/news/archive/2013/05/canadian-army-is-ready-joint-exercises.html>.
- Government of Canada, "Canada and Latvia sign Joint Declaration to augment NATO's enhanced Forward Presence Latvia." June 29, 2022.
<https://www.canada.ca/en/department-national-defence/news/2022/06/canada-and-latvia-sign-joint-declaration-to-augment-natos-enhanced-forward-presence-latvia.html>
- Government of Canada. "Canada and Latvia Sign Joint Declaration to Augment NATO's Enhanced Forward Presence Latvia." June 7, 2022.
<https://www.canada.ca/en/department-national-defence/news/2022/06/canada-and-latvia-sign-joint-declaration-to-augment-natos-enhanced-forward-presence-latvia.html>.
- Grau, Lester and Charles K Bartles. "Getting to Know the Russian Battalion Tactical Group." Royal United Services Institute, April 14, 2022. <https://rusi.org/explore-our-research/publications/commentary/getting-know-russian-battalion-tactical-group>
- Greer, James K. "LSCO Lessons: What the Army Should Be Learning about Large-Scale Combat Operations from the Ukraine War." Modern War Institute, June 24, 2022. <https://mwi.usma.edu/lSCO-lessons-what-the-army-should-be-learning-about-large-scale-combat-operations-from-the-ukraine-war/>.
- Harris, Stephen John, Bernd Horn, H. P. Klepak, Bill McAndrew, J. L. Granatstein, Ross Pigeau, Carol McCann, et al. *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership*. St. Catharines, Ont: Vanwell Pub, 2001.
- Johnson, Rob. "Dysfunctional Warfare: The Russian Invasion of Ukraine 2022." Parameters 52, no. 2 (2022): 5–20.
- Jones, Seth G. "Russia's Ill-Fated Invasion of Ukraine: Lessons for Modern Warfare." Center for Strategic and International Studies, June 1, 2022.
<https://www.csis.org/analysis/russias-ill-fated-invasion-ukraine-lessons-modern-warfare>.

- Kaduck, Anthony, Ron Bell, Peter Gizewski, Canada. Dept. of National Defence. *Close Engagement: Land Power in an Age of Uncertainty: Evolving Adaptive Dispersed Operations*. Ottawa, ON: Dept. of National Defence, 2019.
- Kenney, Caitlin M. "Divisions, Corps Replace Brigades as Army's Wartime Formation of Choice." *Defense One*. October 6, 2022.
<https://www.defenseone.com/policy/2022/10/divisions-corps-replace-brigades-armys-wartime-formation-choice/378234/>.
- Lind, William S. *The Theory and Practice of Manoeuvre Warfare*. Westport, CT: Greenwood Press, 1985.
- MacGregor, Col Scott. "Ex MAPLE RESOLVE 23 Funding Presentation." August 31, 2022
- Pomerleau, Mark. "Division Headquarters Will Now Accompany Brigades to Combat Training Center Rotations." February 13, 2023.
<https://defensescoop.com/2023/02/13/division-headquarters-will-now-accompany-brigades-to-combat-training-center-rotations/>.
- Rogerson, B Maj. Department of National Defence. *BRIEFING NOTE FOR COMD CA BASELINE FUNDING FOR EX MAPLE RESOLVE*, November 24, 2021.
- Thompson, Denis. "Canada's 21st Century Army: The Changing Context of Conventional War." Canadian Global Affairs Institute, Calgary: May 2022.
- U.S. Army, "Army of 2030." October 5, 2022.
https://www.army.mil/article/260799/army_of_2030.
- United States Congress. *Implications for Defence – Return to Great Power Competition*. Washington, D.C.: Congressional Research Service, 2018.
<https://apps.dtic.mil/sti/pdfs/AD1159700.pdf>.
- Watling, Jack and Daniel Roper. "European Allies in US Multi-Domain Operations." Royal United Services Institute. London: 2019.
https://static.rusi.org/20190923_european_allies_in_us_multi-domain_operations_web.pdf
- Zabrodskyi, Mykhaylo, Jack Watling, Oleksandr V Danylyuk and Nick Reynolds. "Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022." Royal United Service Institute, London: 2022.