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RE-ESTABLISH ORGANIC FIRE SUPPORT IN INFANTRY BATTALIONS

Maj K.F. Haire

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Maj K.F. Haire

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AIM

1. This service paper will identify a capability gap that exists given current Canadian Army doctrine and the future of land warfare. The Canadian Army has adapted over the last decade to fight an insurgency in Afghanistan and, in doing so, it marginalized or eliminated capabilities that may be essential to future conflicts. This paper will seek to demonstrate that the lack of organic fire support within manoeuvre units has left units unable to conduct core functions without reliance on outside resources and it will recommend that organic fire support elements within infantry battalions be re-established.

INTRODUCTION

2. Over the past decade, military operations in Afghanistan have solidified the importance of fire support in full spectrum of operations. The Artillery transformed to meet the requirements of the current operating environment. According to Army Lessons Learned Centre, “[a] dispersed, asymmetric conflict in urban or complex terrain as is found in [Afghanistan] bears striking similarities to the projected [future operating environment].”¹ The future security environment, as defined by Directorate of Land Concepts and Designs, will “be increasingly complex, uncertain, volatile and deadly.”² Future conflict is anticipated to see adversaries that are “even more adaptive and the threats they pose even more varied, multi-dimensional and dangerous... in particular, communications, weapon-related technologies and mobility—reach and lethality will

¹ Department of National Defence, *Dispatches: Lessons Learned for Soldiers: The Artillery Corps in Afghanistan Vol 16, No 1* (Kingston, ON: The Army Lessons Learned Centre, 2011), 29.

² Department of National Defence, *Designing Canada's Army of Tomorrow: A Land Operations 2021 Publication* (Kingston, ON: Directorate of Land Concepts and Designs, 2011), 16.

dramatically increase.”³ Thus, land based indirect fire will continue to be relevant within the future security environment and the Army must have the integral resources to deal with a wide spectrum of threats in all-weather conditions and in any geography.

3. This service paper will highlight the discrepancy that exists between current Army capabilities and those required to meet the demands of the future operating environment employing existing doctrine. Second, it will illustrate through lessons learned from Afghanistan and Iraq that infantry battalions do not have the requisite organic fire support and that they rely on integrated, joint and coalition enablers to be successful in the current operating environment. Third, it will highlight applicable lessons learned from the Russia-Ukraine conflict with respect to indirect fire requirements for future conflict. Through the analysis, it will be evident that the Army currently lacks the organic fire power to effectively perform its core functions of find, fix and strike. Finally, this service paper will recommend that organic fire support be re-established in infantry battalions to address the capability gap.

DISCUSSION

Canadian Army Capabilities and Strategy for the Future

4. The Canadian Army strategy is based on the Canada First Defence Strategy which defines six core missions that the Canadian Armed Forces could have to be conducting all simultaneously. Those missions include: conducting domestic and continental operations, supporting civil authorities in Canada, supporting major international events in Canada, leading and/or conducting major international operations, responding to terrorist attacks and deploying expeditionary forces in response to crises.⁴ Based on those diverse

³ *Ibid.*

⁴ Department of National Defence, *Canada First Defence Strategy* (Ottawa: DND Canada, 2008), 10.

missions and how the Army sees the future operating environment, the Army developed a framework to guide its force employment concept and capability development. The framework is founded on the concept of Adaptive Dispersed Operations (ADO) which “envisages an operating environment characterized by complex, multidimensional conflict, a non-contiguous dispersed operational framework and an approach to operating within that environment based on adaptive dispersed land forces conducting simultaneous full spectrum engagement.”⁵ Adaptive forces refers to multipurpose forces that are able to operate across the spectrum of conflict by employing a combination of integral capabilities and make full use of joint and coalition assets.⁶ It is important to note that there is inherent danger in relying on joint or coalition enablers, because they may not be available when most needed. This is particularly risky when it comes to the core functions; the Army ought to be able to find, fix and strike the enemy with its own integral resources.

5. In terms of expeditionary operations, the Army strategy asserts that the Army must: “[p]rovide deployed personnel with the right mix of equipment to conduct, on their own or with allies, full spectrum operations, from combat to reconstruction operations in harsh and unforgiving operating environments.”⁷ One aspect of the right equipment is the firepower which is required to enable manoeuvre units to close with and destroy the enemy. Firepower is divided into organic fires, fire support and deep fires.⁸ According to Army doctrine, organic fires are: “those fires necessary to enable a force to manoeuvre.

⁵ Godefroy, Andrew B. and Department of National Defence, *Land Operations 2021: Adaptive Dispersed Operations: A Force Employment Concept for Canada's Army of Tomorrow* (Kingston, ON: Directorate of Land Concepts and Doctrine, 2007), 17-18.

⁶ *Ibid.*, 18.

⁷ Department of National Defence, *Advancing with Purpose: The Army Strategy 3rd Edition* (Ottawa: Published under the authority of the Commander Canadian Army, 2014), 11

⁸ Department of National Defence, B-GL-300-007/FP-001, *Fire Support in Land Operations* (Kingston, ON: Directorate of Army Doctrine, 2012), 1-4.

[They] are largely conducted by direct fire weapons integral to the manoeuvring force, but it may also include an element of indirect fire from the force's own indirect fire assets.”⁹ Organic weapon systems are integral to the manoeuvre force, and thus, their support can be guaranteed throughout the operation.

6. Fire support on the other hand is defined as: “that element of firepower which is in excess of that required to enable manoeuvre, but is required to augment manoeuvre in order to bring about a specific and decisive result... or to shape a situation.”¹⁰ Typically, fire support is provided by indirect fire resources allocated by a superior commander for the execution of a specific mission or task.¹¹ Consequently, fire support cannot be relied upon to provide guaranteed fires at all times.

7. In *Advancing with Purpose: The Army Strategy*, the indirect fire capability requires the following attributes: “range, high-accuracy area suppression, precision, lethal and non-lethal scalability, responsiveness and reliability (*guarantee of fire*).”¹² Furthermore, it suggests that: “[w]hile not all indirect fire assets need be integral to the Army, those that are essential for self-defence must be.”¹³ This emphasizes the importance of guaranteed fire and that the Army requires adequate integral resources to protect the force.

8. Fire support resources are not only required for force protection, they are equally important to the core function fix. Doctrine stresses the importance of fixing in order to hold ground or vital points during an attack or to fix an adversary in one location to

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² Department of National Defence, *Advancing with Purpose...*, 23.

¹³ *Ibid.*

restrict their freedom of action and increase one's own.¹⁴ It is essential to fix the enemy in order to enable strike and be decisive. *Land Operations* elaborates further, stating that: “[f]ixing an adversary with manoeuvre activities can quickly consume one's own fighting power. Thus, a balance must be struck to ensure that the resources allocated to fixing do not unnecessarily reduce those required for striking.”¹⁵ Clearly, Army doctrine suggests that fire support is an important enabler to fix the enemy and it is equally important to have sufficient resources to execute the strike function simultaneously.

9. Given the future security environment, existing Army doctrine, definitions of organic fires and fire support and the current capabilities of the infantry battalions and artillery regiments, there is a capability gap that exists. Artillery regiments have only two gun batteries each consisting of four M777 155mm towed howitzers (two additional guns to be force generated by reserves for operational deployments). Additionally, artillery regiments have 81mm mortars but do not have the human resources to deploy both weapon systems simultaneously in different locations. Thus, the mortars are really only available to support the defence of the gunline since it is unlikely that they will be within effective range to support manoeuvre units given the doctrinal deployment template of the M777. Infantry battalions no longer have mortar platoons and therefore are limited to organic firepower from small arms, machine guns, grenade launchers, limited anti-armour weapons and 25mm cannons within the mechanized battalions. According to infantry doctrine: “[t]he battalion cannot undertake sustained close combat operations without the additional fire support provided by armour, artillery and, where possible, air...

¹⁴ Department of National Defence, B-GL-320-000/FP-001, *Act: The Operational Function* (Kingston, ON: Directorate of Army Doctrine, 2013), 12.

¹⁵ Department of National Defence, B-GL-300-001/FP-001, *Land Operations (English)* (Kingston, ON: Issued on the authority of the Chief of Land Staff by the Army Publishing Office, 2008), 4-23.

Indirect fire support is essential for extensive manoeuvring.”¹⁶ This highlights an obvious gap in the limited fire support available. The artillery resources would be allocated by the brigade commander and thus individual battalion commanders could not rely on their support. Indeed, infantry battalions require more robust organic firepower in order to find, fix and strike.

Adaptive Dispersed Operations in Afghanistan

10. Operations in Iraq and Afghanistan over the past decade have been examples of ADO. The Canadian Army has morphed to its current structure to meet the demands of ADO. This section of the discussion will suggest that, in terms of fire support, the Army reduced the capability to the point that manoeuvre units are reliant on joint fires and coalition support.

11. The fundamental nature of ADO is the “ability to conduct coordinated, interdependent, full spectrum actions by widely dispersed teams across the moral, physical and informational planes of the battlespace, ordered and connected within an operational design created to achieve a desired end state.”¹⁷ In Afghanistan the Canadian Battle Groups operated across the full spectrum of conflict and were geographically dispersed. They relied on joint fires and coalition air support in many cases. While this worked for the Army in Afghanistan, it is not a safe assumption that allied support can be relied on for guaranteed support. Army planners question whether allied solidarity will be sufficient to meet the challenges encountered in the future. They suggest that: “allies may well differ, both in terms of threat assessment and in the approaches and tactics they

¹⁶ Department of National Defence, B-GL-309-001/FT-001, *The Infantry Battalion in Battle* (Kingston, ON: Army Doctrine and Tactics Board, 1995), 1-3-1 – 1-3-2.

¹⁷ Godefroy, Andrew B. and Department of National Defence, *Land Operations 2021...*, 18.

favour for insuring security. Accordingly, the ability of collective defence and security institutions to address future threats and challenges will vary.”¹⁸

12. When the Canada First Defence Strategy was published, the department leadership reflected on the lessons learned from Afghanistan. One of the lessons learned was that it is important to “[p]rovide deployed personnel with the right mix of equipment so they can take part, on their own or with allies, in the full spectrum of operations.”¹⁹ The Army Lessons Learned Centre recognized that the Canadian Battle Groups had a heavy reliance on joint fires from air and ground based coalition enablers.²⁰ While the Army benefitted greatly from these enablers and gained much experience in coordinating fire support, the lesson that should not be ignored is that the Army could not have been successful without the joint and coalition enablers.

13. The United States (US) learned a similar lesson; they have realized that while air support during *Operation Enduring Freedom* and *Operation Iraqi Freedom* was a tremendous enabler, there were equally times that organic fire support was the hero. Retired US Army Lieutenant-General Benajmin Freakley reflected that organic fires from mortars and cannons “provide fires for the units in contact, regardless of the limitations that [Rules of Engagement], terrain, weather, and the enemy can impose on the employment of air assets.”²¹ The US has an abundant supply of fire support resources from artillery units, air support and naval gun fire. However, they still realize the

¹⁸ Peter Gizewski, “The Future Security Environment,” in *Toward Land Operations 2021: Studies in Support of the Army of Tomorrow Force Employment*, ed. by Andrew B. Godefroy and Peter Gizewski, (Kingston, ON: Directorate of Land Concepts and Doctrine, 2009), 1-6.

¹⁹ Department of National Defence, *Canada First Defence Strategy* (Ottawa: DND Canada, 2008), 9.

²⁰ Department of National Defence, *Dispatches: Lessons Learned for Soldiers...*, 16.

²¹ Benjamin C. Freakley, “Organic Fires: Critical Component to the Infantry Combined Arms Team,” *Infantry Magazine* (Jul 2004), <http://www.thefreelibrary.com/Organic+fires%3a+critical+component+to+the+Infantry+combined+arms+team.-a0124641763>.

essential role that organic fire support plays in the current and future operating environments.

14. Undoubtedly, the Army has evolved to meet the demands of the future security environment and ADO. However, during its evolution the Army became reliant on joint and coalition enablers to perform its core functions of find, fix and strike. While the Army should absolutely be able to benefit from these enablers, it must be able to operate and achieve mission success independently. Consequently, the Army would have greater success in ADO if organic fire support resided in infantry battalions.

Lessons Learned from *Operation Unifier*

15. When the Directorate of Land Concepts and Doctrine developed the ADO framework, Army planners did not anticipate conventional conflict like the Russia-Ukraine war. This conflict provides an opportunity for the Army to reflect on its evolution and assess if its structure and capabilities would meet success against a near-peer to superior enemy. Given Canada's membership in the NATO alliance and the close relations it shares with European countries it is not unthinkable that Canada could find itself more involved in the conflict than it currently is with *Operation Unifier*.

Accordingly, it behooves the Army to consider the lessons learned from this theatre of operation.

16. The first lesson applicable to this discussion is the heavy reliance on indirect fires. According to national security expert, Phillip Karber, 85% of all casualties on both sides were a result of artillery.²² Karber suggests that while the US and most NATO countries are divesting themselves of cluster munitions based on concerns of collateral damage, the

²² Phillip A. Karber, "Lessons Learned from the Russo-Ukrainian War," (Johns Hopkins Applied Physics Laboratory & U.S. Army Capabilities Centre, Historical Lessons Learned Workshop, 2015), 17.

Russians seem to be moving in the opposite direction.²³ The emphasis that Russia is placing on indirect fire should indicate that the Army needs to broaden its arsenal in order to be able to respond to a conventional threat. While organic fire support in battalions does not directly address this concern, it would ensure that manoeuvre units still have guaranteed fire support when joint and coalition assets are used to strike higher priority targets.

17. The lessons learned from the conflict highlight some notions that the Canadian Army may have believed were history rather than the future of conflict. Karber reveals that “the Main Battle Tank is not dead [and] light infantry in light armour die in droves.”²⁴ Given the threat of the main battle tank, there is a requirement for robust fire support to shape the enemy. Army doctrine defines shaping operations as “those activities that favourably shape the adversary and battlespace for the decisive operation. They make an adversary or other target vulnerable to attack or another decisive action, and help dictate the time and place for decisive actions.”²⁵ Fire support is a huge enabler for shaping operations in that it fixes the enemy to buy time for decisive actions or forces the enemy into a more favourable location so that manoeuvre forces can exploit. The Army has structured and equipped its fire support for more precision strike to counter insurgents. However, shaping would involve massing ground based indirect fire and air resources, leaving manoeuvre units without a guarantee of fire support.

18. Clearly, the Russia-Ukraine conflict provides lessons learned that should not be ignored as the Army deliberates on future capabilities. The conflict highlights the

²³ *Ibid.*, 16.

²⁴ *Ibid.*, 18-19.

²⁵ Department of National Defence, B-GL-300-001/FP-001, *Land Operations...*, 4-26.

requirement for robust fire support at all levels including resources integral to manoeuvre units.

CONCLUSION

19. Based on the future security environment and existing Army doctrine, the current capabilities of the Army do not meet the requirements with respect to fire support resources to find, fix and strike. After reflecting on operations in Afghanistan over the last decade, it is apparent that the Army's evolution made it reliant on joint and coalition enablers to ensure operational success in ADO. Finally, the Russia-Ukraine conflict provides an opportunity for the Army to assess the validity of the changes it has made to structure and capability. The assessment reveals that the Army lacks the requisite fire support to defeat a near-peer to superior enemy and that one critical capability gap is organic fire support.

20. Selecting the appropriate platform and determining the force generator of the human resources to fill this capability gap is beyond the scope of this paper. However, the subsequent section provides potential recommendations that require further analysis.

RECOMMENDATION

21. The Army requires organic fire support elements within its manoeuvre units. A potential option, which is common to most modern militaries, is a mortar platoon within infantry battalions. It is recommended that a light option, such as the 81mm mortar, be considered for the light infantry battalions and that a vehicle mounted mortar, such as the 120mm, be considered for the mechanized battalions. Further analysis is required to ensure the appropriate platform, however, the integration into the fire control system should be seamless and, if vehicle-mounted, the chassis should be common to the Army

fleet. The personnel could come from re-establishment of a mortar platoon within the battalion, the artillery could force generate or if growth is not an option it could be a potential task for the reserves. Again, further analysis is required but, the essential aspect is that the capability must be under full command of the manoeuvre commander on operations.

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