

DISTRIBUTED SUSTAINMENT: CAPABILITY TO MAKE IT POSSIBLE

Major Daniel King

3rd Combat Service Support Battalion

“Logistic elements will need the same ability to hide as is required for the combat arms. They will need to move with speed, be able to disperse and coalesce when the combat arms require concentrated support. Logistic forces must also be able to transition between heavy and light in order to manoeuvre and support the close fight.”¹

Chris Smith & Al Palazzo

Introduction

1. The Chief of Army’s Futures Statement for an *Army in Motion – Accelerated Warfare*,² compels discussion and debate on the future of conflict for the Australian Army. It frames the future operating environment and how Army should respond to ensure it is ready for the future. Commander 17th Sustainment Brigade’s *Logistics 2028*³ corollaries *Accelerated Warfare* and provides the vision for future joint force sustainment. Central to *Logistics 2028* is the identification of an operating environment that places complex demands on logistics organisations, the requirement for distributed sustainment, and the limitations of the current joint force sustainment system.

2. Distributed sustainment is not a new concept, but it needs to become standard operating procedure at the tactical level of logistics and specifically for the Combat Brigade. With the future of warfare occurring at all ranges,⁴ the survivability of large and centrally located logistics organisations is likely to reduce. In a fiscally constrained era where Army is undertaking its largest modernisation effort in several generations,⁵ the joint force sustainment priority for resources should be on capabilities that enable distributed sustainment. Starting at the top, those are command and control systems and a logistics common operating picture.

ACCELERATED WARFARE

3. The future of Army’s operating environment is profound and accelerating, characterised by *Accelerated Warfare*. Among other things, *Accelerated Warfare* highlights the changes coming to land warfare and the associated challenges for Army. In many respects, some of those changes are already here and Army’s processes, concepts, capabilities and structures are struggling to maintain pace. Where there has been a reliance on long-term indicators for major conflict, some actors seek advantage through means other than the linear peace/war distinction.⁶ We could be getting to a point in time where being ready now might mean being ready for the future, now. Indeed, Army should continue enthusiastically on its path of rapid modernisation, transformation of its training system and simplification of processes.

4. *Logistics 2028* distils the requirements of *Accelerated Warfare* for joint force sustainment. On the one hand, it unifies the voice of Army’s sustainment community through the 17th Sustainment Brigade as Army’s Sustainment Force Element Group. It highlights the

¹ Chris Smith & Al Palazzo, ‘Coming to terms with the modern way of war: Precision missiles and the land component of Australia’s joint force’, *Australian land warfare concept series* 1 (2016): 21.

² *Accelerated Warfare – Futures Statement for an Army in Motion*, 2018.

³ *Logistics 2028 – The vision for the capability backbone for joint force sustainment*, 2019.

⁴ *Army in Motion – Army’s Contribution to Defence Strategy*, 2019a, p.21.

⁵ Kane Wright, ‘The Challenges of Sustaining an Army in Motion’, *Australian Army Journal* 15 (2019).

⁶ *Army in Motion – Chief of Army’s Strategic Guidance* 2019, 2019b, p.8.

importance of a resilient, responsive and adaptable distributed sustainment system – one that relies on logistics visibility and effective command and control systems. On the other hand, it highlights the significant challenges inherent in Army's current sustainment system and in particular those associated with a logistics common operating picture.⁷

DISTRIBUTED SUSTAINMENT

5. Advances in technology enable state and non-state actors to strike from increasing ranges – in some cases up to thousands of kilometres. Increased strike ranges combined with advances in precision weaponry mean logistic elements are increasingly targetable on the battlefield.⁸ Never before has the concept of centrally controlled and centrally *located* logistics elements been at such increased risk. *Logistics 2028* advocates for distributed sustainment which 'sees the Force Support Group operate over multiple nodes, surging and adapting each node according to the Joint Task Force Commander's priorities, lines of communication, the threat and the manoeuvre plan.'⁹ Distributed sustainment for the Combat Brigade is conceptually similar, however logistics nodes are likely to be temporary in nature, and the maintenance of smaller logistics footprints is critical.¹⁰

6. The Combat Brigade already conducts distributed sustainment through the echelon system, the generation of tailored combat service support teams (CSSTs), and the dispatch of smaller elements task-organised for a specific purpose. While the doctrine and practices exist for distributed sustainment, it has not been tested in modern times under an extended duration or lines of communication. The Brigade Maintenance Area, occupied by the Brigade Support Group, the B-Echelons of brigade units, and any combination of external enabling organisations, will increasingly present a large and visible target in any future conflict. The strength of the BMA is that it enhances the command and control of the majority of the brigade's logistic resources such that they can be adapted to command priorities. However, in a future that requires distributed sustainment, such a large and centrally located logistics hub may not be survivable. Conversely, the ability to command and control logistics elements dispersed across the battlefield with reasonable effectiveness is limited by current command and control systems.

COMMAND AND CONTROL SYSTEMS

7. The Combat Brigade is challenged in its ability to command and control logistic support organisations according to an agreed priority of support and with appropriate responsiveness. There are no systems for tracking cargo, no means of automated data collection, no predictive analysis, and no systems for seamless condition-based monitoring of materiel. Furthermore, the current allocation of battle management and voice communications systems to logistic vehicles and command nodes does not support distributed sustainment. Situational awareness of manoeuvre elements and their sustainment requirements is typically low; beyond the initial phases of a mission, logistic elements are largely reactive but not always responsive.

8. The logistic continuum requires that logistic components be tightly integrated to ensure the right resources, in quality condition, get to the right location at the right time.¹¹ It is difficult enough to coordinate groupings of personnel in barracks to conduct routine activities with the support of mobile and landline phones and emails. Coordinating the delivery of resources on a contested battlefield to a force element that is decisively engaged, potentially

⁷ In *Logistics 2028* the LCOP is termed the 'Recognised Logistics Picture', p.9.

⁸ *Army in Motion* (a), p.19-21; *Logistics 2028*, p.5.

⁹ *Logistics 2028*; p.4.

¹⁰ David Beaumont, 'Sustaining war on the Peninsula', n.d.

¹¹ *Land Warfare Doctrine (LWD) 4-0 – Logistics*, 2018, p.12.

depleted, and of which meaningful communication has not occurred for days is immeasurably more difficult. The challenges associated with distributed sustainment at the tactical level are substantial; effective command and control systems are essential.

LOGISTICS COMMON OPERATING PICTURE

9. The intent of a logistics common operating picture (LCOP) is to provide a single framework for representing the state of logistics on a battlefield at any given time. It synchronises logistic requirements with capabilities and highlights shortfalls and capacity.¹² Ideally, it utilises networked information inputs regarding platforms, from fuel usage to parts diagnostics, as a means to identify logistic requirements in real-time.¹³ The automated data collection and predictive analysis capabilities of a future LCOP are essential for responsive distributed sustainment.¹⁴

10. Tactical logistic staff currently undertake data collection and analyse requirements through manual and laborious processes that are prone to human error.¹⁵ Moreover, they rely on timely submission of logistic statistics by other humans to have effectiveness.¹⁶ The focus of tactical logistic commanders and their staff needs to be less on calculating the needs of their dependencies, and more on the planning and execution of tactical logistic operations. In a future where logistic organisations will mass in time rather than space, a LCOP that offers superior situational awareness of supported manoeuvre elements, and predictive analysis to assist logistic commanders to identify the need to make decisions before being forced through reaction, is likely to provide a competitive edge.

IT IS NOT ALL ABOUT TECHNOLOGY

11. This discussion has emphasised the need for logistics analytics and command and control systems to support the future of distributed sustainment. While better systems provide opportunities for increased logistic responsiveness, flexibility and foresight,¹⁷ reliance on technology can itself be a weakness. Logistic support organisations at the tactical level must be prepared to operate in communications degraded environments; there is still a need to prepare and disseminate traditional products including physical overlays, stockholding policies and the daily replenishment implementation program.¹⁸

¹² Aaron Cornett & Justin Redfern, 'Developing a common operational picture for sustainment', on *US Army* website. 02 January 2018, viewed on 15 September 2019.

¹³ Keyurkumar Patel, 'Transforming Army's Logistics Capabilities through Emerging Big Data Analytics – Challenges and Opportunities', *Australian Army Journal* 14 – Cyber Warfare Edition (2018): 34.

¹⁴ *Logistics 2028*, p.9.

¹⁵ *Ibid.*

¹⁶ Timothy McCarter, 'Logistics Status Reports and the Logistics Common Operating Picture', *Army Logistician* 40 (2008).

¹⁷ *Logistics 2028*, p.10.

¹⁸ Mike Hammond & Dion Lightner, 'Sustainment in decisive action on a distributed battlefield', on *US Army* website. 01 April 2019, viewed on 15 September 2019.

Conclusion

12. Coinciding with the Chief of Army's *Accelerated Warfare* futures statement is Army's undertaking of its most significant modernisation effort in a number of decades. This capability development and investment effort is wide-ranging across combat, combat support and combat service support. In terms of its contribution towards joint force sustainment, Army should prioritise capabilities that enable distributed sustainment. At the top of that list are command and control systems and a logistics common operating picture.

