



Analysis of Lessons Learned Relevant to Agility

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Abstract

The Canadian Armed Forces (CAF) is going through a transformation intended to support agile responsiveness to the future security environment. This project aims to identify and analyse lessons learned relevant for C2 agility and report on these lessons. The Scientific Authority (SA) searched the CAF Lessons Learned database located in Kingston Ontario over the Defence Wide Area Network (DWAN) to locate relevant lessons learned documents for multiple CAF operations and provided these documents to the research team. Through the analysis of over 50 lessons learned documents for six operations and exercises, over 250 lessons were identified to have had a possible impact on agility. These lessons were categorized and within the categories, analyzed to highlight their impact on agility. Overall, the majority of documents analyzed provided potential agility-related lessons learned. This indicates that the methodology used to collect, analyse and report on lessons learned was successful and appropriate for its purpose.

Results of the analyses showed that lessons reporting potential barriers to agility were more common than enablers of agility, which is in part due to the nature of lessons learned documents. Importantly, each observation or lesson identified has the potential to influence agility positively. The most common types of lessons were related to command and control, communication and Whole of Government issues, with training, relationships and doctrinal themes emerging less frequently.

Although the current scoping study served its purpose well, for future work, it would be helpful to embed military subject matter experts (SME) as part of the research team in order to provide a more detailed interpretation of the lessons learned and the potential impact these may have had on agility.



Executive Summary

ANALYSIS OF LESSONS LEARNED RELEVANT TO AGILITY

Adams, B.D., and Elderhorst, E. HumanSystems® Incorporated, March 2014.

The Canadian Armed Forces (CAF) is going through a transformation intended to support agile responsiveness to the future security environment. Agility is defined as the capability to successfully effect, cope with and/or exploit changes in circumstances. For the CAF to seamlessly and timely adapt to the unexpected, innovative approaches will be required to maximize CAF capacities while ensuring an effective balance across the four defence pillars upon which CAF capabilities are built – readiness, personnel, infrastructure, and equipment. This report aims to investigate enablers of command and control (C2) agility relevant for future security environments, with a particular focus on the high tactical and operational levels. This project aims to analyse lessons learned relevant for C2 agility, analysing identified lessons learned, and reporting.

In order to prepare for this project, the Scientific Authority (SA) identified operations undertaken by personnel from the CAF that may provide lessons learned related to agility. This was done by seeking advice from military subject matter experts (SME). Once the operations were identified, the SA searched the CAF Lessons Learned database located in Kingston, Ontario, over the Defence Wide Area Network (DWAN) and saved the relevant articles as they were identified.

Once all documents were collected for each operation, the HSI® (HumanSystems Incorporated) research team spent time establishing a strong definition of agility. Based on the definition that was determined, the research team scanned each of the documents twice to look for lessons learned. The first scan allowed for the identification of emerging themes, and the second scan was a more detailed look at specific lessons learned. The lessons learned were then categorized and analyzed within each category. This analysis sought to highlight important examples of agility and indicate how these lessons may have impacted upon agility. Overall, approximately 250 lessons were identified in the over 50 articles that were reviewed. This methodology seems to be an appropriate way to identify agility-related lessons.

Results of the analyses showed that lessons reporting potential barriers to agility were more common than enablers of agility, which is in part due to the nature of lessons learned documents. Importantly, each observation or lesson identified has the potential to influence agility positively. The most common types of lessons were related to command and control, communication and Whole of Government issues, with training, relationships and doctrinal themes emerging less frequently.

A few limitations were identified in this study and these were that the analysis of these documents requires substantial background knowledge about Canadian, joint and coalition operations. Due to the documents being written largely for a military audience, the research team was unable to understand all of the acronyms and special terms. In addition, a strong understanding of these documents was required to determine whether the lessons learned had a potential impact on agility. Although the current scoping study served its purpose well, for future work, it would be helpful to embed military subject matter experts (SME) as part of the research team in order to provide a more detailed interpretation of the lessons learned and the potential impact these may have had on agility.

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1. Introduction

1.1 Background and Objectives¹

The Canadian Armed Forces (CAF) is going through a transformation intended to support agile responsiveness to the future security environment. Agility is defined as the capability to successfully effect, cope with and/or exploit changes in circumstances. For the CAF to seamlessly and timely adapt to the unexpected, innovative approaches will be required to maximize CAF capacities while ensuring an effective balance across the four defence pillars upon which CAF capabilities are built – readiness, personnel, infrastructure, and equipment. This will require an integrated, efficient, and agile organization that is responsive to Defence and Government of Canada priorities.

This project was in support of a larger Applied Research Project (ARP) entitled “Enablers to C2 agility in a CJOC [Canadian Joint Operations Command] context”. This ARP aims to investigate enablers of command and control (C2) agility relevant for future security environments, with a particular focus on the high tactical and operational levels. This includes identifying the requirements of C2 agility, C2 agility concepts and measures, as well as enablers and barriers to C2 agility. The expected outcome of this project is the improvement of operation response and effectiveness through C2 agility capabilities required by future security environments to conduct full-spectrum CAF operations at home, in North America, and around the world.

This statement of work (SOW) supports the scoping year of the ARP. This project aims to analyse lessons learned relevant for C2 agility, analysing identified lessons learned, and reporting.

1.2 Conceptualizing Agility

As noted above (and following directly from the SOW) this project defines agility “...as the capability to successfully effect, cope with and/or exploit changes in circumstances.” (see Jobidon, 2014 [SOW] referencing SAS-065, 2010; SAS-085, 2013). This definition is paralleled in another Defence Research and Development Canada (DRDC) report exploring agility within the C2 context. This report describes C2 agility as necessary because of “Unforeseen or sudden changes in the environment – or ‘disturbances’ [*that*] may increase the complexity of a situation and require the collective to adopt a new GM (*government and management*) approach.” (Jobidon, Fraser, Smith & Farrell, 2011, p. i). These two definitions describe the core of agility as involving:

- change – particularly unexpected or sudden change, and
- adaptability or success in adjusting to unexpected or sudden change.

These two elements, then, are used throughout this project as the key elements of agility. The chapter that follows describes the methodology used to analyze the lessons related to agility in the available materials.

¹ This description is adapted slightly from the Statement of Work (Jobidon, 2014).



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2. Method

This chapter describes the methodology used to identify/retrieve², scan/filter, and identify lessons learned relevant to agility within the available documents.

2.1 Identifying and Retrieving Documents

In preparation for this project, the Scientific Authority (SA) first sought the advice of military subject matter experts (SME) in order to identify operations/exercises undertaken by personnel from the CAF that might provide valuable lessons about agility, based on the nature of the operation and on the events that occurred during the operation/exercise. This yielded several operations/exercises (e.g., Operation Podium, Exercise RIMPAC) for which lessons learned documentation might be available. This included some recurring operations/exercises (e.g., Nanook and RIMPAC), and focus was placed on the more recent iterations of these operations. Based on these discussions, then, the SA searched the CAF Lessons Learned database located in Kingston Ontario over the Defence Wide Area Network (DWAN) and saved the relevant articles as they were identified.

These documents were then provided to the HSI® (HumanSystems Incorporated) research team, as well as several background documents relevant to describing and conceptualizing the concept of agility. A breakdown of the number of articles received is shown in Table 1.

Table 1. Articles by operation/type

Operation or Type	Number of Documents Reviewed
OP HESTIA	8
OP LENTUS	4
OP MOBILE	5
OP NANOOK	5
OP PODIUM	12
EX RIMPAC	11

After working to establish a strong definition of agility, members of the research team catalogued all of the files received into an Excel file in preparation for the filtering process.

2.2 Scan and Filter Documents

The research team scanned through all of the documents for each operation one at a time looking for possible lessons learned. Two scans were necessary. The first scan determined whether the document contained usable lessons and aimed to get an initial view of the types of lessons indicated within the document. This initial scan involved all of the documents for a given operation and helped to show some of the common themes seemingly reflected within the lessons learned. The next scan was conducted in more detail using the same process, and as we worked through each document, we highlighted possible lessons learned for use in the same stage of the process.

² Done by the Scientific Authority



2.3 Identify and Analyze Lessons Learned

The highlighted passages indicated within the document were then assembled into an Excel document and were cross-referenced with the article and the page number. Having all passages aggregated side-by-side helped us to identify common themes and patterns within the lessons learned. To facilitate analysis, the lessons learned were then divided into several categories reflecting the broad areas of concern within the available documents. The categories reflected categorization terms identified within some of the documents and were in accordance with our experience and knowledge of the military domain. Each operation had lessons reflecting a unique combination of the identified categories.

Once categorized, we attempted to analyze the meaning of the lessons learned within each broad category. Our purpose here was to provide examples of some of the most important and interpretable lessons learned within each category and to the extent possible, to provide some insights about evidence of agility within the documents reviewed.

2.4 Limitations

It is important to note some of the most obvious limitations of this effort.

The first limitation is that this report is based on a non-random sample of available operations. There is no way to determine whether the lessons identified about these operations in the available documents are typical of the lessons that might exist in other operations. Hence, there is no way to know whether the lessons identified within this report are the most important lessons.

Although there are many different types of lessons with varying levels of specificity noted within the available documents, we constrained our filtering of lessons learned to primarily ones related to C2 and core elements of battlespace management. For example, lessons related to pragmatic issues like logistics (e.g., movement of equipment), personnel management issues (e.g., repatriation, force generation of personnel, etc.) were given less attention as these topics seem less proximal to the issue of agility.

Another limitation of this work is that the lessons that the research team was able to identify and discuss were constrained by our limited knowledge and understanding of the nuances of complex military operations. As such, although we were able to identify some lessons that we believed might impact on agility, our analyses are tentative and somewhat speculative.

3. Results – Lessons Learned

3.1 Operation Hestia

3.1.1 Description of the operation

The following description of Operation Hestia is taken verbatim from a lessons learned document used for this report:

“A magnitude 7.0 earthquake struck off the coast of Haiti on 12 Jan 10, causing significant damage and casualties, exceeding the capacity of the Government of Haiti. The Government of Canada responded favourably to Haiti’s request for international assistance and on 14 Jan 10 the Minister of National Defence authorized deployment of Canadian Forces (CF) to Haiti to provide medical, humanitarian, security and engineering support under Operation (Op) HESTIA.” (A3B - AF-AP-2010-01 Final Report (Op Hestia), p. 1).

Agility-Related Themes

3.1.2 Whole of government

Our analysis showed several lessons related to the Whole of Government (WoG) approach in Operation HESTIA. These included:

- the need for coordinated messaging that showed the excellent coordination among the many members of the WoG team. Because this did not exist in Haiti, the CAF was left to communicate about the operation, not taking advantage as much as possible of opportunities to relay the WoG achievements;
- the importance of prior training amongst WoG partners and commanders familiar with WoG and humanitarian aid agencies that helped improve effectiveness on the ground;
- the need to more systematically promote and institutionalize the liaison function within the entire WoG context;
- the negative impact of WoG partners’ turnover on relationship building;
- the need for improved coordination among Other Government Departments (OGD) in emergency situations; and
- the need to synchronize the operational planning process among all WoG partners.

These lessons included both actions required to strengthen the WoG approach, as well as best practices that enabled it.

3.1.3 Command and control

Several C2 lessons with the potential to impact on agility emerged. These related to the valuable contribution that civil-military cooperation (CIMIC) activities and psychological operations (PSYOPS) could have made in HESTIA, to the need for clear and unequivocal role definitions and mission orders, the absence of which increases reliance on personal experience and expertise. The potential for agility may also have been lessened by a perceived lack of harmonization between operational level movement plans and the movement and sustainment of resources. Liaison officers (LO) were identified as helpful and a lesson learned was that they should be incorporated earlier into

mission planning and definition. The need for the right person in the right job was emphasized, as was the importance of training to ensure common standard operating procedures (SOP) and appropriate level of skills. The coordination done by varying command elements (e.g., humanitarian assistance teams and force protection teams) was seen to be a positive enabler, as was excellent collaboration between Canada and U.S. within the maritime element.

3.1.4 Doctrine

Some lessons related specifically to the need for public affairs (PA) in operations doctrine to cover a wider range of operational themes (e.g., peace support operations, humanitarian aid, support to civilian authorities), suggesting that PA doctrine and training may not have adequately prepared personnel for HESTIA. Another doctrinal lesson was that current air force doctrine does not adequately speak to combined/joint operations, leading to some “planning and implementation” confusion in HESTIA. This confusion may have impacted on agility.

3.1.5 Communication

A number of communication-related themes that could have contributed either positively or negatively to agility emerged from the lessons learned document. These included

- the need for Canadian Expeditionary Forces Command (CEFCOM) to be in the loop about strategic messaging and better coordination of media requests – in an increasingly linked world, coordinated management of strategic messaging can be critical to operational success;
- more attention to ensuring common SOPs among all partners (e.g., making sure contact lists are up-to-date and that partners have similar view of SOPs in disaster situations);
- the importance of common communication tools such as Blackberry smartphones. Because this humanitarian mission was unclassified, secure communication means were not necessary and enabled extensive use of accessible communication pathways;
- daily communication among different elements of command (ACC (air coordination centre), CAOC (combined air operations centre), CEFCOM); and
- use of frag orders rather than full orders provided possible efficiencies. To fully take advantage of these efficiencies and enable optimal agility, it is important to distribute in the relevant languages (e.g., in the case of Op HESTIA, both English and French).

These lessons learned, then, highlight the criticality of good communications among all members of an operation as well as within the public domain as an important correlate of agility.

3.2 Operation Lentus

3.2.1 Description of the operation

The following description is taken verbatim from a lessons learned document used for this report:

“On 20 June 2013, unforecasted, catastrophic flooding began to occur in Southern Alberta. Several communities were significantly impacted in the early stages of the flooding, most notably Canmore, Calgary, and High River. The first indication that the Canadian Forces (CF) had as to the severity of the situation came as a result of the High River RCMP detachment contacting the Joint Rescue Coordination Centre (JRCC) in Trenton directly to ask for assistance. The JRCC immediately began to task SAR resources (2 x CH146 from 4 Wing Cold lake and 2 x CH149 from 19 Wing Comox) to rescue civilians trapped by the

rising water and in imminent danger. The SAR efforts began in the early evening of 20 June and carried on throughout that night, augmented by a C-130 out of 17 Wing Winnipeg to provide night illumination. While much of the initial effort was focused in the community of High River, urgent evacuations in areas west of Calgary, such as Canmore and Kananaskis, were also carried out. JTFW HQ was made aware of the SAR callout and began to make inquiries of the provincial authorities as to whether a Request for Assistance (RFA) was forthcoming. It was not until well into the evening of 20 June that the Alberta Emergency Management Agency (AEMA), and the Provincial RCMP Headquarters were able to gather sufficient information from their regional detachments to make a recommendation to the Premier for CF assistance. The CF received a formal RFA from the province on the morning of 21 June.” (2013-08-28 3385-U-1 POST OPERATION REPORT (POR) OP LENTUS 13-01 ACCE(W) SUPPORT 20-25 JUNE 13, p.1)

Agility-Related Themes

3.2.2 Whole of government

These analyses show a very interesting lesson during Operation Lentus, namely that civilian organizations responding to the flood were argued to be looking for the military battleground to take on a more active role, given the military’s “horsepower” and ability to set a high tempo. On the other hand, the lessons learned document indicates that civilian authorities needed to maintain primary control of the situation, as they had more ability to provide the necessary leadership within their respective organizations. Overall, the use of LOs may have had a large and positive impact on agility in this operation. The integration of CAF LOs within the Emergency Operation Centres in Canmore and High River proved to be very helpful. In addition, there was a benefit of having Joint Task Force West (JTFW) Headquarters (HQ) located in the area of operations. The relationships that had been pre-established were very beneficial to the operation. The ability of JTFW to communicate with civilian agencies was evident during the operation. Early consultation with local authorities and the ability it gave them to understand what to expect and how to best request assistance was seen as a positive contribution to the success of the operation.

The lessons emerging from Operation Lentus, then, show an emphasis on the need for clear definition of responsibilities during operations, and the importance of strong and pro-active communication.

3.2.3 Command and control

A number of lessons relevant to C2 were identified, and these could have impacted agility either positively or negatively. One of the important themes related to the transmittal of situation reports (SITREPs) from high command to subordinate elements and units, which was perceived as needing to be more frequent. Conversely, another lesson identified from personnel in another area suggests that the communication was more top-down than it should have been, with less focus on passing information potentially relevant for building situation awareness up the chain of command (CoC).

The transmittal of written military orders was also noted to be somewhat challenging, despite the success of verbal orders. Within JTFW, the transmittal of orders was also argued to be less than optimal. Another observation related to the importance of mission command. In such a fluid situation, having lower level personnel taking initiative proved to be effective.

The lines of authority were also reported to be somewhat confusing early in the mission, with the Land Coordination Centre (LCC) going through Army HQ and CJOC rather than through JTFW. However, this was corrected early on.

The use of a daily “command call” was identified as a best practice. This call linked CJOC and JTFW, and ensured more a synchronized battle rhythm and enabled higher levels of situation awareness, which could have increased levels of agility.

The lack of an onsite commander leading the various emergency response units in the early stages of the operation was seen as a challenge to the operation. This commander could have enabled a more systematic search and better coordination.

3.2.4 Communication

There were a number of lessons learned relevant to communications. Many of these lessons were related to communication infrastructure. A recurring theme that had the potential to affect agility was the use of Blackberry smartphones as the primary source of communication. While overall this was effective (particularly for after-hours communication), reliance on civilian communications infrastructure increased the risk of communications loss if cell towers were to be damaged in any way. Similarly, information management was also complicated by the use of a classified military system that could not be accessed by non-military personnel or personnel without the required clearance. Another lesson was that responding personnel were relying on texting to communicate. This seems to have assisted communication, but this approach might have affected the ability to create and maintain a common operating picture as the information texted was disseminated but not necessarily logged.

Other lessons related to the ways in which communication happened. For example, standardization of SITREPs format across units and organization would help the exploitation of the information (e.g., easily finding required information) and coordination of activities. In contexts such as Op Lentus, coordinated dissemination of information to the public is important in alleviating frustration of affected citizens wanting and needing information to understand the situation and the actions being undertaken to help them. Frontline soldiers can be a key source of information on the ground. Agility might also have been negatively affected by misunderstanding of the proper lines of communication during the operation. Specifically, local authorities went through the Land Component LO rather than through the more appropriate (and direct) channel, the ACC, resulting in some confusion.

3.3 Operation Mobile

3.3.1 Description of the operation

The following description is taken verbatim from <http://www.forces.gc.ca/en/operations-abroad-past/op-mobile.page>

"Operation MOBILE was the Canadian Forces' participation in the international response to the popular uprising in Libya against the regime of Moammar Gadhafi.

Operation MOBILE began on 25 February 2011 as a non-combatant evacuation mission based in Malta, and in March 2011 became a joint combat mission with air and maritime based in Italy. The combat phase concluded at 2110 hr GMT on 31 October 2011."

Agility-Related Themes

3.3.2 Command and control

Several important lessons learned identified were relevant to C2. Many of the lessons within this section related to the fact that there were two different command structures in play within Operation Mobile. The first (Task Force Libeccio or TFL) was responsible for operational and tactical air operations and Task Force Naples (also called NCC/SC) was noted to be responsible for strategic/operational support. Each of these commands had a Colonel at the helm. Some military personnel writing lessons learned argued that this command structure ran counter to CAF doctrine. And, while some argued that having two different commanders was not at all problematic (due to their personalities and an understanding of the roles of each commander), others argued that this created confusion and concerns about potential “delays in action due to a perceived unnecessary and lengthy CoC”, some friction and frustration, and resulted in blurred command relationships. Some lessons seemed indicate the importance for in-theatre commanders to have adequate authority to fulfill their roles. The need for command staff to focus on operations rather than on the command function was also argued to be challenging at times. The importance of having the required expertise provided in the field was also noted, in order to decrease inefficiencies.

3.3.3 Communication

A number of communications issues that might have impacted agility arose during Operation Mobile. For example it was indicated that due to the lack of secure communications, there was a delayed passage of information. In addition, emails were sent to a large number of people leading to some confusion, including multiple individuals acting on messages that were sent with the intention to gain help from one individual. A recommendation was made to create communication procedures that would be applied to all communication Department of National Defence (DND)/CAF wide, and other lessons emphasized the need to use only sanctioned communication channels. These communication protocols would eliminate the unnecessary sending of emails to large groups of people and would improve DND/CAF ability to transmit information quickly and effectively. Another lesson indicated the importance of balancing, in terms of time resources, the communication needs of high command (e.g., CEFCOM) with other mission-critical tasks.

3.3.4 Training and preparation

A strong theme in Operation Mobile was related to training, and this may have potentially affected agility. For example, due to the short notice given for deployment, not all deployed personnel necessarily met the optimal requirements for skills, qualifications or experience. In addition, a lack of appropriate training of Junior and Senior Officers, and non-commissioned member (NCM) made the accomplishment of some of their tasks more challenging. There were also delays in decision making and challenges in identifying and executing operational priorities due to a lack of appropriate training of some HQ Officers.

Overall, then, the lessons learned related to training show a consensual understanding of the core challenge of training, with possible impacts on operational agility.

3.4 Operation Nanook

The documents used for Operation Nanook covered the period from 2011 to 2013. The following description is taken verbatim from a 2011 lessons learned document used for this report:



“Canada Command conducted OP NANOOK 11 from 01- 31 Aug 11 in Resolute Bay and the High Arctic Archipelago. (Reference C) The operation had two main objectives: a military training exercise for a CF-led Joint Task Force (JTF); and a Whole of Government (WoG) exercise to exercise Government of Canada (GoC) disaster response and Consequence Management (CM) in a remote Northern location³.

The Regional Joint Task Force (RJTF) directed to conduct Op NA 11 was Joint Task Force North (JTFN). JTFN's mission was to conduct sovereignty operations in cooperation with Canadian Other Government Departments (OGDs) and Northern mission partners in support of GoC Arctic Policy and Northern Strategy.” (COMMANDS-_256591-v1-OP_NANOOK_11_-_External_Report, p. 1)

However, it is also important to note another important element of Operation Nanook in the 2011 mission. Before the training exercise began, a civilian aircraft crashed near the training site, requiring a real-life rescue and recovery operation. This event is also addressed within the lessons learned for OP Nanook.

Agility-Related Themes

3.4.1 Whole of Government

The WoG lessons learned identified within this section show both the opinion that the WoG approach worked very effectively on the part of CJOC, but that increased integration of all partners would be beneficial, especially throughout the planning cycle. This was mirrored in OGD perceptions that OGDs at the regional or local level did not have sufficient input during scenario building (representation of OGDs was more at the national level). Moreover, the importance of coordinating non-military air assets was noted to decrease the potential of conflicts within the airspace. It was also noted that some military personnel did not have adequate exposure to WoG training, which affected the understanding of how to work in this context.

Overall, during operation Nanook 2011, it appears through the lessons learned documents that there were some challenges with coordination of planning between WoG partners in 2011. This seemed to be somewhat rectified in 2012. By 2013 lessons learned indicate that this issue was completely rectified and that the planning process was highly successful.

3.4.2 Command and Control

Several C2-related lessons emerged from the exercises undertaken in Operation Nanook. In 2012, Air-related coordination among the various levels of command was reported to be somewhat lacking, with confusion between CanadaCom, the Joint Task Force elements (e.g., JFACC), and the ACCE. In 2013 a lesson identified was the need for CJOC to delineate more specifically the roles of operational control and operational command when working on domestic operations, and in 2011 there was a need for performance objectives and objective indicators of success to be more clearly defined early in a mission. An interesting lesson in 2012 indicated that Op Nanook was planned in an unconventional way, as determination of exactly what the exercise was going to be was made later in the process rather than earlier.

The unexpected airplane crash that occurred during the 2011 phase of the mission showed that responsibilities for casualty evacuation were not entirely clear.

³ The major disaster chosen for this operation was a Major Air Disaster (MAJAD) at a remote northern location.

3.4.3 Communication

Multiple themes related to communication emerged for this operation. On the positive side, good communication was facilitated in 2012 through the colocation of Joint Task Force Strategic Command (JTFSC) and the JTFN Forward Tactical Observations Centre. In addition, the utilization of social media during the operation seemed to be useful, but in 2013, guidelines needed to be clearer with regard to what could and could not be posted. Daily command calls also facilitated the ability to identify challenges as well as accomplishments. On the negative side, in 2012 access to the classified network was sporadic and this caused communications challenges. One communications issue that emerged in 2011 was that the policies and procedures in the event of a crash were not passed along to everyone involved and therefore there was some confusion as to what to do and members reverted back to their experience to respond.

3.5 Operation Podium

3.5.1 Description of the Operation

The following description is taken verbatim from a lessons learned document used for this report:

“Op PODIUM was the CF support to the Vancouver 2010 Winter Olympics and Paralympics. The primary LC tasks for Op PODIUM included the provision of mobility support, surveillance support, and tactical knowledge of operations within mountainous areas to the RCMP-led Integrated Security Unit (ISU). These tasks in support of the RCMP led to the provision of three company groups which secured three different venues: Whistler Olympic Park, Whistler Athletes’ Village, and Cypress Mountain.” (3350-1 (JTF G G3 Plans) OP PODIUM POST OPERATION REPORT- LCC_U_10-04-30, p. 2)

Agility-Related Themes

3.5.2 Whole of government

During Operation Podium, promoting a WoG approach was very important for many reasons. During the operation, the CAF was required to liaise with OGDs, especially the Royal Canadian Mounted Police (RCMP). It was expressed that in a domestic environment, there has been a loss of experience to liaison well with others; however, the maintenance of LOs within RCMP command centres was very important to the success of the operation. Overall LOs improve communication and assist with developing a “mutual understanding between the CAF and civilian agencies”. Some issues arose with the WoG exercises, with some people observing that the exercises were overwhelming and the scenarios unrealistic (e.g., disasters being considered “over” too quickly compared to what would happen in real life).

One theme that arose multiple times in the lessons learned document for Exercise Bronze (the first of three exercises leading up to the Olympics) was that the role of the CAF was not clearly defined. This was attributed to the lack of mutual understanding regarding stakeholders’ roles and responsibilities. It seemed as though there was a lack of situational awareness early on with regard to the capabilities of all supporting agencies. This lack of situational awareness had the potential to impact agility through a lack of coordinated response from all agencies. This led to some participants assuming that they could borrow resources from other areas. This has the potential to impact potential agility as when resources are pulled away from specific areas, those areas may become more vulnerable. In

order to better coordinate response and positively impact on agility, it is important that shared situational awareness is maintained through appropriate and effective communication.

3.5.3 Command and control

Operation Podium also provided several lessons relevant to C2 that could potentially have impacted on agility. Specifically, coordination between CanadaCom and the Joint Task Force Group (JTFG) caused some confusion around information about repatriation of personnel and affected situation awareness somewhat with regards to repatriations. Another lesson was that although JTFG was aware of the required operational tempo in their dealing with the Vancouver Organizing Committee (VANOC), timely decisions could not always be made. A positive lesson was that rigorous scenarios developed before the definition of rules of engagement enhanced understanding of the necessary legal aspects of the mission. Battlespace management was a challenge during Op Podium (regarding movement and accreditation control and route management), and it was noted that challenges with adherence to policies and procedures identified in expeditionary operations within this domestic operation contributed to the issue.

Exercise Bronze, which aimed to establish common procedures and plans, and identify challenges to address, also provided some C2 lessons. During Exercise Bronze, the lack of a common concept of operations or coordinated or deconflicted emergency response plans could have impacted agility by resulting in interference and gaps, particularly in responses to security incidents. In an operation, clear and unequivocal taskings need to be in place to maximize the effectiveness of resources, and transparent and well-articulated security protocols need to be in play for effective communication.

3.5.4 Communication

A variety of themes arose relating to communication during Operation Podium and these may have impacted on agility. Examples of communications lessons learned during Operation Podium are displayed below:

- Some discrepancy in the information received by CanadaCOM on their command net as that on the JTFG command net (e.g., in terms of quantity).
- Some instances of uninvited HQ personnel entered JTFG chat rooms.
- Overall communication was good but communication flow with Ottawa could be improved.
- More work needs to be done to ensure that critical information is shared amongst everyone to maintain situational awareness.
- Blackberry was the only common communications system. A common operational system needs to be used in order to be interoperable.
- Communication during the planning phase could be improved.
- Holding weekly coordination meetings was helpful.
- LO reports were posted to a staff chat board to help integrate LOs. This assisted in providing situational awareness for those who monitored the chat.

Overall, then, the documents reviewed showed a number of ways in which communication could improve, ranging from the need for common operational systems, to better sharing of information to promote situation awareness. At the same time, however, weekly coordination meetings were noted as a helpful practice.

3.5.5 Training and preparation

Key planners were organizing Operation Podium for approximately four years prior to the operation. This aided greatly in the success of the operation. Continuity of planning staff is very important. Unfortunately, more work could have been done to create contingency plans prior to deploying to theatre. Suggestions were made to improve the training of All Source Intelligence Centre (ASIC) staff and have them in theatre a minimum of two months prior to deployment.

3.5.6 Relationships

During operations, relationships can be difficult to build and maintain. The relationships built during Operation Podium were very beneficial. This was due in part to the LOs, who were very helpful in building and maintaining these relationships as well as the ability to plan for multiple months before the start of the operation. A strong relationship was built between Canadian Forces Liaison Officer (CFLO) and VANOC, which allowed CFLO to make decisions for the CAF on behalf of VANOC. In addition, a positive relationship was built with those at the Joint Intelligence Group (JIG). Unfortunately, a lack of continuity of personnel made relationship building challenging in some cases. A difference in culture between the CAF and RCMP as well as other security partners was an important consideration. Because of these inherent differences in culture, good communication was helpful in maintaining relationships. In addition, it was suggested that increased training alongside security partners would have been very valuable. Another important lesson learned was the importance of relationship building before the start of an operation. For example, to further foster relationship building, intelligence staff should have been working in Vancouver from the beginning.

Overall, then, the documents reviewed suggest the important role of relationships in promoting agility. Liaison officers were argued to be particularly helpful, and prolonged exposure to other partners and the opportunity to train side-by-side were argued to be important.

3.5.7 Doctrine

The lessons reiterated the need for doctrine for domestic operations.

3.6 Exercise RIMPAC

3.6.1 Description of the operation

The following description is taken verbatim from a lessons learned document used for this report:

“RIMPAC 2010, a well-established multinational joint exercise, was run in the Hawaiian Operations Area for the month of July. It was focused primarily on naval warfare, but by its size and diversity of scenarios, involved a great deal of air and land forces as well. The LRP contribution to this RIMPAC was 20 dedicated aircraft from Canada, the USA, Australia, Japan, and the Republic of Korea. The general setup was comparable to previous RIMPAC exercises in terms of overall structure and objectives. As in previous exercises, RIMPAC 2010 ran in three distinct phases of escalating complexity. The SOE, or Schedule of Events phase, consisted of relatively simple scripted CASEX events. The Force Integration Training phase (FIT) involved larger and more complex scenarios involving multiple players. Finally, the Tactical phase (TAC) simulated a complex and multidimensional escalation of tensions, culminating in a potential armed conflict.” (2010 - 0072 - Ex RIMPAC 2010 LRP PostEx Report, p.1/15)



Agility-Related Themes

3.6.2 Command and control

Several lessons relevant to C2 were identified in the RIMPAC documents. One lesson learned related to the national maritime component command (MCC), as was available during the RIMPAC exercise. It was argued that rather than having a MCC, it might be advantageous to have only a LO within the national command element (NCE).

One lesson related to limited participation of HMCS Victoria within the RIMPAC exercise. It was argued that this was a missed opportunity to explore the issue of submarine support within a joint command centre.

It was also noted that operating within a joint context requires a means of communication that enables coordination among all the distributed elements.

Another complex lesson learned related to changes in the command structure as the exercise unfolded, which points to the importance of clearly defined C2 relationships (in this case, between the RCN and CEFCOM) in order to avoid confusion.

These diverse lessons learned, then, underscore the strong link between C2 and operational agility.

3.6.3 Communication

Communication is a very important aspect in agility and when there are issues with communication, there is the potential to hamper agility. In this case, there were some communications issues during certain phases of the exercise and over different iterations of the exercise. It appears that this was due to a lack of bandwidth (RIMPAC 2012) and available resources (RIMPAC 2010). In order to keep up with the speed that CAF members receive communications, a deployed server was implemented.

3.6.4 Training and preparation

Training was identified as an issue during Exercise RIMPAC. Our analysis showed adequate training for competencies, tasks and systems is important and the short notice given prior to an exercise or operation can make training challenging. It was recommended that the battle rhythm be started in phases to mitigate this issue during RIMPAC 2010.

Another emerging theme related to some confusion about the role of JTFSC during the operation. Due to a lack of notice given prior to RIMPAC, the JTFSC was activated late, leading to this confusion.

4. Conclusions

This section briefly summarizes some of the key lessons learned while undertaking this project.

In our understanding, the key goal of this scoping study was to analyze lessons learned documents to find evidence of agility and or enablers/barriers that either impacted on agility or could have impacted on agility. Our analyses showed that the majority of documents reviewed for this project contained lessons that could be encoded and adequately understood, as shown in Table 2.

Table 2. Articles with Agility Lessons

Operation or Type	Number of Documents Reviewed	# Documents with Agility Lessons
OP HESTIA	8	7
OP LENTUS	4	4
OP MOBILE	5	5
OP NANOOK	9	8
OP PODIUM	12	12
RIMPAC	11	6

With more than 250 lessons relevant to agility identified from the available documents, there is very good evidence of agility and agility-related lessons.

The patterns within the lessons identified are also important to explore. A range of themes emerged as potential enablers of agility and barriers of agility, and it is important to understand these in more detail. In order to develop Table 3, the research team looked at each individual lesson for each operation and determined whether or not the lesson pertained to possible enablers or barriers of agility and provided a count for each category within every operation. Table 3 indicates the number of potential enablers and barriers of agility that were found in each operation.

Table 3. Enablers and Barriers of Agility

Operation	WoG		C2		Comms		Training/Prep		Relationships		Doctrine	
	E	B	E	B	E	B	E	B	E	B	E	B
OP HESTIA	2	12	6	9	3	9	n/a	n/a	n/a	n/a	1	3
OP LENTUS	4	5	4	10	2	11	n/a	n/a	n/a	n/a	n/a	n/a
OP MOBILE	n/a	n/a	0	14	2	5	2	7	n/a	n/a	n/a	n/a
OP NANOOK	2	7	2	12	5	6	n/a	n/a	n/a	n/a	n/a	n/a
OP PODIUM	5	10	4	15	3	13	2	8	7	15	0	1
EX RIMPAC	n/a	n/a	1	6	0	2	3	11	n/a	n/a	n/a	n/a
Subtotals	13	34	17	66	15	46	7	26	7	15	1	4

** E = potential enablers, B = potential barriers

As can be seen in the table above, more barriers to agility were identified than enablers. This may simply reflect the nature of lessons learned documents, which are more likely to explore issues that could be improved than to highlight issues that worked well and may not require any further action or attention. Potential barriers to agility that occurred during operations may have been given greater weight in an effort to learn about them and to work to improve upon them in future operations.

Importantly, each observation or lesson identified has the potential to influence agility positively if implemented, acted upon or improved constructively. It is also important to note that many of the lessons learned evolved around relatively new processes for the CAF. For example, the WoG concept is still evolving, and this will necessitate overcoming current barriers that might exist. Particularly during a development phase, then, possible barriers may be more prevalent than possible enablers.

However, it was gratifying to note the presence of many enablers that could have promoted agility within the documents analyzed. Regular meetings and communication sessions emerged as a common enabler in several operations. This suggests both a will and a requirement to consider past barriers as well as to identify best practices that will promote agility in future operations.

Throughout all operations, the most common lessons learned were related to C2. This is perhaps not surprising, as C2 is a broad theme that encompasses many concepts and the C2 structure is critical to the success of all missions. Communication and WoG were the next most common themes emerging from the lessons identified across operations. This was likely largely due to the same reasons that C2 was the most common category. In order for operations to be successful, an efficient and organized C2 structure needs to be in place and communication and relationships with other partners need to be strong and efficient.

However, as the lessons learned documents were written largely for a military audience, the types of lessons learned identified in any given category could have been biased by the level of knowledge and understanding of the research team. Put simply, the lessons learned that we identified were constrained and influenced by what could be understood.

Not surprisingly, the analyses undertaken in this project require a substantial level of background knowledge about Canadian, joint and coalition operations. Military lessons learned documents generally seem to be written for military audiences, understandably, and contain a large number of acronyms and military-specific terms, and both the junior and senior researchers were unable to understand all of the acronyms and special terms. The required level of knowledge will be important to plan for as this work progresses beyond this scoping effort.

A more daunting challenge, however, involved discerning whether the many complex lessons learned within the documents might have influenced agility. This judgment required a serious amount of background knowledge about C2, military planning and the WoG approach. Even then, adequate analysis would require strong military background and expertise, which could not be accommodated within this limited scoping study. For the future, embedding military SMEs within the project team (e.g., as subcontractors) would be most helpful both for understanding the broad context of each mission, for working to understand the implications of each lesson for understanding agility, as well to provide more specific insight into exactly how each lesson might have contributed to agility. Although clearly beyond the scope of the current effort, making a judgment about the actual impact of a lesson on agility will require highly experienced military personnel. In general, however, the lack of detail provided within most of the lessons learned may not provide an adequate basis (even for military personnel) to make strong judgments about the actual impact on agility. In this case, then, it might be necessary to combine the use of archived documents with interviewing military personnel involved in past operations to learn more about the actual impact of lessons learned on agility.

Overall, this exploratory scoping effort showed that it is possible to identify potential lessons related to agility and will hopefully provide a helpful contribution to future research.



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5. References

Jobidon, M-E., Fraser, B., Smith, D., Farrell, P. (2011). Analysis of governance and management (GM) approach agility during the Vancouver 2010 Olympic games. Defence Research and Development Canada – Toronto.



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6. Table of Acronyms

Acronym	Referent
ACC	Air Coordination Centre
ACCE	Air Component Coordination Director
ARP	Applied Research Project
ASIC	All Source Intelligence Centre
C2	Command and Control
CAF	Canadian Armed Forces
CAOC	Combined Air Operations Centre
CEFCOM	Canadian Expeditionary Forces Command
CFLO	Canadian Forces Liaison Officer
CJOC	Canadian Joint Operations Command
CoC	Chain of Command
CSNI	Consolidated Secret Network Infrastructure
DND	Department of National Defence
DWAN	Defence Wide Area Network
FLS	Forward Logistics Site
GM	Government and Management
HQ	Headquarters
HSI	HumanSystems Incorporated
JIG	Joint Intelligence Group
JTFG	Joint Task Force Group
JTFN	Joint Task Force North
JTFSC	Joint Task Force Strategic Command
JTFW	Joint Task Force West
LO	Liaison Officer
MCC	Maritime Component Command
NCE	National Command Element
NCM	Non-commissioned member
OGD	Other Government Department
PSYOPS	Psychological Operations
RCMP	Royal Canadian Mounted Police
RCN	Royal Canadian Navy
SA	Scientific Authority

Acronym	Referent
SITREP	Situation Report
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SOW	Statement of Work
VANOC	Vancouver Organizing Committee
WoG	Whole of Government