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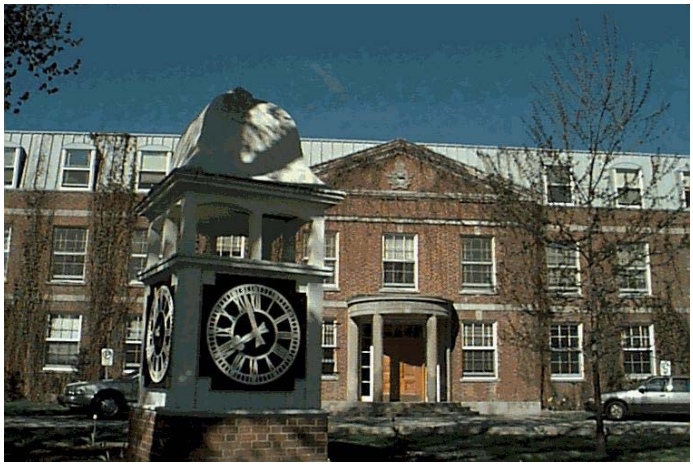

OPERATIONAL SUPPORT HUB IN THE FAR EAST: A STRATEGIC CAPABILITY GAP

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OPERATIONAL SUPPORT HUB

IN THE FAR EAST: A STRATEGIC CAPABILITY GAP

By LCol D.B. Wintrup

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ABSTRACT

Canada expresses its interests globally through its foreign policy and many interactions with other states in the pursuit of prosperity and international security. As an appendage of Canadian diplomacy, the Canadian Armed Forces (CAF) assists in achieving these on behalf of the government. The CAF, like other government departments is focused through a whole of government (WoG) approach in a united effort toward fundamental values such as economic prosperity, sustainable development, good governance and security. The Department of Foreign Affairs, Trade and Development (DFATD) calls all departments to collaborate in the Global Markets Action Plan (GMAP) and looks to regions that show the greatest promise for emerging markets. The Far East is a direction that Canada increasingly looks toward for these opportunities.

The CAF is increasingly deployed globally in support of government of Canada interests, both to provide traditional (i.e., combat) and non-traditional (i.e., humanitarian assistance and disaster relief) aid. A fundamental tenet in military operations is “move” and “sustain” doctrine. In order to provide timely, efficient and relevant responses to world events, the CAF devised the Operational Support (OSH) network; prepositioned in strategic locations world-wide. This study shows that although partially activated, there is an immediate requirement to establish a more robust OSH presence in the Far East.

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I also wish to offer my sincere gratitude to my wife Nathalie and my children Cody and Jordan for their encouragement and extraordinary patience. Being separated during weekdays so that I may pursue the Joint Command and Staff Program and MDS presented many challenges and their support directly contributed to the successful completion of both. I am very blessed.

Chapter 1: INTRODUCTION

Canada First Defence Strategy (CFDS) expresses the Government's international policy on military matters, including defence and security priorities, composition, spending and doctrinal alignment with a Whole of Government approach to issues of national security and sovereignty. It also includes developing Canadian industry.[1] The Canadian Armed Forces are charged with three principle roles: defend Canada, defend North America, and contribute to international peace and security. The Department of Foreign Affairs, Trade and Development Canada (DFATD) is responsible for Canada's foreign policy and its capstone strategy document, the Global Markets Action Plan (GMAP), describes the importance of government-to-government relationships to foster support in the pursuit of economic success. The GMAP provides a framework around which diplomatic assets are engaged to support Canadian companies in targeted global markets, to generate new jobs and new opportunities for workers and families in Canada.[2] Some of the governmental partners and resources in this effort are the Canadian trade Commission Service, Export Development Canada, Canadian Commercial Corporation, Business Development Bank of Canada, Industry Canada, Agricultural and Agri-Food Canada, Canada Border Service Agency, Canada Business Network, Canada Revenue Agency and the Industrial Research Assistance Program.

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[1] Canada. Department of National Defence. Canada First Defence Strategy, (12 March 2010), 3-4.

[2] Foreign Affairs, Trade and Development Canada, "Global Markets Action Plan," last modified 6 May 2015, http://international.gc.ca/global-markets-marches-mondiaux/index.aspx?lang=eng

Traditionally, the military manages violence between states that are at war whereas foreign affairs, trade, and development seems best suited to developing relationships and interdependencies between nations at peace. However, this study seeks to establish that the notion of shared purpose between the Department of National Defence (DND) and DFATD is not only consistent with the Canadian Whole-of-Government approach to international relations, but also naturally aligned in strategic goals. In Afghanistan, for example, then Department of Foreign Affairs and International Trade (now DFATD) led the effort in nation-building working alongside the military particularly during Operation ATTENTION (i.e., a training and mentoring mission) from 2010 until 2014. Domestically, the Canadian Armed Forces assist in such security concerns as over-fishing, organized crime, drug- and people-smuggling and environmental degradation. As well, the Canadian Armed Forces (CAF) is prepared to effectively assist other government departments in providing security for major events at home, such as the 2010 Vancouver Olympic Games and the G8 Summit.

More specifically, in the gamut of possible activities espoused by each department (DND and DFATD) there is a real and persistent requirement to share resources when delivering effects globally. This is particularly prevalent in cases where Canada seeks to or is driven by external agencies to act quickly such as during an outbreak of violence, a humanitarian intervention, or an evacuation following a natural disaster, for example. During times of heightened urgency, Canadian government and non-government agencies mobilize to provide assistance. It is almost without exception that the Canadian Armed Forces participate as they are often best suited to rapid reaction due to resources, capacity and training. Getting them there and resupplying them

are two significant challenges, and this is where the development of Operational Support Hubs in strategic areas around the globe can help.

An Operational Support Hub (OSH) is a location outside Canada where diplomatic agreements have been established to provide: physical space to occupy, storage and onward processing of goods and personnel to other locations, and contracts for the provision of goods and services that Canada does not bring with them. An OSH is not a military base; however, it is much more than simply a forward logistics warehouse and staging area.[3] Operational Support Hubs provide not only the CAF, but the Government of Canada writ large political flexibility through rapid and sustainable global reach, scalability in terms of size and capacity, and they foster multilateral arrangements with Host Nations (HN) and other regional players to further leverage Canada's political clout and economic influence in affected regions and globally.

This study argues that a robust global OSH network is needed particularly in the Far East if Canada is to achieve its strategic foreign and defence policy objectives to project its interests and sustain that capability indefinitely in that region. Establishing support networks in key locations around the globe facilitates both military and non-military Government of Canada sustainment requirements for current and future interests (i.e., diplomatic, economic, humanitarian assistance, and military intervention). Although Canada currently utilizes OSHs, there are a number of gaps in global coverage; the Far East is the largest. In addition to growing economic and diplomatic interests, Canada has also participated in a number of "no-notice"

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[3] National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

humanitarian efforts involving military resources in South West Asia and the Far East and it is likely that Canada will continue to do so in the near future. Additionally, in the event of military operations requiring significant resource commitments and over an extended time, establishing at least one operational support hub in the Far East is an immediate Government of Canada requirement.

This study examines government of Canada strategic policy to inform what is important to the current administration respecting international affairs. Specifically, the Department of Foreign Affairs, Trade and Development policy statements and key strategic documents (i.e., Priorities, Global Markets Action Plan) and the Canadian Finance Minister's principle documents (Economic Action Plan) strongly emphasize developing Canada's access to emerging markets, particularly in the Far East, to ensure Canada's continuing prosperity.

This study also looks at CAF doctrine (i.e., CAF Doctrine, RCAF Aerospace Doctrine, Future Security Environment 2025, Canada's Air Force: Projecting Air Power 2035)[4] to formulate an understanding of the application of air power and the functions of "Move" and "Sustain." A critical factor in determining the success of operations is the relationship between time (i.e., speed), space (i.e., distance) and force (i.e., resources). These documents highlight the

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[4] Canada. Department of National Defence, B-GJ-005-300/FP-000, *Canadian Forces Operations* (August 2005). Also, Canada. Department of National Defence, B-GJ-005-500/FP-000 *The Canadian Forces Operational Planning Process* (April 2008), 4-9. Also, Canada. Department of National Defence, B-GA-404-000/FP-001, Canadian Forces Aerospace Move Function (November 2011). Also, Canada. Department of National Defence, B-GA-400-000/FP-000, Canadian Forces Aerospace Doctrine (December 2010). Also, Canada. Department of National Defence, B-GA-404-000/FP-001, Canadian Forces Aerospace Move Doctrine (November 2011). Also, Canada. Department of National Defence, B-GA-406-000/FP-00, *Canadian Forces Aerospace Sustain Doctrine* (February 2011). Also, Peter Johnston and Dr. Michael Roi, *Future Security Environment 2025* (Ottawa: Department of National Defence, Operational Research Division, September 2003). Also, Canada, Department of National Defence, Canadian Forces Air Warfare Centre, *Projecting Power: Canada's Air Force 2035*, (Ottawa: Canadian Aerospace Warfare Centre, 2009).

criticality of maximizing efficiencies to mitigate the time, space, force relationship to deliver the right resources, at the right place at the right time. A key force enabler is the Operational Support Hub network which allows quick response to no-notice events where the CAF responds on behalf of Canada. Bacot's research stipulates that globalization, a shift from state-on-state conflict to more asymmetric and intrastate conflict prevails. Bacot also postulates that the CAF's global involvement outlook will witness an increase in humanitarian operations particularly in areas where states have failed or are failing, and/or where underdeveloped and unstable countries cannot effectively deal with natural disaster. He argues for the establishment of an OSH network to provide efficient CAF response to events in regions where they would most likely to occur.[5] This view is further supported by research conducted by Glasson who writes on the recent and growing prevalence of CAF soft power expression through air power in humanitarian assistance and disaster relief.[6]

Research conducted by the Defence Research and Development Canada (DRDC) (i.e., Gahnmi, et. al.)[7] and the USAF (i.e., Donaghy – OSH Africa)[8] provide an OSH model optimized for quantity and location. The Canadian OSH network model consists of seven locations.

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[5] Lt Col Roy C. Bacot (USAF), "Global Movements and Operational Support Hub Concept: Global Reach for the Canadian Forces," *The Canadian Air Force Journal*, Vol. 2, No. 3 (Summer 2009): 9-17.

[6] David Scott Glasson, "Hard Decisions for Soft Aerospace Power" (Masters of Defence Studies, Canadian Forces College, April 2014), 1-90.

[7] Dr. Ahmed Ghanmi, *Modeling and Analysis of Canadian Forces Operational Support Hubs*, (Ottawa, DRDC CORA TM 2008-020), June 2008.

[8] Maj. Michael R. Donaghy (USAF), "Application of a Non-Linear Program to Establishment of a Hub and Spoke System in Africa" (master's thesis, Department of the Air Force, Air University, Air Force Institute of Technology, June 2010).

Canadian Joint Operational Command Headquarters (CJOC) "actioned" government prioritized locations and continuing analysis has made some modifications to the original OSH locations based on a proof of concept trial and experience gained in their operation.[9] Some research by Ryan Eyre respecting the OSH trial is reviewed to contextualize the departure from the original list provided by DRDC researchers Johnston and Roi.[10] Building on the literature cited, this currently establishes that due to Canada's international economic strategy focus in the Far East, and the increasing likelihood of CAF humanitarian intervention in Asia, the present activation priority requires revision. This study also argues that due to the area of coverage and regional dynamics, the model should be amended to increase the OSH footprint in Asia Pacific. Starting with a theoretical analysis of OSH networks, this study bridges the relationship between military operations and the government of Canada whole of government approach to foreign relations and provides recommendations for improvements to the OSH construct.

Chapter 1 focuses on theoretical and conceptual issues to inform the genesis of the Operational Support Hub construct. An analysis of Canadian foreign policy and global strategy provides an understanding of the importance of global relationships in Canada's diplomatic strategy, particularly in the Far East. Chapter 2 discusses recent Operational Support Hubs history, usage and impact on CAF operations. In addition, some challenges associated with global coverage are noted particularly in East Asia. Chapter 3 explores Canadian interests in the

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[9] The proof of concept trial was conducted in Spangdahlem, Germany in 2008. Although a success, the location was changed to Köln-Bonn (Cologne) to overcome difficulties experienced during the trial.

[10] Peter Johnston and Dr. Michael Roi, *Future Security Environment 2025* (Ottawa: Department of National Defence, Operational Research Division, September 2003).

Far East: in particular, Canadian diplomatic advances in establishing trade and economic ties and humanitarian intervention using CAF resources. Chapter 4 addresses specific Canadian foreign policy and international strategic objectives and advocates a robust Operational Support Hub network on the basis that these provide much more than military logistics "reach." Chapter 5 provides an examination of other options available for long range, potentially long duration interventions by the government of Canada outside of the operational support hub construct, from status quo (i.e. do nothing different from before) to contracting services "just in time." The advantages and disadvantages of these are discussed and recommendations are suggested based on these analyses in comparison to the operational support hub option.

The conclusion will revisit the thesis argument that Canada requires a robust network of Operational Support Hubs in order to project national foreign policy, values, and WoG strategic goals globally, particularly in the regions most distant from us where we currently have many interests but no footprint such as the Far East. Final justifications for this position are captured while recapitulate the material presented in the preceding chapters and further research areas are suggested.

CHAPTER 1 – THE CONCEPT OF GLOBAL REACH AND LOGISTICS/MOVE DOCTRINE

Introduction

One must manage time, distance, and resources in order to bring the right instruments in the correct quantity to bear at the appropriate place and at an appropriate time. Further, one must also sustain the application of effort until the desired outcome is achieved. In ancient times, options were limited to bringing everything one needed on foot, and at a speed commensurate the requirements of the situation. This was the first and most basic "logistics" solution. As the problem becomes increasingly complex, so too does the solution. Time, resources, and distance (time, force, space), each provide a complexity both individually and when combined. In the simple example above, if the amount of resources required for the task were beyond the state agent's capacity to carry or if the distance was so great that resources were lost to attrition or if the terrain was so rugged that one had to leave some resources behind then there would be insufficient resources available during mission execution. if the required effect had to occur at a time before the state agent could physically arrive at the location with resources, then having sufficient resources too late (or too early) will not provide mission success Finally, if the state agent arrives at the objective at the anointed time with all necessary resources but the desired effect does not occur before the resources are exhausted then the mission will likewise fail. This chapter will further examine the time, force, space implications on deployed operations through an in depth analysis of CAF aerospace doctrine and non-military methods of global logistics support and the concept of OSH network is introduced. The use of Deployed Operating Bases (DOB), Forward Operating Bases (FOB), and Forward Operating Locations (FOL) are described to develop an argument for the implementation of an OSH network in CAF deployed operations

to comply with Canadian defence policy and Canadian strategic foreign policy (i.e., foreign policy is discussed in Chapters Three and Four).

Methods

If a country decided to impose their will distally, it would make the observation that geography can present challenges to that purpose and further, these challenges would grow increasingly difficult the further its agents moved away from their power base. The act of moving the instruments of its will to the intended location of use reveals limitations on the capacity both to transport and then to sustain them. Thus, a critical factor in deployed operations is discovered: the inescapable and direct relationship between time and distance. Finally, the achievement of these endeavours depended on timing: to varying degrees. Strength, speed or intellectual cunning are irrelevant if state agents shows up for a race, a hunt, a house fire, or the sacking of an enemy's castle too late (or too early). Time, resources, and distance are the three factors any of which may have precluded the successful achievement the state's intended effect, if not carefully considered in advance. In military terms, **Time/Force/Space**[11] are the three operational planning factors that the prudent campaign planner keeps at the fore lest the plans fail even before they are set to task. Thus military theory has evolved to devise fundamental principles or war, three of the most essential are: concentration of force, economy of effort, and

[11] Canada. Department of National Defence, B-GJ-005-500/FP-000 *The Canadian Forces Operational Planning Process* (April 2008), 4-9. Also, Canada. Department of National Defence, B-GA-404-000/FP-001, Canadian Forces Aerospace Move Function (November 2011), ii-iii.

administration (i.e., logistic support).[12] Figure 1.1 below describes each of the ten doctrinal principles of war.

SELECTION AND MAINTENANCE OF THE AIM	Every military operation must have a single, attainable, and clearly defined aim that remains the focus of the operation. The aim defines the operation; deviation from the aim dilutes effort and risks failure.
MAINTENANCE OF MORALE	Morale is the most important element in ensuring cohesion and the will to win. It is nurtured through good leadership, sound discipline, realistic training, confidence in equipment, and a sense of purpose.
OFFENSIVE ACTION	Distinct advantage lies with the offence because it confers the initiative, gives freedom of action, and compels the enemy to be reactive rather than proactive.
SECURITY	Security guards vulnerabilities and protects vital interests. It provides freedom to take offensive action and denies this advantage to an opponent.
SURPRISE	Surprise can produce results out of proportion to the effort expended. An opponent surprised is ill prepared, and unable to mount an effective opposition.
CONCENTRATION OF FORCE	It is essential to concentrate superior force at a decisive time and place. Forces should be disposed in a manner which permits them to combine quickly to deliver a decisive blow or to counter an enemy threat when and where required.
ECONOMY OF EFFORT	Resources are always limited, so they must not be wasted. To achieve maximum concentration at the main area of interest (AI), prudent risk may have to be accepted in other areas.
FLEXIBILITY	No plan can accommodate all factors of chance and opposition. Success requires the ability to alter plans to take advantage of opportunities or to counter difficulties.
COOPERATION	Cooperation among elements of a force maximizes its capabilities. It entails a unified aim, team spirit, interoperability, division of responsibility, and coordination of effort to achieve maximum effectiveness.
ADMINISTRATION	No plan or operation can succeed without adequate administrative and logistic support. Scarce resources and critical materiel must be controlled at the appropriate level of command. The most economic and effective use of materiel is required at all times.

Figure 1.1 – The Principles of War

Source: Canada. Department of National Defence, B-GA-401-000 *Canadian Forces Aerospace Doctrine*, 24

[12] Canada. Department of National Defence, B-GA-400-000/FP-000, Canadian Forces Aerospace Doctrine (December 2010), 24.

In order to preserve agility and react to time, distance and resources it is necessary to devised methods to reduce the effect and impact of each of these factors. There are two principle methods of achieving this: increase capacity (i.e., take more), or decrease load (i.e., take less but more frequently). It is not possible to evaluate these methods individually without considering them in context of time. For example, in the first instance increasing capacity means "more" of everything. In the above example, increasing the number of footmen carrying their instruments (or soldiers carrying their weapons, ammunition, gear and rations) will increase capacity assuming that the mode of travel can be accommodated; for instance, a single footpath along a precipice does not facilitate the advance of a column of soldiers in full frontal formation. Essentially, there must be a means to accommodate an increase in footprint at every stage along the route, from beginning to end. Facilitating an increase in capacity will only occur as quickly as it can be processed past the narrowest chokepoint where the speed of advance is reduced and a time penalty levied. Similarly, reducing the load ensures that the footprint is slender enough to pass through chokepoints without slowing down; however, once at the destination there may not be sufficient resources to accomplish the effect.[13]

Remembering the relationship between time and distance, adjustments to one will automatically result in changes to the other by extension. The best solution, therefore, is to reduce the distance that resources have to transit. It is possible to accomplish this by acquiring resources at destination, which assumes they are available there. The level of risk associated with this option may be too great to be reasonably considered (as in the case of military action).

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[13] Canada. Department of National Defence, B-GJ-005-300/FP-000, *Canadian Forces Operations* (August 2005).

Another method of reducing distances resources travel is by prepositioning them along the route. Taken a step further, if resources are warehoused in locations that can service many destinations of interest there is an increased order of magnitude in overall effectiveness in access to resources throughout the entire distribution system. This is a de facto hub and spoke distribution model and it has been widely adopted in the logistics industry (i.e., FedEx), distributed computing (i.e., e-mail), and more applicable to this study, the Canadian military in the form of Operational Support Hubs (OSHs).[14]

When strong nations subjugated weaker ones during colonization and major international conflicts, a form of hub and spoke arrangement, military outposts, were embedded within the defeated countries boarders and in some allied countries. Many post-colonial countries and states still have military bases from their former masters on their sovereign soil. The UK has military bases in Cyprus, Germany, Gibraltar, Kenya, Sierra Leone, the Falklands, Brunei and even Canada (i.e., CFB Suffield, Alberta). France has permanent military presence in Abu Dhabi, and Djibouti. Russia has strategic bases in the Ukraine, Syria, Vietnam and Tajikistan and the USA is in Korea, Japan, Guam, Diego Garcia, Guantanamo Bay Cuba, and Qatar. Nevertheless, in today's political and socially responsible climate, there is a stigma attached to the concept of extra-national real estate of this variety which are largely only available to hegemonies or superpowers with expansionism in their history (this is further addressed in Chapter 5). Alternately, arrangements can be made between friendly states, through bilateral agreements, to

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[14] Canada. Department of National Defence, B-GA-404-000/FP-001, Canadian Forces Aerospace Move Doctrine (November 2011), 28. Also, National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

allow temporary use of their sovereign territory, services and resources for economic, diplomatic, and/or military reasons. Such has been the case for Canada via OSHs in use since 2011.[15] Indeed, the type and nature of inter state interactions since Korea and Vietnam and the end of the cold war have been less about demonstrating hard power, opting instead for diplomatic and collaborative resolutions where militaries are increasingly called upon to provide "non-kinetic" aid.[16]

OSH and RCAF Doctrine

There is another important and contemporary method of mitigating the time distance dilemma. Air power, and in particular air mobility operations, is imbued with a number of advantages over the "foot soldier" method of resource distribution. Aircraft are very fast, can travel great distances autonomously, are not subject to terrain in the same manner, can carry proportionately large quantities of resources, and can be relatively persistent; these factors all address the fundamental air power characteristics of speed, elevation, reach and agility.[17] Air power is not without limitations, however. Aircraft in general are fragile and mechanically and technologically complex; they are subject to weather conditions (winds, ceiling, visibility,

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[15] Ryan Eyre, "The Operational Support Hub: A Strategic Airlift Concern" (Joint Command and Staff Program Paper, DS 800 Air Power Themes, Theories and Roles, Canadian Forces College, 2011), 4, 9.

[16] David Scott Glasson, "Hard Decisions for Soft Aerospace Power" (Masters of Defence Studies, Canadian Forces College, April 2014), 1, 5, 8-10, 19. Also, Lt Col Roy C. Bacot (USAF), "Global Movements and Operational Support Hub Concept: Global Reach for the Canadian Forces," *The Canadian Air Force Journal*, Vol. 2, No. 3 (Summer 2009): 9-11.

[17] David Scott Glasson, "Hard Decisions for Soft Aerospace Power" (Masters of Defence Studies, Canadian Forces College, April 2014), 28-33. Also, Canada. Department of National Defence, B-GA-400-000/FP-000, Canadian Forces Aerospace Doctrine (December 2010), 25-26. Also, Clayton K.S. Chun, *Aerospace Power in the Twenty-First Century: A Basic Primer*, (Montgomery: United States Air Force Academy in cooperation with Air University Press, 2001), 175-177.

precipitation in its various forms, thunder storms and lightning, volcanic ash, density altitude and ambient temperature); and some cargo aircraft in particular are limited in their landing runway and ramp access requirements, as heavier aircraft require more robust landing structure and parking area construction.[18]

Aircraft range is finite; range decreases with an increase in cargo weight and some atmospheric conditions such as high "density altitude" or temperature. Additionally airports require special handling equipment to offload and service them. Canadian air power theory advises that mobility operations increase the range, speed, and flexibility of national power projection but this presupposes a level of security and freedom to manoeuvre to operate unmolested. In a non-permissive environment additional air power assets (i.e., fighter escort) may limit this reach due to the range of fighter aircraft and availability of defensive systems and Rules of Engagement (ROE) for fighter weapons employment.[19] Until futuristic mobility aircraft are developed that can take off, land at the destination, operate fully autonomously then return to the airport of origin without refueling, intermediate stops enroute will remain an unavoidable requirement.

Nevertheless, this requirement is already under development in the United States. As one United States Air Force document notes, "First, we look at 'airlift' from a new perspective, as an

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[18] *Ibid*, 33-36.

[19] Fighter aircraft are range limited compared to transport aircraft without air-to-air refueling capability. Once an escort have engaged in air combat, they must reload which may require an early departure from the planned route. This might require the transport to return to base otherwise it would not have fighter support.

overall capability where intertheater and intratheater missions merge into a single mission."[20] However, such changes will only gradually come with time. The implementation cycle for such capability is to facilitate current heavy lift platforms in the year 2040 and beyond.[21] It is important to recognize that focused advances in technology do not necessarily imply supporting infrastructure and appendages will also evolve on the same timeline. Future aircraft designs are constrained to be compatible with current material handling equipment (MHE), and ground infrastructure, for example.[22] Therefore, the need for intermediate stop "enroute" facilities will continue to be relevant offering enhanced flexibility, even if technologically revolutionized aircraft are developed and implemented. Additionally, global operations from one aerodrome automatically impose a penalty on "time." As the distances between the departure location and the AOR increases, so too does the transit time back and forth. Again, the relationship between time and distance is unavoidable and often can mean the difference between success and failure, particularly when speed to task is critical; for instance, for operations such as: disaster relief and evacuation, search and rescue, or even during kinetic engagements when targets are vulnerable only during a small window.

Doctrine Review: Case for OSH

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[20] US Air Force , HQ AMC/A8 XPL, Air Mobility Master Plan (AMMP) 2008 (Scott AFB: Air Mobility Command/A8 XPL), 24. "Intertheatre" means "between" theatres and/or between the home nation and the Area of Operations (AO), whereas "intratheatre" means "within" the AO.

[21] *Ibid* (2009), 32.

[22] George M. Buch Jr., "AMC'S Future Strategic Airlifter: The Blended Wing Body," (Graduate Research Project, Department of the Air Force, Air University, Air Force Institute of Technology, 2010), 4.

A review of Canadian military doctrine and government international policy demonstrates the soundness of the operational support hub construct. The Canada First Defence Strategy (CFDS) clearly articulates the roles of the Canadian Armed Forces in satisfying government foreign policy and security needs:

> To fulfill these commitments, the Canadian Forces must be able to deliver excellence at home, be a strong and reliable partner in the defence of North America, and project leadership abroad by making meaningful contributions to international security.
>
> The military will deliver on this level of ambition by maintaining its ability to conduct six core missions within Canada, in North America and globally, at times simultaneously.[23]

The six core missions around which the CAF has been modernized and functionally structured are:

1. Conduct daily domestic and continental operations, including in the Arctic and through NORAD;
2. Respond to a major terrorist attack;
3. Support civilian authorities during a crisis in Canada such as a natural disaster;
4. Lead and/or conduct a major international operation for an extended period; and
5. Deploy forces in response to crises elsewhere in the world for shorter periods.[24]

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[23] Canada. Department of National Defence. Canada First Defence Strategy, (12 March 2010), 3.

[24] *Ibid*.

Although the OSH network construct is applicable to domestic operations, this study focuses on operations outside of Canada. More specifically, Missions 1 and 3 are not discussed in this study. However, the argument in favour of the OSH network within Canada is equally applicable given the vast size of Canada, particularly in the largely uninhabited north.[25] This study's focus is on intercontinental and trans-national operations to capture the symbiotic nature of the DND –DFATD relationship outside of Canada. CFDS Missions 4 and 5 emphasize the criticality of the time and distance argument illustrated above. Mission 4, "Lead and/or conduct a major international mission for an extended period," presents the problem on sustainment over long distances. Canada either moves logistics assets from the country or acquires them outside of Canada and transports them from that point of origin into theatres of operations.[26]

During mission sustainment, the distance between origin and destination drives planning and resource commitments and transit requirements. Replenishment in place (RiP), is a scheduled rotation change from one formed military group and their associated equipment to the next in a concentrated surge: a "shift change" essentially. It is short duration, but high intensity air move. Operationally, the greatest risk to mission success can occur as a result of delays along the logistics line of communication. Typically, a delay anywhere causes additional delays further along the logistic line of communication (LOC), ultimately resulting in conditions at the delivery end where users face resource shortages: war is not possible without soldiers, beans and bullets

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[25] On the issue of operational support hubs in the Canadian Arctic, see Darwin Ziprick, "Leveraging Air Mobility to Support Canadian Arctic Sovereignty," (Masters in Defence Studies, Canadian Forces College, December 2014).

[26] Canada. Department of National Defence, B-GJ-005-300/FP-000, *Canadian Forces Operations* (August 2005), 10-3.

(i.e., this is the sense of the meaning in the principle of war "Administration" or logistics support).[27]

By contrast, Mission 5, "Deploy forces in response to crises elsewhere in the world for shorter periods," highlights the criticality of "speed" in delivering mission effects. Humanitarian aid, disaster relief, evacuation, and large-scale medical emergency, for example, are interventions that also cannot afford delay as the cost is usually expressed in terms of human suffering. Commencing an operation from Canada to half way around the world introduces the risk of delays enroute due to weather, aircraft unservicability, diplomatic overflight requirements, fuel and servicing availability, and destination landing area suitability: the further the distance the greater the risk.[28]

RCAF capstone Aerospace Doctrine (2010) describes what the air force provides as an "instrument of national policy and element of national power."[29] Specifically, it articulates the following:

> National power is the term that describes a nation's total capability to achieve its national objectives. It encompasses a wide array of interrelated capabilities and

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[27] Canada. Department of National Defence, B-GA-400-000/FP-000, *Canadian Forces Aerospace Doctrine*, (December 2010), 24.

[28] Operation RENAISSANCE 13-1 (November – December 2013): CAF deployed humanitarian support in the Philippines after typhoon Haiyan devastated the country on 8 November 2013.

[29] Canada. Department of National Defence, B-GA-400-000/FP-000, Canadian Forces Aerospace Doctrine (December 2010), ii. The Defence Terminology Bank, http://terminology.mil.ca/term-eng.asp defines a "Capstone Manual" as: A manual of overarching importance within a hierarchy of manuals that deals with the fundamental aspects of a broad subject matter, and having precedence over all other manuals within that subject regardless of subdomain. (DTB Record 32223). A "Keystone Manual" is defined as: A manual of seminal importance under an overarching capstone manual within a hierarchy of publications that deals with the fundamental aspects of a specific subject matter, and on which are based related supporting manuals published in the same field. (DTB Record 32229)

> includes diplomatic, informational, military and economic elements. To achieve the objectives of national policy, a nation employs those necessary aspects of national power. The successful application of national power involves coordination across many national government departments and agencies and is often referred to as a whole-of-government (WoG) approach.[30]

In the document forward, RCAF Commander Lieutenant-General J.P.A. Deschamps writes:

> The primary change in this second edition is the grouping of Air Force capabilities under one of six functions: Command, Sense, Act, Shield, Sustain, and Generate. This aligns the Air Force functions with those used by the Chief of Force Development and promotes better understanding and interaction at the joint level. Each function can be expanded into a hierarchical matrix of Air Force capabilities, roles, missions, tasks, and activities. As such, this manual is the de facto foundation upon which every Air Force activity is based.[31]

This study looks principally at "Move," a sub-function of "Act" and "Sustain," for the purpose of understanding the operational support hub construct and its importance. The functions of "shape" another sub-function of "act" is also applicable but in a more secondary manner and will not be addressed at length in this study.

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[30] *Ibid.*, 17.

[31] *Ibid.*, ii.

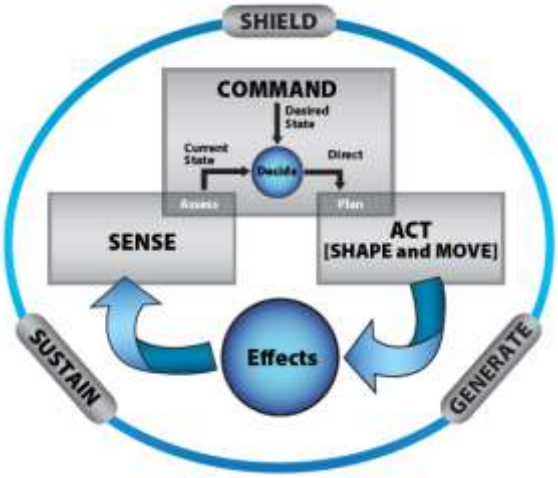

Figure 1.2 – Canadian Aerospace Doctrine Functions

Source: Canada. Department of National Defence, B-GA-401-000 *Canadian Forces Aerospace Doctrine*, 35

Doctrinally, the "Move" function seeks to leverage "reach" and "speed" inherent in aerospace power to rapidly deploy resources (equipment, supplies and personnel). There are two principle capabilities associated with the "move" function: air mobility (airlift and air-to-air refueling) and personnel recovery, which are employed across the "spectrum of conflict" (Figure 3).

Figure 1.3 – Spectrum of Conflict

Source: Canada. Department of National Defence, B-GA-401-000 *Canadian Forces Aerospace Doctrine*, 18

Airlift is aerial delivery of resources to achieve strategic, operational and tactical goals by providing commanders the ability to rapidly deploy, employ, redeploy and sustain these

resources. Doctrinally, expeditionary operations imply these capabilities are typically dispatched from and return to a main operating base (MOB) in Canada.[32] Air-to-air refueling is a range enabler as an airborne "gas station" that extends the finite physical range of air vehicles configured to refuel in the air (i.e., currently Canadian fighter and helicopter assets are capable of in-flight refueling). Certain air mobility aircraft, for example, the CC130 Hercules (E, H and J models) are capable of providing forward area refueling point (FARP), which is basically a "mobile gas station" for other aircraft and air breathing vehicles that require petrol.[33] Where the distance between the area of responsibility (AOR) and MOB is great, risk of mission interruption or worse, mission failure, increases with delays in delivery (i.e., lag). Where speed is paramount, therefore, mitigating processes and arrangements must be made to reduce the risk to mission success. An operational support hub decreases enroute distances, interval between sorties and flexibility for short notice requirements.[34]

In expeditionary operations, Canadian doctrine utilizes deployed operating bases (DOBs) to preposition some basic material and other logistics resources. Within a combat theatre these are called forward operating bases (FOBs) and in non-combat areas of operations these are designated airfields called forward operating locations (FOLs) specifically for temporary fighter

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[32] *Ibid*, 44.

[33] Royal Canadian Air Force, "Who is Master Corporal Erik Estrada?" last modified 8 April 2014, http://www.rcaf-arc.forces.gc.ca/en/news-template-standard.page?doc=who-is-master-corporal-erik-estrada/htl7jdha

[34] Lt Col Roy C. Bacot (USAF), "Global Movements and Operational Support Hub Concept: Global Reach for the Canadian Forces," *The Canadian Air Force Journal*, Vol. 2, No. 3 (Summer 2009): 14-15.

operations.[35] Deployed operating bases are usually constructed to provide small but relatively permanent infrastructure, support equipment, materiel and custodial staff. When the DOB is activated, additional support staff, materiel and equipment are brought in to provide temporary 24/7 logistics and sustainment capability. Domestically, Canada operates forward operating locations in Inuvik and Iqaluit for fighter intercept operations in response to Soviet strategic bomber aircraft operating in or near Canada's northern Air Defence Identification Zone (ADIZ). When fighter squadrons deploy to the forward operating locations, a Strategic/Tactical airlift (i.e., CC130J Super Hercules) transport mission support units (necessary personnel and material) from the main operating bases in order to rapidly establish capacity for continuous fighter operations. This too is a hub and spoke model equivalent to an OSH but it occurs entirely within Canada. Mobility transport aircraft are deployed from 8 Wing Trenton to establish airlift between MOB 3 Wing Bagotville and FOL at Iqaluit, NU or MOB 4 Wing Cold Lake and FOL at Inuvik, NWT.[36]

To arrive at location, on time, with the assets required is an operational necessity. Maintaining a level of effort (i.e. through sustainment) sets conditions to ensure projection of power is achievable and in a manner pre-envisioned and planned. In a military context, "sustainment" doctrine holds mission primacy as the first guiding principle while accommodating economy, flexibility, simplicity and cooperation. Characteristics of sound sustainment include robustness of resource available, agility to adapt to short notice

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[35] Canada. Department of National Defence, B-GA-406-000/FP-00, *Canadian Forces Aerospace Sustain Doctrine* (February 2011), 62.

[36] Royal Canadian Air Force, "RCAF Map," last modified 19 July 2013, http://www.rcaf-arc.forces.gc.ca/en/rcaf-map.page

requirements, scalability and modularity of resource "sizing" in response to operational tempo, integration between teams including military (i.e., joint or combined), other government departments (OGDs), non-government organizations (NGOs), allies, international partners, and commercial elements, and reliability of sustainment effects.[37] In essence, the OSH is equivalent to moving a portion of a national power base closer to the area in which an expression of national power, whether hard or soft, will be demonstrated.

Conclusion

Canadian aerospace doctrine describes the principles, characteristics and tenets of air power. The doctrinal concepts of move and sustain are critical to all stages of a deployed operations: predeployment, deployment and redeployment. Time, space and force are variables that must be understood and mitigated before operations begin and constantly monitored throughout operations in order to achieve efficiency and effectiveness in delivering mission effects. The CAF has adapted hub and spoke logistics models for global force projection as a result. Chapter 2 discusses the genesis and evolution of the CAF OSH network, global coverage and potential gaps in coverage, particularly in the Far East.

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[37] Canada. Department of National Defence, B-GA-406-000/FP-00, *Canadian Forces Aerospace Sustain Doctrine* (February 2011), 5-9.

CHAPTER 2 - OSH USE IN RECENT HISTORY

Introduction

The concept of the OSH is neither new, nor merely a theoretical construct. Whenever Canada deploys its military with a requirement for persistent sustainment, some form of logistics network is established and exercised to support missions. Whether periodic replenishment flights or something more substantial and enduring (i.e., Camp Mirage in support of operations in Afghanistan),[38] the Government of Canada and the Canadian Armed Forces dispatch material, personnel and resources on logistic lines of communication to facilitate the timely and effective flow of resources into and out of theatres of operations.

One key aspect of the operational support hub is that it is a measure undertaken in advance of global operations as opposed to a reaction to force deployment after the fact. The objective is to capture efficiencies and increase the likelihood of rapid, coordinated and sustainable mission effects that were not present in past ad hoc logistic networks. The Canadian Armed Forces currently operates three operational support hubs with a total of seven regions identified within the global support hub network. The selection of number and location of these hubs was derived from a theoretical model proposed by Defence Research and Development Canada led by Dr. Ahmed Ghanmi.[39]

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38 Matthew Fisher, "Subdued ceremony marks end to Canadian presence at Camp Mirage", *PostMedia News* 4 November 2010, last accessed 29 Apr 15. http://www.canada.com/news/Subdued+ceremony+marks+Canadian+presence+Camp+Mirage/3776788/story.html

[39] Dr. Ahmed Ghanmi, *Modeling and Analysis of Canadian Forces Operational Support Hubs*, (Ottawa: DRDC CORA TM 2008-020), June 2008.

This chapter examines the evolution of the Canadian operational support hubs abroad. Global coverage and current gaps in capability are discussed particularly in East Asia where 76 (i.e. 4.8%) of Canada's "Outside-of-Canada" (OUTCAN) personnel are allocated to an area representing 52% of the globe.[40] This section relies on briefing packages, official CJOC documentation, open source public information including DND web portal and recent academic works on the topic.

Evolution of the OSH Network

The Canadian Department of National Defence defines the operational support hub concept as follows:

> Operational support hubs (OSH) are a series of pre-negotiated arrangements with other countries and service providers in those countries to facilitate the movement of people, materiel, equipment and supplies in far-reaching locations. These arrangements can also be activated in order to provide a location for these services.
>
> OSHs are not military bases. The CAF maintain operational support hubs in overseas locations because they offer flexibility and cost-efficient ways to launch and sustain international operations and respond to crises, such as natural disasters, in a timely manner.[41]

This definition highlights several key points. "Potential" logistic activities in strategic global locations are pre-negotiated and not exercised until they are needed (i.e., logistics "options").

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[40] Slide 36 "CJOC Forecasted Preparedness Framework (J1) – 2014: leveraging the Potential for C2I Integration" in CJOC J5 AP brief, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia", (2013, exact date unknown).

[41] National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

These pre-arrangements are intended to employ host nations (HN) resources maximally in order to reduce the amount of logistic support resources emanating directly from Canada. Significantly, these arrangements offer Canada speed, efficiency and flexibility in projecting and sustaining global power.

On 17 November 2008, General Walter Natynczyk, Canadian Chief of the Defence Staff (CDS), issued an initiating directive to the Commander Canadian Operational Support Command (CANOSCOM) for the selection of Global Movement, Distribution and Support Hubs. A Proof of Concept trial was undertaken after seven key regions were identified by consultative analysis between Assistant Deputy Minister - Policy (ADM (POL)), Department of Foreign affairs and International Trade (DFAIT, now Department of Foreign Affairs, Trade and Development: DFATD), Canadian Defence Intelligence (CDI), CANOSCOM, and DRDC.[42] In order to determine how to address support to global operations, it was first necessary to examine the environment in which the CAF was likely to operate and then determine which locations would most likely maximize efficiencies in the distribution of logistics support.

Mr. Peter Johnston and Dr. Michael Roi of the Department of National Defence, Directorate of Operational Research, argued that the post cold war era violence would see "inter-state" supplanted by "intra-state" conflict principally emanating from the developing "third" world. Ethnic tensions, access to resources, urbanization and access to markets, climate change and access to water, criminal activity and non-state actors, disease and health care, and inadequate effective governance and infrastructure create a haven for violence and instability that

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[42] Dr. Ahmed Ghanmi, *Modeling and Analysis of Canadian Forces Operational Support Hubs*, (Ottawa: DRDC CORA TM 2008-020), June 2008.

spill into neighbouring regions and become a global concern.[43] The Foreign Policy Research Organizations list of failed and failing states published in foreign affairs magazine[44] whose premise is that predictors of conflict can be determined by examining twelve social, economic, political, and military factors. Foreign Policy also identifies that failed states are marked by "armed conflict, famine, disease outbreaks and refugee flows within their borders" and these in particular have been sufficient reason for deployment of Canadian Forces.[45] Dr. Ghanmi of Defence Research and Development Canada (DRDC) conducted modeling and analysis utilizing a Mixed Integer Non Linear Program (MINLP) whose performance measures are cost effectiveness and time responsiveness of the logistics distribution.[46]

The USAF similarly conducted research utilizing Dr. Ghanmi's model to analyze hub-and-spoke distribution on the African continent for US Africa Command (AFRICOM). The optimal use of resources in the system refers to the overall cost effectiveness of the system while the time responsiveness refers to the speed of the logistics distribution across the network. In

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[43] Peter Johnston and Dr. Michael Roi, *Future Security Environment 2025* (Ottawa: Department of National Defence, Operational Research Division, September 2003), 32-48. Also, US Air Force , HQ AMC/A8 XPL, Air Mobility Master Plan (AMMP) 2008 (Scott AFB: Air Mobility Command/A8 XPL), 24. Also, Canada, Department of National Defence, Chief of Force Development, *Integrated Capstone Concept*, (Ottawa: 17 Wing Winnipeg Publishing Office, 9 October 2009), 9.

[44] Fund For Peace, "Failed States Index 2009," last accessed 18 May 2015, http://fsi.fundforpeace.org/rankings-2009-sortable.

[45] Lt Col Roy C. Bacot (USAF), "Global Movements and Operational Support Hub Concept: Global Reach for the Canadian Forces," *The Canadian Air Force Journal*, Vol. 2, No. 3 (Summer 2009): 11. Also, Canada, Department of National Defence, Chief of Force Development, *The Future Security Environment 2008-2030: Part 1 Current and Emerging Trends*, (Ottawa: 17 Wing Winnipeg Publishing Office, 27 January 2009), 1-6. Also, Canada, Department of National Defence, Canadian Forces Air Warfare Centre, *Projecting Power: Canada's Air Force 2035*, (Ottawa: Canadian Aerospace Warfare Centre, 2009), 1-27.

[46] Dr. Ahmed Ghanmi, *Modeling and Analysis of Canadian Forces Operational Support Hubs*, (Ottawa, DRDC CORA TM 2008-020), June 2008.

addition, the hub-based support problem combines two types of problems: the facility location (i.e., optimal hub location) and resource allocation (i.e., optimal number of supplies at each hub and the optimum number of hubs). The two main aspects to this model are cost avoidance and relative cost avoidance.[47] Seven key regions were thus identified as the OSH network: Europe, East Coast Africa, West Coast Africa, South West Asia, South East Asia, North East Asia and Central or South America. The first step in implementing the OSH network was a "proof-of-concept" trial at one potential OSH location. As Operation ATHENA was already an active theatre of operations involving sustainment of combat troops in Afghanistan, the trial occurred in Germany where Canada had previously established a support relationship for strategic airlift fuel and rest stops enroute to South West Asia.[48]

On 20 April 2009, CANOSCOM officially opened OSH Europe at the United States Air Base in Spangdahlem, Germany which initiated a three-year trial to assess and benchmark logistics capabilities and functions such as support to CAF Strategic airlift, storage facilities, security, health services, accommodations, food services, local contracted procurement of material and support services. OSH Europe serviced OP ATHENA, Canadian Armed Forces combat mission in Afghanistan, and then OP ATTENTION training and mentoring mission and other missions in South West Asia.[49]

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[47] Maj. Michael R. Donaghy (USAF), "Application of a Non-Linear Program to Establishment of a Hub and Spoke System in Africa" (master's thesis, Department of the Air Force, Air University, Air Force Institute of Technology, June 2010), 36-37.

[48] National Defence and the Canadian Armed Forces, "The Strategic Airlift Detachment Returns to Canada," last modified 5 November 2013, http://www.forces.gc.ca/en/news/article.page?doc=the-strategic-airlift-detachment-returns-to-canada/hnmx1bgq

[49] Maj Ryan Eyre, "The Operational Support Hub: A Strategic Airlift Concern" (Joint Command and Staff Program Air Power paper, Canadian Forces College, 2011), 11-12.

The trial was largely very successful but a consistent observation was that the OS Hub effectiveness was largely influenced by factors affecting Strategic Airlift. For instance, the OS Hub operated from USAF Base Spangdalhem that did not operate on a 24/7 schedule and the stated facility priority was US Very Important Person (VIP) Transport; therefore, Canadian strategic interests did not achieve priority primacy. Access to ground support, ground movements, de-icing, passenger handling, customs, and parking were provided on an "as available" basis. These created delays along the entire length of the logistics line of communication: form Canada to Germany, and ultimately into Afghanistan. This created delays in delivering mission effects into theatre for the units awaiting their inbound cargo/personnel as well as delays in reacting to no notice, high priority national missions such as repatriation flights of fallen soldiers.[50] These delays had the potential to inhibit or deny GoC strategic goals, as was nearly the case in November of 2010 when the United Arab Emirates abruptly cancelled agreements to use a facility near Dubai as a logistics support hub.[51] Such a case would be catastrophic to Canadian international reputation during rescue and humanitarian relief operations, for example. If Canada forward deployed to an OSH with all of the resources (e.g. Disaster Assistance Response Team – DART) to participate in a humanitarian assistance operation but was unable to deliver the aid then it could weaken ties built with HNs in the affected region, undermine the justification for an OSH network to Canadian taxpayers, and reflect poorly on both Canadian "good-will" diplomacy and the efficacy of the CAF. The

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[50] *Ibid.*

[51] Matthew Fisher, "Subdued ceremony marks end to Canadian presence at Camp Mirage", *Post*Media *News* 4 November 2010, last accessed 29 Apr 15. http://www.canada.com/news/Subdued+ceremony+marks+Canadian+presence+Camp+Mirage/3776788/story.html

cancellation of the arrangement with UAE was based on a dispute with DFATD over increased access for UAE national air carriers to Canadian Airports of Entry (APOE) for commercial air travel. This highlights the interdependency of government of Canada departments; therefore, the WoG approach can be a “strength” in that interdepartmental coordination focuses efforts toward a common goal; however, at the same time may be a risk as in this case, economic diplomacy between DFATD and the UAE created a military strategic sustainment condition that could have negatively affected combat operations in Afghanistan.

Based on the initial trial, the CDS issued a directive to establish operational support hubs (13 May 2010 and amendment 1, 14 December 2011). The seven identified countries were:

1. Germany, Spangdalhem (OSH Europe);
2. United Arab Emirates (OSH South West Asia);
3. Singapore (OSH South East Asia);
4. Japan or Republic of Korea (OSH East Asia);
5. Panama or Jamaica or Belize (OSH Central/South America);
6. Senegal then Dakar (OSH West Africa); and
7. Kenya then Mombasa (OSH East Africa).

With the amalgamation of the three operational commands (i.e., Canada Command, Canadian Operational Support Command and Canadian Expeditionary Forces Command) into the Canadian Joint Operational Command (CJOC), the Commander of CJOC assumed the task of

completing the implementation of the OSH network on 31 October 2012. A Letter of Promulgation issued 31 May 2013 by Lieutenant-General Commander Stewart Beare, then Commander CJOC, provided direction to implement the OSH network construct[52]. As of August 2013, the OSH network consists of the following locations, of which only Germany, Kuwait and Jamaica are currently operational:

1. OSH Europe – Köln-Bonn (Cologne), Germany;
2. OSH SW Asia – Kuwait;
3. OSH SE Asia – Singapore;
4. OSH E Asia – Republic of Korea;
5. OSH Latin America and Caribbean (LAC) – Jamaica;
6. OSH West Africa – Dakar; and
7. OSH E Africa – Tanzania.

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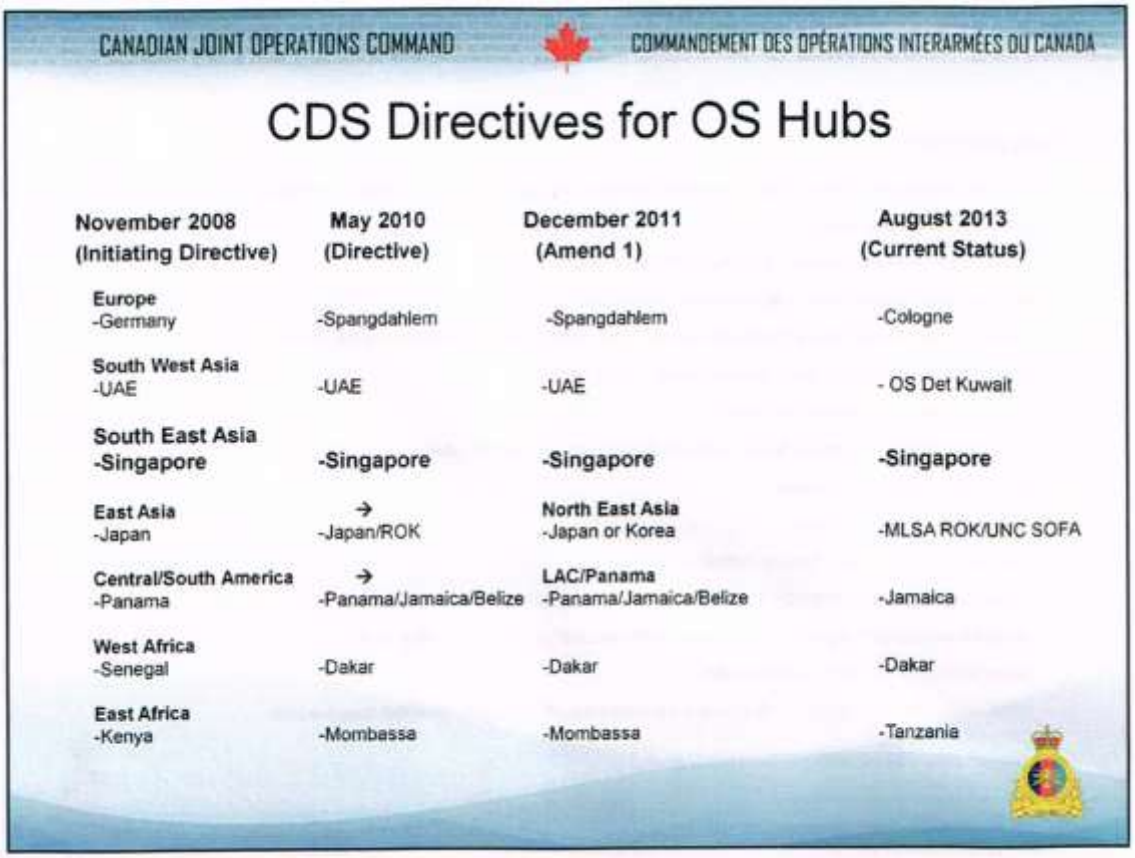
[52] Lieutenant-General Stu Beare, *Letter of Promulgation - CJOC Directive for the Establishment of Operation Support Hubs*, (CJOC: 3350-1 (J5)), 31 May 2013, 1-4.



CANADIAN JOINT OPERATIONS COMMAND — COMMANDEMENT DES OPÉRATIONS INTERARMÉES DU CANADA

CDS Directives for OS Hubs

November 2008 (Initiating Directive)	May 2010 (Directive)	December 2011 (Amend 1)	August 2013 (Current Status)
Europe -Germany	-Spangdahlem	-Spangdahlem	-Cologne
South West Asia -UAE	-UAE	-UAE	- OS Det Kuwait
South East Asia -Singapore	**-Singapore**	**-Singapore**	**-Singapore**
East Asia -Japan	→ -Japan/ROK	North East Asia -Japan or Korea	-MLSA ROK/UNC SOFA
Central/South America -Panama	→ -Panama/Jamaica/Belize	LAC/Panama -Panama/Jamaica/Belize	-Jamaica
West Africa -Senegal	-Dakar	-Dakar	-Dakar
East Africa -Kenya	-Mombassa	-Mombassa	-Tanzania

Figure 2.1 – OSH Network Locations (2008-2013)

Source: Slide 4 "CJOC Forecasted Preparedness Framework (J1) – 2014: leveraging the Potential for C2I Integration" in CJOC J5 AP brief, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia"

Recognizing the previously cited limitations imposed on the operation of OSH Europe when it was located in Spangdahlem, the Government of Canada negotiated a change in location to Köln-Bonn (Cologne), a combined civil/military large capacity international airport that operates 24/7. This move represented both a significant increase in capacity and flexibility for Canada to conduct military sustainment operations and a more robust arrangement for the

Government of Canada to stage international interventions and participation in world events (other than war) abroad.[53]

Sea Lines of Communication (SLOC) Detachment (Det) Kuwait was initiated to support the OP ATHENA mission closure.[54] It was transitioned to an Operational Support Detachment in April 2012 to mitigate the dissolution of agreements between Canada and the UAE that provided a logistics waypoint between Canada and Afghanistan. Originally an Interim Support Terminal between Germany and Afghanistan, OS Det Kuwait served as a "transportation point where CAF personnel, materiel, and equipment [were] transferred between modes of transportation (for example from air to sea), in order to reduce costs."[55] Since it was established in accordance with the OSH network directives, all that was required to evolve into OSH Kuwait was expanded permissions to provide support to operations from Kuwait anywhere in the region vice just Afghanistan (i.e., an increase in the area in which agreements with the HN and regional authorities would allow a Canadian presence).[56] This was achieved on 12 May 2014 with the signing of a Memorandum of Understanding (MOU) between the governments of Canada and Kuwait. Following the previously established Commander CANOSCOM 15 Jul 2011 priority

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[53] National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

[54] Canadian equipment was flown from Kandahar to Kuwait where it was transferred to sea containers and returned to Canada via sea lift.

[55] *Ibid*.

[56] Lieutenant-General Stu Beare, *Canadian Joint Operations Command Directive for the Establishment of Operation Support Hubs*, 3350-1 (J5 Sp Plans 1-3), May 2013, 29.

list, an MOU between Canada and Jamaica was signed on 26 June 2013 and OSH LAC was established in Kingston Jamaica.[57]

An important element of OSH network operations is scalability. There are currently three levels of activation: caretaker status, cadre status, and full activation. Cadre status is not staffed and essentially consists of contracts, agreements and activation plans. CAF personnel visit the location at least once per year to confirm arrangements with the host nation and contractors to ensure that the hub can be activated quickly if and when it is needed.[58] When the CAF establishes a presence in an operational theatre, the hub serving that region steps up from caretaker status to cadre status. At cadre status, the hub has limited facilities and a small staff (up to 10 personnel), sufficient to deliver essential operational support including warehousing of pre-positioned materiel while preparing for potential full activation.[59] Once fully activated, operational support hubs consist of required personnel, facilities and services to support the deployed task force(s) in Areas of Operations (AOs). Again, these are fully scalable and customizable to the size and complexity of the operations they support. The intent is that they are only as large as they need to be, with an emphasis on a reduced footprint as much as possible. When the AO no longer requires support, the OSH is scaled back and resumes either cadre or caretaker status.[60]

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[57] *Ibid*.

[58] National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

[59] *Ibid*.

[60] *Ibid*.

Future Development

OSHs Europe, South West Asia, and Latin America and Caribbean are operational and the remaining prioritized list is under ratification and implementation. At the time of approval, the priority list represented those regions where it was deemed that Canada would most likely deploy on operations. Planning considerations for the selection of OSH locations included regions where failed and failing states were occurring, and threat assessments. It also included the optimal range of the CC130J Super Hercules transporting its maximum load of 40,000 pounds. The predominant supposition was that military intervention would emphasize peace and security and military combat missions. Nevertheless, Human Assistance and Disaster Response (HADR) operations are just as likely based on past experience (i.e., OP TOUCAN in East Timor, 1999-2000). In these missions it is important to consider that many countries in the Area of Responsibility (AOR) at risk may not have the capacity, capability, or security to support airlift once a disaster occurs.[61] Current priorities number five (OSH SE Asia - Singapore) and number seven (OSH NE Asia – Japan or Republic of Korea) may not have fully considered this.

Additionally, the straits of Malacca between Malaysia and Sumatra represents a unique challenge due to traffic congestion, territorial waters and air space restrictions, and piracy that dramatically affect shipping, helicopter and submarine operations. It is also a choke point for China and Japan's energy security: one half of the world's trade transits these waters. Singapore is closely aligned with China, which introduces a level of complexity to Canada's international

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[61] Slide 16 "CJOC Forecasted Preparedness Framework (J1) – 2014: leveraging the Potential for C2I Integration" in CJOC J5 AP brief, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia", (2013, exact date unknown).

strategy and bilateral and multinational agreements in the region.[62] For these reasons, CJOC has is re-examining the requirements and may propose another suitable location: Darwin, Australia. When considering the reach of tactical airlift (i.e. CC130J), selection of an OSH in the Far East may not be easily achievable within the current OSH network construct. In this case, it may be appropriate to include an eighth OSH in the region. This paper develops this concept in Chapters Three and Four.

Conclusion

On behalf of the government of Canada, the Canadian Armed forces respond to rising security concerns, terrorism, and humanitarian aid. Previous operations mitigated sustainment requirements by only establishing ad hoc logistics support networks. These have been effective at times but are also inefficient, and so the CAF has redefined the manner in which it services expeditionary operations in conjunction with other departmental requirements and strategic goals. The OSH network construct provides a measure of flexibility, speed and political leverage in order to more rapidly respond to events outside of Canada. The evolution of the construct from initiation, trial and implementation has identified seven key regions that best suit Canada's strategy and requirements. Although robust analysis identified optimal locations, other factors influence the realization of these and adjustments to hub locations were made accordingly. There remain four of seven hubs left to implement.

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[62] *Ibid*, slides 25-29.

Perhaps the prioritization of these may yet be adjusted to reflect the unique nature of some regions, particularly the Far East where the sheer size and unique nature of the geopolitical constraints in this region warrant additional coverage. More specifically, the distance between OSH NE Asia, whether in Korea or Japan, to the next available OSH in the network (i.e., OSH SE Asia) is prohibitive for tactical mobility operations (i.e., due to CC130J Super Hercules optimal flying range with maximum payload, and, strategic airlift assets, such as the CC177 Globemaster are too heavy to land on unprepared surfaces) and actual operations conducted between them may be negatively impacted by this limitation. Also, the region is extremely dynamic due to geography, politics, economy, history and emerging alliances. Lastly, this region more than any other is routinely stricken by natural disaster (e.g. Op STRUCTURE humanitarian aid after tsunamis struck Sri Lanka 2004, Op PLATEAU earthquakes in Pakistan 2005, Op RENAISSANCE 13-1 typhoon Haiyan in the Philippines 2013, and Op RENAISSANCE 15-1, earthquakes in Nepal 2015). It is likely that Canada will continue to support humanitarian operations in the Far East. Therefore, this study argues that implementing a more robust OSH network in Asia is an immediate priority. The next chapter addresses Canadian interests in the Far East and the following chapter discusses a more complete distribution of OSH locations in the region.

CHAPTER 3 - CANADIAN INTERESTS IN THE FAR EAST

Introduction

Responding to world events in an expeditionary manner wherever threat to peace and security occur is a Canadian tradition that is as much a part of Canadian identity as it is governmental foreign policy. Similarly, by national economic and foreign policy, Canada proactively responds to economic pressures, and threats to peace and stability. It logically follows, therefore, that Canadian foreign policy views security and economic development as not only concordant domestically but also on the world stage; and Canada has an active part in the pursuit of both. Whereas the previous chapter disclosed a potential underestimate in the priority of the Far East for the establishment of an OSH, this chapter focuses on Canadian interests abroad and specifically in this region. As the remainder of this study demonstrates, due to the unique nature of the Far East, both in terms of geopolitics, distance from Canada and sheer size, there is a requirement for additional OSHs in the region.

Canada's Interest in the Far East

Writing in October of 1951, Lester B. Pearson identified Canada's interest in the Far East in terms not entirely different from those of Stephen Harper sixty-five years later. Pearson was speaking to the threat of post-Second World War Soviet expansionist Imperialism at a time when Canada's economy was booming and the country had just entered the Korean War:

> Even before the worsening international situation had led Canada into wider defence commitments, the growth and soundness of the Canadian economy had made a vigorous foreign economic policy… The loans were also, however, regarded in Canada as a contribution toward the establishment of a multilateral world economy based on liberal, nondiscriminatory trade policies and stabilized

> exchange rates, which would make a steady expansion of trade and the maintenance of high levels of employment in all countries.[63]

Asia was an emerging region with new national independence and freedoms in many Asian countries.

Pearson's paper addressed social change, standard of living, access to health care, and regional political issues. Although writing specifically about Canadian foreign policy in Asia and the threat of Soviet Imperialism and "the menace of Communism" there, the message Pearson conveyed was one of multilateral agreements with the aspiration to help each other (i.e. East and West) develop freely to the benefit of global peace, stability and prosperity.[64] The current foreign policy in Asia Pacific resonates with the same goals and strategies.

Prime Minister Stephen Harper emphasizes three principle goals in Asia Pacific: building partnerships, development assistance and enhancing economic engagements.[65] His Excellency the Right Honourable David Johnston in his Speech from the Throne to open the second session of the forty-first Parliament (16 October 2013) echoes Canada's interests and intent in the Far East:

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[63] Lester B. Pearson, "The Development of Canadian Foreign Policy," last accessed 4 May 2015 https://www.foreignaffairs.com/articles/canada/1951-10-01/development-canadian-foreign-policy

[64] *Ibid*.

[65] Foreign Affairs, Trade and Development Canada, "Canada and Asia Pacific," last modified 07 March 2015, http://www.international.gc.ca/asia_pacific-asie_pacifique/index.aspx?lang=eng

> From the days of the coureurs des bois and the Hudson's Bay Company, Canada has been a trading nation. Today, with one in five Canadian jobs dependent on exports, our prosperity hinges on opening new markets for Canadian goods, services and investment.
>
> This is why our Government launched the most ambitious trade agenda in Canadian history. In less than seven years, Canada has concluded new free-trade agreements with nine countries and our Government is negotiating further agreements involving more than 60 others.
>
> The Government will soon complete negotiations on a comprehensive economic and trade agreement with the European Union. This agreement has the potential to create 80,000 new Canadian jobs.
>
> Our Government is also committed to expanding trade with emerging markets in Asia and the Americas through our engagement in the Trans-Pacific Partnership and active negotiations with Japan, South Korea, and India. To further promote the success of Canadian exporters, our Government will launch a comprehensive new plan to assist Canadian businesses as they expand abroad.
>
> The United States remains Canada's biggest and best customer. Our Government will continue implementing the Beyond the Border and Regulatory Cooperation Action Plans to speed the flow of people, goods and services between our two countries.
>
> And Canadians know that freedom and prosperity march together. Our Government will help the world's neediest by partnering with the private sector to create economic growth in the developing world.
>
> Tax dollars spent on foreign aid must achieve real results. Our Government's international aid will continue to be focused, effective and accountable.[66]

The Honourable James Flaherty, Canadian Minister of Finance, in The Economic Action Plan (EAP) 2014 reported that Canada financially outperformed the other G7 countries over the recovery period (i.e. since 2009) owing principally to the previous

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[66] David Johnston, *Seizing Canada's Moment: Prosperity and Opportunity in an Uncertain World,* (Ottawa: Speech from the Throne, 16 October 2013), 6-7, 19-20.

EAP focus on job creation and economic growth.[67] However, it also reports that external factors outside of Canada's control have negatively affected overall performance of Canadian economy such as weak export markets, low commodity prices and volatility on the financial markets. Key strategy embodied in the EAP 2014 remains consistent with previous iterations and emphasizes job creation, innovation and trade. Supporting research and technology, keeping taxes low and providing access to global markets incentivizes innovation, investment, export and the entrepreneurial spirit. Therefore, active development and participation in foreign markets, particularly rising ones (i.e., China and India where Canada has opened ten DFATD offices since 2006),[68] serves Canadian domestic economic policy as well foreign economic policy objectives.

The Government of Canada seeks to engage rapidly developing Asian Pacific economies and emerging markets for the passage of people (skilled labour), goods, services, capital, and data.[69] Through the Trans-Pacific Partnership (TPP), Canada has access agreements with Australia, New Zealand, Brunei, Darussalam, Singapore, Vietnam, Malaysia, and Japan in Asia Pacific and the United States, Chile, Mexico, and Peru in the Americas. In addition to opening trade opportunities between participating countries, the TPP also leverages regional relationships to strengthen trade governance,

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[67] James M. Flaherty, *The Road to Balance: Creating Jobs and Opportunities. Economic Action Plan 2014 - The Budget in Brief*, (Ottawa: 11 February 2014), 1-4.

[68] Foreign Affairs, Trade and Development Canada, "Canada and Asia Pacific," last modified 07 March 2015, http://www.international.gc.ca/asia_pacific-asie_pacifique/index.aspx?lang=eng

[69] Foreign Affairs, Trade and Development Canada, "Trans-Pacific Partnership Free Trade Agreement Negotiations," last modified 12 December 2013, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/tpp-ptp/info.aspx?lang=eng

supply and distribution efficiencies for big business, medium and small enterprises, and, to respond to modern dynamics in global economies including labour, and environmental stewardship.[70]

Some recent trade initiatives in Asia demonstrate the degree of Canadian national foreign and economic interest in the region. The Canada-Japan Economic Partnership Agreement (CJEPA) initiated between Prime Minister Harper and former Japanese Prime Minister Yoshihiko Noda (reaffirmed by the current Prime Minister Shinzō Abe) launched on 25 March 2012. Japan represents the world's third largest national economy and Canada's third largest trading partner after the Unites States and China. Japan is also Canada's largest bilateral foreign direct investment (FDI) partner in Asia and fourth largest merchandise export market. CJEPA and TPP unite Japan and Canada in the pursuit of strengthening bilateral agreements and economic advancement in Asia.[71]

The Honourable Peter Van Loan, then Minister of International Trade, launched free trade negotiations with India during his visit to New Delhi on November 16, 2010 following a Canada-India Joint Study Group report which investigated and then

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[70] Office of the United States Trade Representative, "Trans-Pacific Partnership: TPP Issue-by-Issue Information Center," last accessed 5 May 2015, https://ustr.gov/trade-agreements/free-trade-agreements/trans-pacific-partnership/tpp-issue-issue-negotiating-objectives.

[71] Hon. Rob Merrifield, *Report on an Economic Partnership Agreement between Canada and Japan: Report of the Standing Committee on International Trade*, (Ottawa: House of Commons, February 2013), 1-2. Also, Foreign Affairs, Trade and Development Canada, "Canada-Japan Economic Partnership Agreement (CJEPA)," last modified 2 December 2014, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/japan-japon/background-contexte.aspx?lang=eng

concluded that there is enough "common ground" to initiate negotiations toward a trade in goods and services, investment, trade facilitation, economic cooperation leading to access to further economic and trade gains. The Canada-India Comprehensive Economic Partnership Agreement (CEPA) initiative is the result of the joint Canada-India working group findings. The ninth round of negotiations was held on 19-20 March 2015, in New Delhi. Progress in all topics of negotiations have included market access for goods, rules of origin, trade facilitation, origin procedures, technical barriers to trade, sanitary and phytosanitary measures, institutional provisions, and trade in services, including temporary entry for business persons, telecommunications, and financial services;[72]

The Canada-Korea Free Trade Agreement (CKFTA), became effective 1 January 2015, represents the most recent and most significant advancement in Asian Pacific trade, as it was Canada's first Free Trade Agreement in the Asia-Pacific region. CKFTA provides Canadian businesses and workers access to the world's 15th-largest economy: the fourth largest in Asia. Perhaps more importantly, free trade with South Korea permits Canadian businesses access to a strategic centre from which to expand their

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[72] Foreign Affairs, Trade and Development Canada, "Canada-India Comprehensive Economic Partnership Agreement (CEPA)," last modified 25 March 2015, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/india-inde/info.aspx?lang=eng

presence in Asian regional and global markets and in international interdependent relationships.[73]

Prime Minister Stephen Harper and Prime Minister Yingluck Shinawatra of Thailand announced the Canada-Thailand Free Trade Agreement (CTFTA) on 23 March 2012, discussions towards potential bilateral free trade agreement negotiations. Thailand is Canada's largest merchandise trading partner in the Association of South East Asian Nations (ASEAN) and Canada considers Thailand a priority Asian market in Canada's Global Commerce Strategy.[74]

The consolidation of these economic agreements provide Canada with a basis for ongoing and expansive trade relationships in the region and provide a venue for initiating deeper ties through potential participation in influential regulatory bodies in the Asian region (i.e., The Association of Southeast Asian Nations – ASEAN).

ASEAN was established by Indonesia, Malaysia, the Philippines, Singapore and Thailand on August 8, 1967 and was later expanded to include Brunei (1984), Vietnam (1995), Burma and Laos (1997) and Cambodia (1999). ASEAN functions as a regional inter-governmental organization designed specifically to coordinate political, social and economic stability in the

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[73] Canada, Department of Foreign Affairs, Trade and Development, *Canada-Korea Free Trade Agreement: Creating Jobs and Opportunities for Canadians – Final Agreement Summary*, (Ottawa: DFATD, 2014), 6. Also, Foreign Affairs, Trade and Development Canada, "Canada-Korea Free Trade Agreement (CKFTA)," last modified 10 April 2015, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/korea-coree/index.aspx?lang=eng

[74] Foreign Affairs, Trade and Development Canada, "Exploratory Discussions towards a Canada-Thailand Free Trade Agreement," last modified 27 June 2013, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/thailand-thailande.aspx?lang=eng

region and to regulate how members interact with each other and with non-member states seeking access to the region.[75] At 600 million people, a regional GDP of $2.2 trillion (2011), and a bilateral merchandise trade relationship with Canada that reached $15.5 billion in 2011, ASEAN exceeds Canada's seventh largest merchandise trading partner. ASEAN leaders seek to establish freer trade in the region through relationships with all participants in their markets, which is entirely consistent with government of Canada global economic strategy and broader international interests. Although Asian market penetration is a strong focus of Canadian economic foreign policy, Canada's enhanced partnership with ASEAN addresses the entire spectrum of international interest such as political and security cooperation, transnational crime and counter-terrorism, good governance, human rights, democracy and the rule of law. It is also establishes a vehicle of dialogue and common undertakings in socio-cultural discussions: environmental issues of climate change and coastal and marine concerns, natural resource management, science and technology, information and communication technology, disaster management and emergency response, public health, worker's labour rights, education, and multiculturalism.[76] Canadian diplomacy works to progress these issues in all Asian states a seat at the table with regionally significant organizations such as ASEAN provides Canada with access to influence on the global stage.

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[75] Thailand, "The Asean Declaration (Bangkok Declaration), Bangkok 8 August 1967," last accessed 18 May 2015, http://www.asean.org/news/item/the-asean-declaration-bangkok-declaration. Also, Foreign Affairs, Trade and Development Canada, "Association of Southeast Asian Nations (ASEAN)," last modified 19 March 2015, http://www.international.gc.ca/asean/index.aspx?lang=eng

[76] Foreign Affairs, Trade and Development Canada, **"**Plan of Action to Implement the Joint Declaration on ASEAN-Canada Enhanced Partnership," last modified 21 December 2012, http://www.international.gc.ca/asean/action_plan_action.aspx?lang=eng

Figure 3.1 – ASEAN Member Countries

Source: Foreign Affairs, Trade and Development Canada, Regional Trade and Investment Linkages last modified 24 April 2015 http://www.international.gc.ca/asean/linkages-liens.aspx?lang=eng

The Asia-Pacific Economic Cooperation (APEC) is another coordinating body that recognizes the interdependence of international markets. Unlike ASEAN, however, it is less concerned with issues unrelated to markets and economies although the underlying intent of the organization is to promote cooperation through consensus vice binding treatise, stability and sustainability in Asian-Pacific markets for the betterment

of all participants. APEC's 21 member economies[77] includes Canada, a founding member in 1989, span both sides of the Pacific Ocean and represent 56 percent of world GDP, 47 percent of global merchandise trade and 40 percent of the world's population (2.8 Billion people).[78] In 2014, APEC partners accounted for 84% of Canada's total bilateral trade. Foreign direct investment from APEC economies in Canada was $398.8 billion in 2013.

The first Canadian Trade Commissioner was posted to the Asia Pacific region (Australia) in 1895. Since then and with the rapid development of Asian economies, government initiatives have expanded Canadian interests into foreign markets. Today, Canada acknowledges its own interdependence with foreign and in particular Asian Pacific economies. Canadian international foreign policies seek to assist developing Asian countries overcome obstacles such as large unskilled labour forces, ineffective or inadequate economic infrastructure, institutions and governance, corruption and insecurity, and underrepresentation in global market access. Canada is committed to international development projects in 44 Asian nations.[79] In addition, Canada is heavily engaged in providing relief efforts in the region.

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[77] Asia-Pacific Economic Cooperation (APEC), "Member Economies," last accessed 6 May 2015, http://www.apec.org/About-Us/About-APEC/Member-Economies.aspx

[78] Foreign Affairs, Trade and Development Canada, "APEC," last modified 9 March 2015, http://www.dfait-maeci.gc.ca/apec/index.aspx?lang=eng

[79] Foreign Affairs, Trade and Development Canada, "Asia – International Development Projects," last modified 6 May 2015, http://www.acdi-cida.gc.ca/cidaweb/cpo.nsf/fWebCAsiaEn?ReadForm

Canadian Relief Efforts in Asia

Contingency Plan (CONPLAN) RENAISSANCE is a CAF rapid response plan to disasters that occur overseas. It is activated at the direction of the government of Canada when a foreign nation requests assistance. DFATD is the lead coordinating agency and works with the Privy Council Office (PCO) and DND to emergencies globally respond on behalf of Canada. Recently (25 April 2015), the government of Canada received a request for assistance from Nepal in the wake of a massive earthquake (7.8 Richter) in the capital Kathmandu and subsequent aftershock causing avalanches in India and Nepal. On 26 April 2015, the government of Canada announced $5 Million disaster relief funding and activated the CAF Disaster Assistance Response Team (DART) in Trenton. The DART provides water purification, primary medical care and engineering support to disaster stricken areas wherever they happen when directed by the government of Canada.[80]

The first CC177 Globemaster III "chock" departed Canada with elements of the DART and arrived in Kathmandu 29 April 2015 with the remaining elements arriving in the Nepalese capital on a second CC177 on 30 April 2015: four days after the DART's initial deployment. The following day (1 May 2015), this second CC177 transported 18 passengers, Canadian and other Nationals, to New Delhi India to assist the

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[80] Major Stephanie Smith, 1 Canadian Field Ambulance "Canadian Armed Forces Humanitarian Response," power point presentation, slide 6, 2013. Also, Canada. Department of National Defence, B-GA-404-000/FP-001, Canadian Forces Aerospace Move Doctrine (November 2011), 20. Also, National Defence and the Canadian Armed Forces, "The Disaster Assistance Response Team (DART)," last modified 21 November 2014, http://www.forces.gc.ca/en/operations-abroad-recurring/dart.page

Interdepartmental Strategic Support Team (ISST), a DFATD led team consisting of three DFATD and three DND experts (i.e., the DART Commander is one). A Humanitarian Assistance Reconnaissance Team (HART) works in parallel, on scene with local government and Non-Government Organizations (NGOs) to assist the ISST in determining needs and priorities during the relief effort. The DART established a Forward Operating Base (FOB) in Sumitra, Nepal on 4 May 2015.[81] The Mission is ongoing at the time of writing. If the OSH SE Asia was fully activated, not only would response to humanitarian assistance be immediate, Canada would have an established logistics hub to conduct sustainment operations in partnership with regional authorities. This is directly compliant with Canadian foreign policy and would bolster Canadian effectiveness as a responsible global steward in delivering assistance when needed.

Another recent humanitarian effort in Asia in which Canada participated was Op RENAISSANCE 13-1 in the Philippines. Typhoon Haiyan hit land on 8 November 2013. Prime Minister Harper announced Canada's support on 10 November deploying the ISST. He also directed the DART to deploy 13 November 2013 and the first elements arrive in Iloilo, Philippines 15 November 2013: 5 days after the announcement of Canada's participation in relief efforts and 2 days after the first chock left Trenton. The mission officially ended 15 December 2013.[82] There were 6,300 deaths, 28,689

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[81] National Defence and the Canadian Armed Forces, "Operation RENAISSANCE 15-1: CAF contribution to humanitarian relief efforts in Nepal," last modified 6 May 2015, http://www.forces.gc.ca/en/operations-abroad/nepal.page

[82] National Defence and the Canadian Armed Forces, "Operation RENAISSANCE 13-1," last modified 9 September 2014, http://www.forces.gc.ca/en/operations-abroad/op-renaissance.page

injured, 16 million affected, 4.1 million displaced, and 1.14 million houses damaged.[83] Had there been an OSH in SE Asia, the response could have been immediate instead of two days after deployment from Trenton. The delivery of timely humanitarian aid would have reduced human suffering and built a strong image of Canada as a responsible partner in the Asian region by being relevant (i.e., immediately present and able to help).

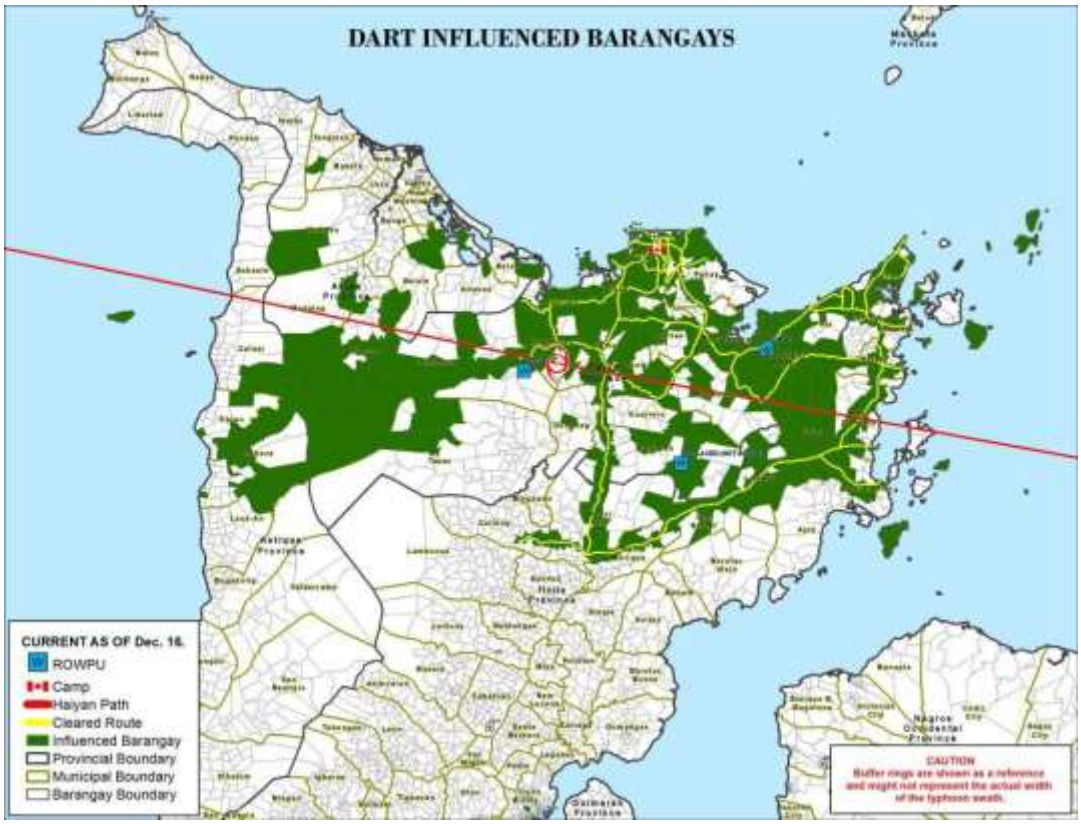

Figure 3.2 – Path of Typhoon Haiyan

Source: Major Stephanie Smith "Canadian Armed Forces Humanitarian Response," 23.

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[83] Foreign Affairs, Trade and Development Canada, "Humanitarian Crisis in the Philippines: Canada's Response to Typhoon Haiyan," last modified 23 December 2014, http://www.international.gc.ca/development-developpement/humanitarian_response-situations_crises/haiyan/Haiyan_results-resultats_Haiyan.aspx?lang=eng

Op HESTIA was the Canadian Forces contribution to whole of government humanitarian response to a 7.3 Richter earthquake in Haiti on 12 January 2010. The epicentre was approximately 15km from the capital Port-Au-Prince; most of the significant infrastructure was destroyed (i.e., Presidential Palace, the National Assembly, the National Penitentiary, most of the city's hospitals, and the headquarters of the United Nations Stabilization Mission in Haiti [MINUSTAH]).[84] There were 220,000 deaths, 300,000 injuries, and 1.5 million persons were displaced and homeless. Although the cost in human life and suffering was comparatively high, the humanitarian assistance provided was very effective at mitigating further loss and suffering because it was highly reactive to prevailing circumstances in real time. By comparison, Haiti is significantly closer to Canada; by being literally within a few hours flight, this greatly reduced deployment time and the length of the logistics "tail" as materials came directly from Canada via all modes of Air Mobility airlift (CC177 Globemaster III, CC150 Polaris, CC130E/H Hercules and CC144 Challenger).[85] In this case, an OSH was not critical due to the relatively short distance between Canada and Haiti; however, having immediate access to resources sooner would have helped facilitate more timely response to aid and also benefit Canada's image as a global "good-will" partner.

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[84] National Defence and the Canadian Armed Forces, "Archived Operation HESTIA," last modified 1 December 2015, http://www.forces.gc.ca/en/operations-abroad-past/op-hestia.page

[85] Major Stephanie Smith, 1 Canadian Field Ambulance "Canadian Armed Forces Humanitarian Response," power point presentation, slide 22, 2013. Also, National Defence and the Canadian Armed Forces, "Operation RENAISSANCE 13-1," last modified 9 September 2014,

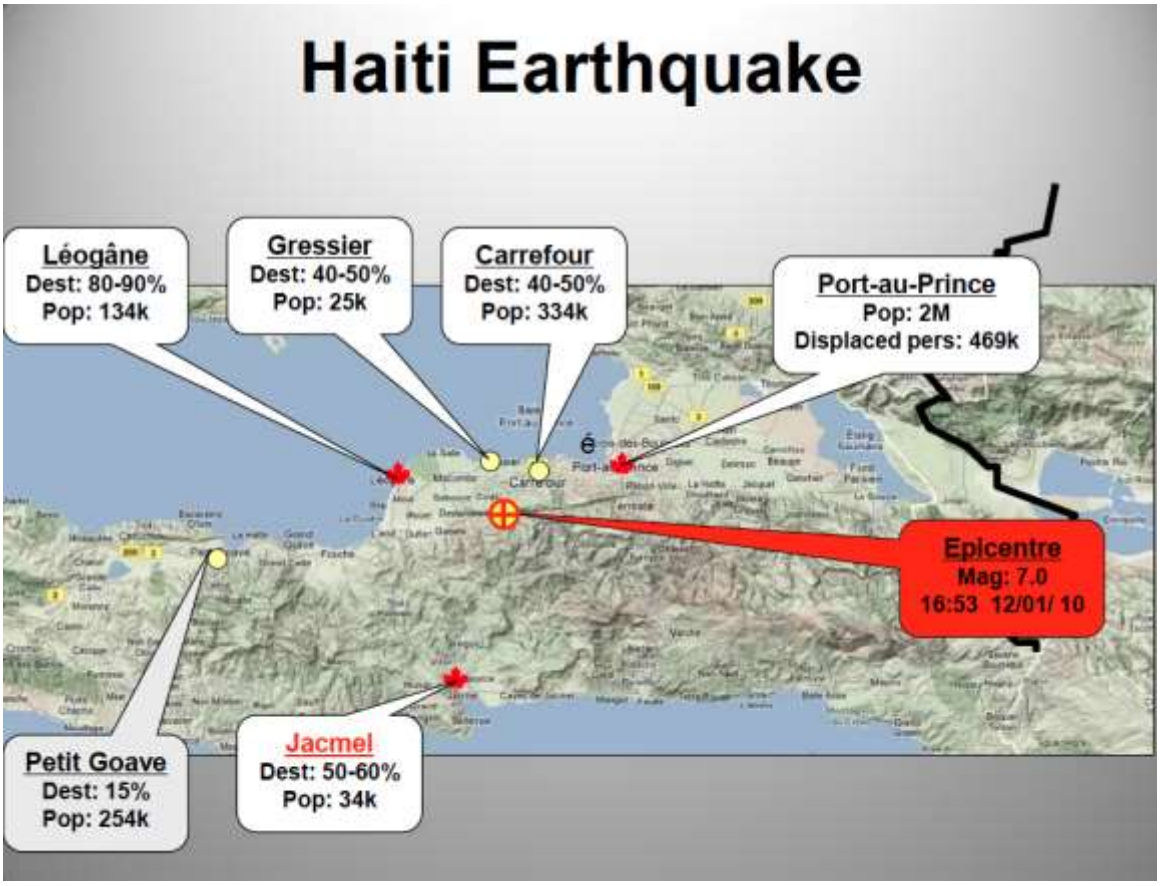

Figure 3.3 – Infrastructure Damaged and Destroyed in Haiti January 2010

Source: Major Stephanie Smith, "Canadian Armed Forces Humanitarian Response," 22

Conclusion

Canadian foreign policy, particularly in the Far East, centres on key strategic goals: building partnerships, development assistance, and enhancing economic engagements. These policies are fashioned to leverage and improve Canada's access to emerging markets for its own benefit; however, they are also designed to assist in strengthening global markets, creating and protecting trade stability, and developing and sustaining capacities in markets for all participants. Free trade agreements reduce impediments to the market place and encourage growth in markets while reducing costs due to taxes and tariffs. Development assistance not only aids countries to create conditions that ensure their participation in global markets but also fosters relationships based on mutual interdependence to have a voice in political decision making as equal peers in those areas that directly affect them.

Canada's global strategy also demands that as a responsible partner, the country must plan for and be capable of executing rapid responses to humanitarian assistance at the request of friends and those unable to help themselves, anywhere, any time. Recent catastrophic natural disasters in which Canada deployed aid highlight how crucial this capability is for the preservation of human life, alleviation of suffering, and a return to "normal" conditions of peace, stability and prosperity. Op RENAISSANCE 13-1 (2013) and 15-1 currently underway, are excellent examples of Canada's preparedness, capability and professionalism between government departments as well as non-government agencies. Unlike traditional combat operations (e.g. Op ATHENA) where

DND is the lead agency, it is DFAT that leads humanitarian operations are lead. The CAF and other militaries are best able to provide an immediate response due to their inherent capabilities but these efforts are usually meant to stabilize the environment to allow government, NGO and civil relief agencies to lead and deliver the bulk of humanitarian intervention. These are tangible examples of the comprehensive, whole of government (WoG) approach to responding effectively to world events. Canadian foreign interests are directly linked to its economic aspirations particularly in Asia.

As Canada continues to strengthen ties and increase trade and foreign relations in the Far East, one can surmise that Canada's participation in humanitarian interventions in the region will likely increase. However, as was described in the introduction and first chapter of this paper, of the "time, space, and force (resources)" equation, time often holds primacy. In wartime operations and in humanitarian assistance, time can mean the difference between mission success and unacceptable tragic loss. In terms of Canada's responsiveness to events at great distance to home shores there is much room for improvement. An OSH presence in the Far East would facilitate military and diplomatic interventions for humanitarian and security concerns. It would also aid in the advancement of interstate negotiations and relationship building: one of the government of Canada's top priorities in the region.

CHAPTER 4 - CANADIAN FOREIGN POLICY, WHOLE OF GOVERNMENT APPROACH

Introduction

Canadian domestic and foreign policies reflects Canadian interests and values. They are, not surprisingly, consistent naturally aligned. Nevertheless, how Canada interacts with its citizens, neighbours and contemporaries, and how it commits resources, is telling about national goals and priorities. Another adjunct to the meaning behind Canadian foreign policy may be found in the naming convention of the department responsible for it: Department of Foreign Affairs, Trade and Development (DFATD). As mentioned in the introduction and chapter one, the CAF has a role in delivering foreign policy objectives. In this chapter, however, an in-depth look at foreign policy, the concept of Whole-of Government Approach and the role of the CAF in achieving foreign policy aims is examined. The OSH concept is revisited and this paper proposes that in addition to being a critical strategic enabler in deployed military operations it is also an essential capability for Canada to meet its foreign policy objectives.

Canadian Foreign Policy

In the realm of Canadian Foreign Policy, economic diplomacy is king

While Canada has always been a trading nation, its wealth has grown more recently on the principle of free trade in open markets. DFATD states six priorities:

1. Contribute to economic prosperity with an emphasis on expanding and diversifying commercial relationships with emerging and high growth markets;
2. Expand Canada’s engagement in the hemisphere and reinforce the Canada-US relationship;
3. Increase Canada’s economic and political engagement in Asia;

4. Promote democracy and respect for human rights and contribute to effective global governance;
5. Implement Canada's development agenda to reduce global poverty and provide humanitarian assistance; and
6. Support international security and the safety of Canadians abroad. [86]

The first three speak directly, and the fourth indirectly, to the Canadian "economic" agenda. The following section discusses the recent evolution of Canada's economy through its economic strategies extant in the budget (i.e. Global Commerce strategy 2007 to the Economic Action Plan 2015).

Recent economic international policy evolved from the 2007 Global Commerce Strategy (GCS). This plan sought to expand Canada's trade network, strengthen existing markets and gain access to emerging ones. The program was highly successful and in the Economic Action Plan 2012 (i.e. Canada's budget) the government reinvigorated that effort targeting opportunities in specific high growth priority markets. On 12 May 2012, the Honourable Ed Fast, Canadian Minister of International Trade, launched a 10 member advisory panel to update the GCS. The following "access" priorities were distilled from their collaboration: key global markets, capital, technology, support services, and talent. In August 2012, he also embarked on a coast-to-coast consultative tour engaging 400 key business and industry leaders and stakeholders. This work culminated in a report title "Global Market Action Plan [GMAP]: Blueprint for Creating Jobs and Opportunities for Canadians Through Trade," which the Honourable Ed Fast announced on

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[86] Foreign Affairs, Trade and Development Canada, "Our Priorities: Priorities for 2015-16," last modified 08 April 2015, http://www.international.gc.ca/department-ministere/priorities-priorites.aspx?lang=eng

27 November 2013.[87] The GMAP promised all diplomatic assets, true "economic diplomacy", toward a common goal of facilitating Canadian commercial success. Policy tools were designed to maximize economic benefits to Canadian workers and business. The emphasis is on small and medium-sized enterprises (SME) penetration in emerging markets while leveraging trade relationships with the two largest markets in the world: the USA and the EU.[88]

The current budget represented in Economic Action Plan 2015 continues the efforts established in the GMAP, and nearly perfectly mirrors EAP 2014. Each subsequent iteration of the yearly EAP has at its core the same strategy described in the GMAP but with minor adjustments to maximize strategic goal gains due to yearly or short term fluctuations in global economic trends. Specifically, "supporting jobs and growth" by fostering an environment favourable to businesses that create jobs and new markets such as manufacturing industry investment, support to advanced research in technologies and responsible resource development, and assistance to high-skill labour training. Secondly, "helping families and communities prosper" through tax relief and advocating culture and heritage, including international communities assistance through safe and reliable remittance services, funding Grand Challenges Canada an innovation initiative to solve global health risks, and implementing the Development Finance Initiative, which aids Canadian firms working in developing countries and investment in environmental protection. And thirdly, "ensuring the security of Canadians" and defence against

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[87] Foreign Affairs, Trade and Development Canada, "Harper Government Launches New International Trade Plan," last modified 08 January 2012, http://www.international.gc.ca/media/comm/news-communiques/2013/11/27a.aspx?lang=eng

[88] *Ibid.*

state aggression and terrorism globally (i.e., the training mission in the Ukraine and the mission to counter the Islamic State of Iraq and Levant (ISIL)) through the CAF, and national security via enhanced law enforcement and intelligence resources.[89]

There is a consistent and homogenous message across these key national policy documents. The emphasis is in developing Canada's economic interests at home and abroad, projecting Canadian values globally and security for Canadians everywhere. This is the spirit and intent of the whole of government approach: to galvanize all Canadian diplomatic appendages in the pursuit of common Canadian strategic interests.

Whole of Government Approach

Although the term Whole of Government Approach (WoG) has been engendered in culture throughout Canada's governmental departments, a single authoritative and complete definition of it is elusive.[90] It is not a "thing" but rather a process or philosophy that motivates coordinated activities toward the realization of goals of national interest. The best functional definition of WoG framework is found in the 2005 Policy on Management, Resources and Results Structures (MRRS) resident within the Treasury Board of Canada Secretariat. It is a policy that describes the identification, management and accountability of departmental, agency

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[89] Joe Oliver, *Strong Leadership: A Balanced Budget, Low Tax Plan for Jobs, Growth and Security*, (Ottawa: Tabled in the House of Commons, 21 April 2015), 13-14, 18, 22-23.

[90] Whereas the term "Whole of Government Approach" is applicable to collaboration amongst Canadian government departments, the term "Comprehensive Approach" is sometimes used incorrectly as a synonym. The later term used to describe military operations that coordinate military and non-military agencies and capabilities to produce a more complete campaign plan and it is meant to aid in increasing joint effectiveness and interoperability, and understand second and third order effects. Another similar term referring to the Comprehensive Approach to battle planning is JIMP which stands for Joint, Interagency, Multinational and Public.

and Crown corporation programs. It is empowered by the Financial Administration Act (R.S.C., 1985, c. F-11)[91] and designed to provide linkages not only to expenditure management but also non-financial information across all departments, agencies and Crown corporations who receive appropriations from the Canadian government. The policy provides results based management, decision-making and accountability for departmental programs and ensures horizontal relationships across departments are aligned to produce strategic goals. The Whole-of-Government framework is the method by which departments report financial and no-financial outcome areas (sixteen strategic foci) under four spending areas (see figure 3.1).[92]

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[91] Minister of Justice, *Financial Administration Act (R.S.C., 1985, c. F-11)* (Ottawa: Canada Communication Group, 2015), 13-15.

[92] Treasury Board of Canada Secretariat, "Whole-of-Government Framework," last modified 23 February 2015, http://www.tbs-sct.gc.ca/ppg-cpr/frame-cadre-eng.aspx

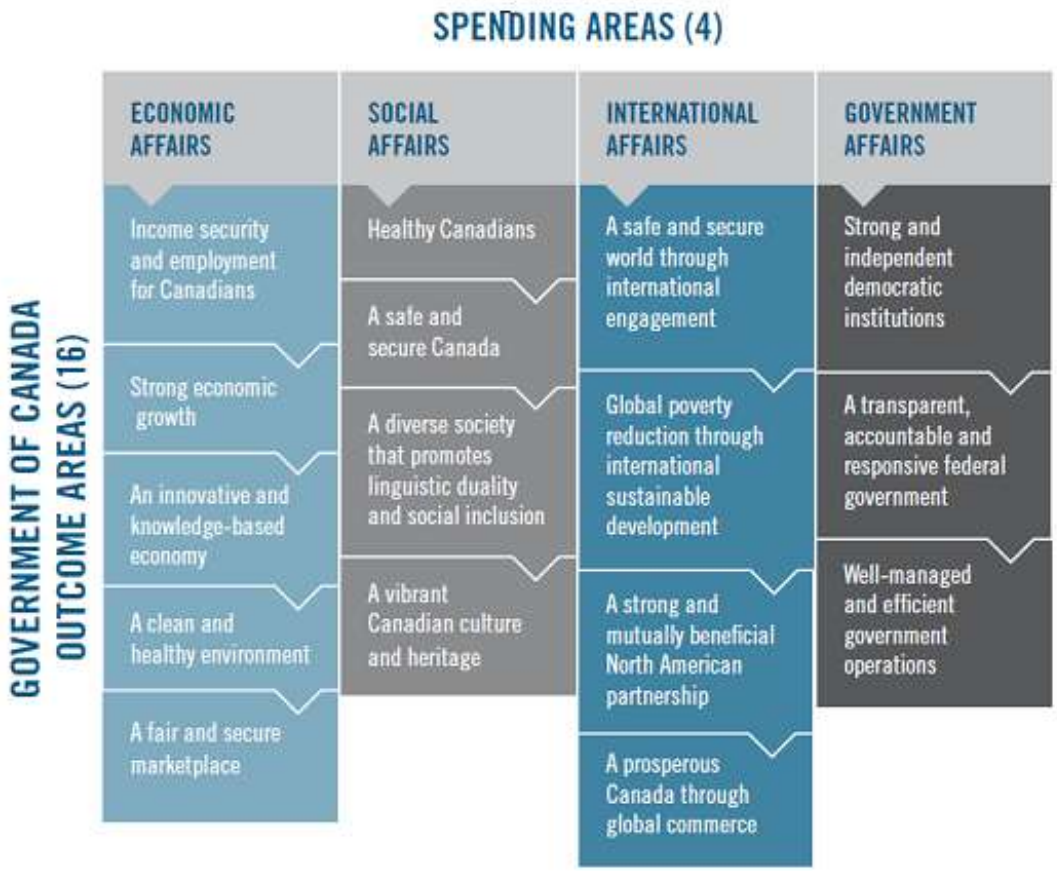

Figure 4.1 – Whole-of-Government Framework

Source: Treasury Board of Canada Secretariat website http://www.tbs-sct.gc.ca/ppg-cpr/frame-cadre-eng.aspx

Departments, agencies and Crown Corporations are further required to map their program alignments in their Reports on Plans and Priorities (RPP) and Departmental Performance Reports (DPR).[93]

[93] Treasury Board of Canada Secretariat, "Previous Reports," last modified 23 February 2015, http://www.tbs-sct.gc.ca/ppg-cpr/archive-eng.aspx

The spending areas delineate activities according to what they are trying to achieve but they are not mutually exclusive; there are varying degrees of linkages between them. Of the four spending areas, however, all but the second (Social Affairs) are directly germane to this paper, which focuses on Canadian activities outside of its borders. The Treasury Board defines the four spending areas as: "Economic Affairs" which includes income security and employment for Canadians, an innovative and knowledge-based economy, a clean and healthy environment, and a fair and secure marketplace. "International Affairs" advocates a safe and secure world through international engagement, global poverty reduction through international sustainable development, a strong and mutually beneficial North American partnership, and a prosperous Canada though global commerce. Finally, "Government Affairs" addresses governance through strong and independent democratic institutions, a transparent, accountable and responsive federal government, and well-managed and efficient government operations. [94]

A direct comparison between the Treasury Board priorities and those codified in the Department of Foreign Affairs Trade and Development strategy reveal a number of alignments. TBS "International Affairs" aligns with DFATD priority one, two, three, five and six. "Economic Affairs" aligns directly with DFATD priority four and six and indirectly with one, two and three. Finally, "Government Affairs" and priority four are directly aligned. Although not critical to the position in this paper it should be noted that part of "Social Affairs" (i.e. a safe and secure Canada) aligns with DFATD priority six. The salient point is that in broad terms Canadian policies seek to improve conditions for Canadian prosperity and security through interactions

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[94] Treasury Board of Canada Secretariat, "Descriptors for Government of Canada Outcome Areas," last modified 23 February 2015, http://www.tbs-sct.gc.ca/ppg-cpr/descript-eng.aspx

globally where opportunity is available while promoting values important to Canadians that include security, sustainability, good governance and responsibility. The government achieves uniformity of intent through measures designed to coordinate interdepartmental, agency and Crown corporation activities in the pursuit of national interests. Canadian government practices are cultured to interact with each other and report to cabinet and citizens, their activities and programs and how they are coordinated to maximize efficiencies. There is an appetite, therefore, for collegiality and cooperation in the expression of Canadian policy.[95] In the case of military interventions in humanitarian missions, an OSH network allows Canada to be globally relevant by providing timely assistance that saves lives and alleviates suffering. Since these efforts are led by DFATD, and partly executed by DND through CAF resources, the connection between departments is made toward the fulfillment of WoG framework Government affairs (i.e., well managed and efficient government operations), and international affairs (i.e., a safe and secure world through international engagement). Likewise, in coalition operations involving combat missions, the Canadian OSH network provides flexibility and sustainment capacity to be globally relevant in international security issues as well.

Operational Support Hub locations are selected based on many criteria that have evolved over time. Traditionally, these have been principally based on military requirements where security has primacy. Nevertheless, although their primary purpose is to enhance global military logistics capability, OSHs are never chosen solely by the CAF. Instead, a carefully balanced selection process occurs at the highest government level. These are diplomatic negotiations that

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[95] Treasury Board of Canada Secretariat, "Whole-of-Government Framework," last modified 23 February 2015, http://www.tbs-sct.gc.ca/ppg-cpr/frame-cadre-eng.aspx

seek to ensure that Canada's presence in the OSH location is fully supported by the Host Nation. These negotiations are based on established relationships and are in practice an expression of foreign relations between states where (for the most part) both parties benefit from the arrangement. Even though HN selection and initial OSH negotiations are entirely in the realm of the DFATD, with input from other departmental stakeholders, the military facilitates the establishment and subsequent management of them. There is a shared and interdependent relationship between DFATD and DND in the OSH construct. This paper argues that there is no reason that the interdepartmental collaboration should end there. CAF responses to humanitarian operations are one example of coordination between DFATD and DND toward a collective strategically relevant goal: the delivery of humanitarian assistance and disaster relief. An OSH network greatly aids in the timely delivery of needed resources. However, the existence of negotiated permissions for access to regional resources, services and other instruments of foreign statecraft also compliment traditional DFATD efforts to foster global economic relations (e.g. exercising negotiated arrangement when OSHs are activated). As OSH operations progress, continued negotiation refinements could contribute to a climate of productive discourse with potential spin-off discussions in other areas as the trade negotiation relationships mature with use. This is an example of activities departmental interdependence and an expression of Canadian Whole of Government Approach to international politics.

The following section examines CAF roles in foreign policy more fully. Examples of military missions where the Department of National Defence (DND) is not the lead are discussed to demonstrate that in addition to managing kinetic diplomacy, DND also complies with National

Strategic interest collaboratively in non-kinetic effects. Field relationships between departments in, therefore, are "natural" and consistent within the expression of Canadian interests worldwide.

Canadian Armed Forces and Air Power in Foreign Policy

CAF traditional "military" roles in the exclusive realm of interstate violence, national and international security and defence are expressly codified in the CFDS.[96] However, there are no equally explicit government edicts, directions, and statements that clearly detail CAF non-traditional (i.e., non-kinetic) responsibilities in the pursuit or execution of strategic interests. Nevertheless, as an instrument of Canadian diplomacy, DND and the CAF are routinely engaged in non-kinetic missions. The direction that underpins CAF involvement in soft power projection, as with all other government departments, is implied in the Whole-of-Government (WoG) approach. CAF doctrine acknowledges the WoG approach; therefore, non-traditional application of the CFDS roles, missions, tasks, and activities is accounted for.

As large scale state-on-state military actions seems less likely today, there still remains volatility within states, regions demarcated by fragile governments and economies, terrorism and asymmetric threats.[97] Natural disasters, catastrophe and emergencies involving human suffering cannot reliably be predicted or avoided. Due to their inherent nature in terms of resources, readiness, training and skill sets, the CAF is ideally suited to act as "first responder" in time

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[96] Canada. Department of National Defence. Canada First Defence Strategy, (12 March 2010), 3.

[97] Michael R. Dabros, *Projecting Power: Canada's Air Force 2035*, (Ottawa: Canadian Aerospace Warfare Centre, 2009), foreword.

critical world events where Canada wishes to establish a presence.[98] In Humanitarian Operations (HO) such as Peace Operations, Humanitarian Assistance and Disaster Relief (HADR), military aerospace power has the speed, reach, and agility to ensure Canada is immediately relevant globally.[99] In these non-traditional military interventions, the CAF is often first "on station" but DND is seldom the only department representing Canada, nor does it typically lead these types of missions. Therefore, it is increasingly likely that the CAF will participate in these events as a collective response to jointly represent Canadian interests.

Globalization has blurred and softened physical borders and opened relationships both across and between nations. The resultant increased interdependence between states as well as non-state actors elicits increased expectation of foreign involvement in global interventions, good will, and security issues.[100] Increasingly, non-state actors play prominent and important roles in world affairs: for good or ill. One could argue that Bill Gates has more direct and indirect influence on world politics than any non-state actor has ever had simply by virtue of the pervasive nature of pan-globe dependency on his technology and the Bill and Melinda Gates Foundation. Equally, Osama Bin Laden's activities with al-Qaeda created a global ripple that

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[98] David Scott Glasson, "Hard Decisions for Soft Aerospace Power" (Masters of Defence Studies, Canadian Forces College, 14 August 2014), 19, 63.

[99] *Ibid*., 9, 43.

[100] Canada, Canadian Forces Air Warfare Centre, *Projecting Power: Canada's Air Force 2035*, (Ottawa: Canadian Aerospace Warfare Centre, 2009), 3.

continues to influence inter-state interactions develop international policies and deploy armed forces against terror and insecurity, even after his death.[101]

A recent study by Wing Commander David Scott Glasson, Royal Australian Air Force, proposes that current western Air Power doctrine does not sufficiently address non-kinetic missions whose purpose is to "attract" through culture, political values and foreign policy (i.e., soft power)[102] vice more traditional military missions where coercion (i.e., hard power) achieves the desired results. Although foreign diplomatic policy goals (i.e., economic stimulation and global governance) appear to cater to soft power missions, this it is not necessarily to the exclusion of military support. Increasingly military interventions are employed to assist in establishing an immediate presence, stabilize a situation, sustain interaction until the affected region is capable of doing so on its own, rebuilding, and disengaging when appropriate; whether directly or indirectly through support to government organizations, NGO and agencies.[103] Whether in combat or non-combat operations, CAF resources will continue to be employed as an extension of Canadian foreign policy aims; therefore, it is prudent to consider how to ensure

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[101] Martha Crenshaw, "Terrorism and Global Security," Chapter 5 in *Leashing the Dogs of War: Conflict Management in a Divided World*, ed. Chester A. Crocker, Fen Osler Hampson, and Pamela Aall, (Washington, DC: United States Institute of Peace Press, 2007), 68.

[102] Joseph Nye, "Think Again Soft Power," *Foreign Affairs*, (23 February 2006), last accessed: 10 May 2015, http://foreignpolicy.com/2006/02/23/think-again-soft-power/. Joseph Nye defines "soft power" as "… the ability to get what you want through attraction rather than coercion or payments. It arises from the attractiveness of a country's culture, political ideals, and policies. When our policies are seen as legitimate in the eyes of others, our soft power is enhanced."

[103] David Scott Glasson, "Hard Decisions for Soft Aerospace Power" (Masters of Defence Studies, Canadian Forces College, 14 August 2014), 10. Also, Lt Col Roy C. Bacot (USAF), "Global Movements and Operational Support Hub Concept: Global Reach for the Canadian Forces," *The Canadian Air Force Journal*, Vol. 2, No. 3 (Summer 2009): 10-12. Also, Canada, Department of National Defence, Chief of Force Development, *The Future Security Environment 2008-2030: Part 1 Current and Emerging Trends*, (Ottawa: 17 Wing Winnipeg Publishing Office, 27 January 2009), 1-6. Also, Canada, Department of National Defence, Canadian Forces Air Warfare Centre, *Projecting Power: Canada's Air Force 2035*, (Ottawa: Canadian Aerospace Warfare Centre, 2009), 1-27.

Canada's contributions are meaningful and timely. The OSH network ensures Canada is ready to contribute as events occur and from locations within ready reach of prepositioned resources and the capabilities to distribute them quickly (i.e., air power).

Where time is a critical factor, it is difficult to impossible to *ad hoc* coble together adequate resources for an effective, relevant response. Where the event involves the preservation of life, time may be "the" critical factor. Air power provides a relatively immediate response. Nevertheless, as distance from Canada to an AO increases then air power loses a degree of its advantage and even relevance. Policy, such as CFDS, GMAP, and WoG Framework informs doctrine which leads to committing resources toward infrastructure, force composition, training, employment and procedures, spending and acquisition, and planning. Looking toward the future, the Canadian Forces Aerospace Warfare Centre writes:

> Canada's future Air Force must continue to evolve along this path and remain strategically relevant, operationally responsive and tactically decisive both at home and abroad, in any battlespace, across the entire spectrum of conflict. The future Air Force must be interoperable with other allied forces, able to contribute to operations on a global scale and play a central role in any Canadian comprehensive approach [WoG] to crisis and instability.[104]

Doctrinally, Canadian air power must be capable of projecting power through precision effects. "Effects" are the products of actions. "Precision effects" means:

> … achieving the right effect (both kinetic and non-kinetic), in the right place (precision), at the right time (time criticality) in a cohesive manner that delivers the desired outcome with no or minimal collateral damage.[105]

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[104] Canada, Canadian Forces Air Warfare Centre, *Projecting Power: Canada's Air Force 2035*, (Ottawa: Canadian Aerospace Warfare Centre, 2009), 51.

[105] *Ibid.*

The Royal Canadian Air Force (RCAF) is structured, trained, equipped, and philosophically aligned to operate in an expeditionary and joint, interagency, multinational and public (JIMP) environment.[106] Working with defence partners, allied forces and coalitions provide benefits in standardization that would not otherwise be available in a one-off arrangement typical of non-military agencies: it is not sufficient to be of like mind in deployed operations to be truly "interoperable." One must actually use the same equipment or lose the benefit of a common support infrastructure.

Although the RCAF is mandated to commence and terminate operations in Canada there is no reason to deduce that all remaining mission activities between activation and termination must originate in Canada. More specifically, it is not necessary that all sustainment equipment and materials originate from Canada. In reality it is quite the opposite. As much as practical, only equipment that must come from Canada (i.e., ammunition and weapons systems, personnel, initial deployment kit) originates in Canada. These resources are delivered to theatres via strategic airlift (e.g. CC177 Globemaster, CC150 Polaris and to a lesser extent the CC130J Hercules). Once in theatre, tactical airlift moves these materials inside the theatre (e.g. CC130J and CH47 Chinook cargo helicopter). Arrangements are made to provide sustainment resources and none essential items on the local economy, through contract with the host nation (HN), through allied depots and supply centres near the theatre of operations, or from neighbouring states where negotiations can provide adequate support. Available support arrangements vary greatly from one region to the next for a myriad of reasons but an assumption that permeates

[106] *Ibid.*, ix, 37, 59, 85.

OSH location is that local procurement and contracts for essential services will be negotiated with the HN as much as possible.[107]

The Operational Support Hub was created to solve the two issues: "time and distance" and access to reliable logistic support using strategic and occasionally tactical airlift to move materials over a much shorter distance (i.e., quicker). OSHs begin "on paper" and are simply negotiated arrangements with host nation HN diplomats. OSHs are activated when they are required. They are scalable and can be tailored to the needs of individual missions and they can simultaneously support multiple mission sets in different AOs from a single hub or within a network. The OSH is ideally suited for sustainment of both military "kinetic" missions and military facilitated "non-kinetic" missions led by DFATD or NGO organizations. Humanitarian relief logistics is critical to the success of Humanitarian Relief Operations (HRO). In high demand are transport (airlift, sealift, land transport), medical, communications platforms, tools and equipment, and security.[108] The military can provide these but what is more important is that the military logistics organization is trained and proficient in the sustained distribution of needed resources.[109] Not coincidentally, when the DART is deployed it takes all of these items, primary medical care, water purification plants and electrical power generators, and engineering support. The DART is intended as a stabilization tool and not as "First Responder" (i.e., search and

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[107] National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

[108] S. Sebbah, A. Boukhouta, and A. Ghanmi, *Humanitarian Relief Operations: A Military Logistics Perspective – A Position Paper*, (Ottawa: DRDC CORA, November 2012), 2.

[109] *Ibid*, iii.

rescue or advanced medical aid).[110] The DART provides a bridge to cover immediate need in disaster stricken environments for up to 40 days until government and international organizations are set up to provide ongoing, long term relief and effort to return the area to conditions where the nation affected is capable of providing assistance on their own.[111]

Humanitarian logistics is not exclusively a military concern. Since the 1990s, a multitude of humanitarian relief efforts witnessed an ever-increasing interplay between the United Nations (UN), Humanitarian Relief Organizations (HROs), NGOs and militaries. The mission leads and individual roles of these organizations varied depending on the needs or circumstances of the humanitarian missions, which often created pressures and strain within the relief network. However, one commonality between these interventions was humanitarian logistics. Efforts to improve collaboration, assign responsibilities and achieve efficiencies in the delivery of humanitarian relief led to the adoption of the "Cluster Approach" for facilitated collaboration between the UN, state organizations, NGOs and relief agencies.[112] The World Food Program is the named lead for the Logistics Cluster. Despite transparency, intent, and more importantly perception difficulties with the employment of military forces in humanitarian relief operations, militaries are particularly well adapted to provide logistics support and security in these settings. Recent Canadian research indicates that despite previous friction between military forces and NGO leads in humanitarian missions, progress has been made in smoothing the relationships and

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[110] *Ibid*, 3.

[111] National Defence and the Canadian Armed Forces, "The Disaster Assistance Response Team (DART)," last modified 21 November 2014, http://www.forces.gc.ca/en/operations-abroad-recurring/dart.page

[112] Inter-Agency Steering Committee, *Guidance Note on Using the Cluster Approach to Strengthening Humanitarian Response* (IASC Working Group, 24 November 2006), 2-3.

division of responsibilities during HROs between stakeholders.[113] For example, in November of 2006, the UN Inter-Agency Steering Committee adopted the logistics cluster approach would be adopted at the global level through all countries with humanitarian coordinators. The World Food Program formalized its role as logistics coordination lead with other NGOs (e.g. UNHCR, UNICEF, MSB, CARE, ACF and WVI). This resulted in increased communications and greater collaboration between relief organizations including militaries.[114] As the logistics cluster concept evolves, coordinated use an OSH network would greatly enhance efforts to react more quickly to natural disasters and humanitarian assistance events world wide.

Conclusion

Canadian foreign policy employs a comprehensive approach involving the totality of government departments, working with and on behalf of Canadian companies, investors, and individuals to access world markets, advocate Canadian values (i.e., prosperity, security, and good governance based on the rule of law) and to demonstrate good-will as responsible stewards in an increasingly interconnected world.[115] From the Canadian perspective, OSHs pan-globe could provide both traditional military (i.e., kinetic) and HRO missions with their associated supporting bodies with "turn key" scalable logistics distribution centres, complete with in-place HN contract agreements, infrastructure, sea, air, and land transport modality, medical and

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[113] Gary Crichard, "Collaborative Efforts to Improve Logistics During Humanitarian Relief Operations," (Masters of Defence Studies, Canadian Forces College, 2011), 2-5.

[114] *Ibid., 71.*

[115] Clerk of the Privy Council, "Blueprint 2020 – Getting Started – Getting Your Views, Building Tomorrow's Public Service Together," last modified 2 October 2014, http://www.clerk.gc.ca/eng/feature.asp?pageId=349#im

engineering support, force protection (i.e., if required); and most importantly a flexible and responsive logistics network. Military OSHs facilitate the key but competing goals of timeliness at the outset and cost effectiveness over the long run are realized. Providing rapid, effective and relevant support wherever the need, OSH networks can ensure the CAF remains strategic relevant, operational responsive and tactically decisive.[116]

The next chapter discusses options other than OSH in East Asia. Advantages and disadvantages are highlighted and recommendations are presented for a balanced approach to achieving a Whole of Government approach to strategic intent in the region.

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[116] Canada, Department of National Defence, Chief of Force Development, *Integrated Capstone Concept*, (Ottawa: 17 Wing Winnipeg Publishing Office, 9 October 2009), 5-10.

CHAPTER 5 – LOGISTIC SUPPORT OPTIONS AND THE OSH NETWORK

Introduction

Despite research and modeling to map the ideal OSH network, experience in implementing them has identified that locations are not always tenable and are occasionally impermanent. This chapter addresses the implementation of the OSH network, some potential alternate options and their advantages and disadvantages.

A synopsis of analyses relating to specific locations within the Far East where OSHs could be established is examined. Chapter Two argued that modeling and analysis for the OSH network might have missed important considerations for OSH coverage in the Far East due to regional dynamics and the sheer size (distance from end to end) and remoteness (distance from Canada) of the region; specifically, there should be more than one OSH to service the entire Far East region. This chapter looks at alternate logistics options to make the case that the best solution for Canada is the OSH network. It also examines the selection of OSH nodes (i.e., locations) in the Far East by applying relevant elements of the PMESII/DIME model throughout the region to inform which may be suitable locations.

The final section makes recommendations regarding the OSH network model and some potential locations for coverage in the Far East.

OSH Initial Implementation, Usage and Diplomacy

For nearly 10 years, Canada operated an interim staging hub near Dubai, UAE. It was strategically important to sustainment of the Canadian contribution to the war on terror in

Afghanistan particularly at a time when operations were shifting from Combat (Op ATHENA) to Training and Mentoring (Op ATTENTION). However, despite the importance of this OSH, Dubai abruptly cancelled the arrangement over a disagreement over landing rights at Pearson International Airport in Toronto and other locations in Canada for the UAE two major air carriers (Etihad and Emirates).[117]

In addition, the trial OSH at the USAF base in Spangdahlem, Germany moved to Köln-Bonn due to severe limitations on operations at the USAF base, including limited operating hours, and low priority for essential assets on the base such as mobile handling equipment (MHE), parking and accommodations for transient soldier.[118] It may be that Canada is unable to achieve some strategic national interests, such as access to the AES through agreements in Singapore. Many of the locations where Canada will likely deploy (i.e., the Philippines, again) on Humanitarian Operations are in the high-risk areas and an OSH there may be potentially lost to disaster. This chapter briefly discusses some options other than the OSH network, their advantages and disadvantages and recommendations are available to Canada in order to deploy, sustain and redeploy national assets in the pursuit of strategic interests. Recommendations are made to mitigate reductions in the OSH network coverage.

Firstly, one should acknowledge the important distinction between types of broad missions supported through an OSH network: those designed for the expression of hard power

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[117] The Canadian Press, "Canadians Leave UAE Base," *CBC News Canada*, 4 November 2010, http://www.cbc.ca/news/canada/canadians-leave-uae-base-1.936084

[118] Maj Ryan Eyre, "The Operational Support Hub: A Strategic Airlift Concern" (Joint Command and Staff Program Air Power paper, Canadian Forces College, 2011), 9-11.

(i.e., violence) and those designed to deliver soft power (i.e. aid) even if they are performed by the same uniformed persons and with the same materials. A transport truck full of rice and medicine does not elicit the same reaction as a main battle tank even if it was full of food and medical supplies. However, even in humanitarian interventions where a safe and secure environment cannot be taken for granted and where there is no effective, legitimate authority with capacity to provide it, it falls on professional militaries to provide secure conditions where aid can be delivered to those that need it. Nevertheless, it is one thing to exchange diplomatic discourse over the potential warehousing of aid materials but quite another to sell military capability infrastructure to external states in one's own backyard. Regional politics and threats, personalities, and past diplomatic history with Canada may all influence whether a state has an appetite for allowing military resources within its boarders regardless of the intended use.[119]

The OSH network is conceptually designed to facilitate military purposes. The CDS captured the strategic intent of the OSH network in his May 2013 Command Directive[120] which describes intended OSH activities as: fuel stops for air and sea transit, over night stops, temporary storage, cross-load intermodal move via road, rail, seaway and air, and routine maintenance and repair. He also indicated that the GoC might require strategic airlift for OGD. As this study demonstrates, any government or non-government agency, or commercial entity may utilize OSH capacities in the interest of Canadian strategic interests. Some example could

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[119] Lt Col Roy C. Bacot (USAF), "Global Movements and Operational Support Hub Concept: Global Reach for the Canadian Forces," *The Canadian Air Force Journal*, Vol. 2, No. 3 (Summer 2009): 10-12. Also, Allan Woods, "Canada Hunting for Seven New Foreign Bases," *The Toronto Star*, 5 June 2012, last accessed 20 May 2015. http://www.thestar.com/news/canada/2012/06/05/canadas_military_hunting_for_seven_new_foreign_bases.html

[120] Walter, J. Natynczyk, *CDS Directive for the Establishment of Operational Support Hubs*, (NDHQ:13 May 2010), 2/14.

be: an embassy-initiated evacuation of Canadians from an area unexpectedly under immediate duress, Air ambulance and evacuation of casualties after a natural disaster, accident, or even through flight servicing for a commercial cargo aircraft delivering parts, supplies or maintenance to critical strategic equipment in a foreign land. The possibilities are limited only by imagination but it should be emphasized that the traditional military model of an OSH allows room for any use of the facilities and arrangements so long as it is in the interest of Canada. One step further, the OSH could be made available to the HN or other regional partners in times of need or otherwise as part of Canada's "Good-Will" diplomacy.[121] Although a complete DIME/PMESII analysis would elicit wholesome results toward the benefits of the OSH network construct, it is beyond the scope of this paper and would be a good topic for further research. Nevertheless, this study posits that to portray Canadian interests globally, a form logistics network is necessary. The next section looks at some options then discusses the particular requirements in the Far East and concludes with recommendations on locations and suggests a modification to the Asian network.

OSH Options

Assuming that an OSH in a region or grouping of regions is unattainable, there are other options, although arguably not nearly as robust, for facilitating Canadian strategic interests involving the CAF. Historically, sustainment planning occurred after an event occurred and troops deployed: much as in the simple example described in Chapter One. Sustainment

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[121] Foreign Affairs, Trade and Development Canada, "Our Priorities: Priorities for 2015-16," last modified 08 April 2015, http://www.international.gc.ca/department-ministere/priorities-priorites.aspx?lang=eng. Also, David Scott Glasson, "Hard Decisions for Soft Aerospace Power" (Masters of Defence Studies, Canadian Forces College, 14 August 2014), 24-26.

arrangements along supply routes were achieved through military basing on foreign soil or negotiated *ad hoc* as Canada found itself in far flung locations without little or no notice, because of our historical ties with allies both in North America and Europe (i.e., the UK). Canada has not intervened in sustained military combat operations on the North American continent. It has always travelled off continent to participate in allied and coalition combat operations and therefore had to create relationships for sustainable logistics support "on the fly" and on a temporary basis. Although these logistic lines of communication became more effective and efficient over time they lacked depth and speed in responding to demand.[122] Canada can rely on the exigencies of the circumstance to influence diplomatic and bargaining power but at the expense of speed in delivery and permanence as arrangements for the temporary usage of HN assets expire after the reason for their enactment have passed; or worse, even before (e.g., the interim staging hub near Dubai).[123]

Commercial enterprise, in particular, long haul cargo and heavy airlift manufacturer Boeing established a global support network (GSN) to provide access to parts and maintenance facilities to any of its customers wherever they may be.[124] The RCAF's CC177 Globemaster, manufactured by Boeing, contractually has access to this network. When unexpected

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[122] Ahmed Ghanmi and R.H.A. David Shaw, "Modeling and Simulation of Canadian Forces Strategic Lift Strategies," *Proceedings of the Winter 2006 Simulation Conference*, (Ottawa: winter 2006), Also, S. Sebbah, A. Boukhouta, and A. Ghanmi, *Humanitarian Relief Operations: A Military Logistics Perspective – A Position Paper*, (Ottawa: DRDC CORA, November 2012), 1-5, 9.

[123] The Canadian Press, "Canadians Leave UAE Base," *CBC News Canada*, 4 November 2010, http://www.cbc.ca/news/canada/canadians-leave-uae-base-1.936084

[124] Daryl Stephenson, "Global Support Network aims to meet customers on their turf," *Boeing Frontiers Online*, Vol. 2, Issue 7, November 2003, last accessed:12 May 2015. http://www.boeing.com/news/frontiers/archive/2003/november/cover1a.html

maintenance activities "ground" the aircraft, it can very quickly be brought "on line" due to a flexible and responsive fleet maintenance program that spans the globe. This concept is similar to the OSH in that the concept is to preposition parts and materials in strategic locations around the world, where the "users" (i.e., primarily militaries that use Boeing aircraft) are most likely to operate. This is a good option for aircraft servicing requirements in particular but no such option exists for the storage and handling of other military or sensitive equipment that make up the military logistics arsenal (i.e., weapons and intelligence storage and handling equipment).

There are other Global Logistics distribution models that utilize the hub and spoke concept (i.e., FedEx Global Distribution Centres). These are closer to the CAF OSH construct in that they are state of the art, optimally located storage and processing facilities that are synchronized with FedEx intermodal transport (i.e., air, land and sea) hubs world-wide. Also, contracted airlift is available for moving people anywhere in the world; Canada has used both contracted cargo (e.g., DHL, FedEx, Antinov 24) and passenger airlift to move equipment and troops to and from operations.[125]

At first glance, leveraging access to commercial global support networks for movement and sustainment capacity is an attractive option. This ensures speed and persistence and delivers all of the qualities that a CAF OSH would, except one crucial element. These models are commercial endeavours: they are not just contractually obliged to support the customer. Ultimately they are responsible to the shareholder for performance delivery (i.e., profitability).

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[125] Martin Shadwick, "How Much Strategic Airlift is Enough?," *Canadian Military Journal*, Vol. 13, No. 3 (Summer 2013).

The government cannot compel a commercial enterprise to go in harm's way. There are companies that can and do take the risk but only at the promise of great wealth. There are no humanitarian interests representing the shareholder in the boardroom. It would be "risky" from the government's point of view also; entrusting one's strategic influence to the availability of a contract in a stricken region seems to leave one out on a precipice. The Dutch military sold its KC10 heavy airlifters and were unable to secure charter passenger service between Kandahar Air Field and Dubai. Due to Canada's current agreement with the UAE for access to an airfield near Dubai, and from which regular Op ATHENA resupply sorties originated, Canada was able to provide inter-theatre airlift to the Dutch by offering them any extra capacity on regular runs between Afghanistan and Dubai as well as a mutual agreement brokered through ISAF for the provision of dedicated Canadian Airlift for Dutch servicemen and women (i.e. called the Canadian-Dutch Combined Air Bridge). Despite the cancellation of contracted airlift for the Netherlands, Canada was able to offer this strategic capability through its extra capacity it had as a result of the interim staging location in Dubai; a similar but less robust construct compared to an OSH.[126]

Leveraging defence relationships with other militaries is another option. This is superior to reliance on commercial option as the resources available are identical in nature (i.e., military specific interoperable equipment, procedures and focus); however, they both present the same issue. As was seen in Spangdahlem Germany during the initial OSH trial, Canada was unable to

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[126] The author of this study was a Canadian CC130 Hercules pilot during Op ATHENA and participated in the Canada-Dutch Air Bridge while deployed in Afghanistan.

achieve priority access to support and services during critical operations. It was for this reason that the OSH Europe was moved to Köln-Bonn (Cologne), Germany.

OSH Options in the Far East

The CDS issued an initiating directive in 2008 and CANOSCOM researched potential OSH network locations. Threat assessments were the main initial discriminating criteria assisted by a body of research and modeling conducted by Defence Research and Development Canada (DRDC). Threat was determined by the 2009 Foreign Policy list of Failed and Failing States. These represent the most likely areas that Canada would be called to assist. A functional requirements matrix identified what the OSHs should provide in each of the three states: caretaker, cadre, and activated. States that provided the best functionality when fully activated were selected as OSH locations.[127] This study further examines the seven-hub model within elements of a PMESII/DIME[128] analysis to advocate for additional OSHs in the Far East. Recommended locations are suggested in the conclusion of this chapter.

A proof of concept study was conducted for the selection of an OSH in Europe. CANOSCOM generated a matrix of weighted operational and logistic relevant criteria and DRDC generated list of locations.[129] Some of the former were CC130J projection South of the

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[127] Canada, CJOC, J5 AP, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia," Ottawa, n.d., 8-11.

[128] R. Hillson, "The DIME/PMESII Model Suite Requirements Project," *2009 Naval Research Laboratory Review*, (May 2009): 235-239.

[129] Canada, Defence Research and Development Canada, *On the Selection of an Operational Support Hub in the European Region* (Toronto: 6 December 2011).

Mediterranean Sea, 1 Canadian Air Division crew day requirements, and HN military support. The later criteria were presence of military/civil airheads, airhead hours of operation, strength of international transport network, local economy and infrastructure, proximity to airhead, proximity to seaport, container service to/from Canada, and runway length at airhead. Assistant Deputy Minister Policy (ADM (Pol)) also provided an assessment to ensure locations selected were aligned with strategic policies and concerns. The USAF base in Spangdahlem, Germany was selected and later moved to Köln-Bonn , Germany where OSH Europe currently resides.[130] The process just described provides a synopsis of the history and development of OSH locations for Canada. An important salient point is that OSH locations may change despite intellectual rigour and research analysis in their initial selection.

The initial assumptions and research conducted for the establishment and selection of the seven global OSHs remains valid but it must be remembered that during the execution phase, adjustments to the original plan are not only possible but also often unavoidable. The remainder of this section focuses on the Far East OSH. Three indicators of failed and failing states are social (demographic pressures, refugees and internally displaced persons (IDPs), group grievances, human flight and "brain drain") economic (uneven economic development, poverty and economic decline), political and military (state legitimacy, public services, human rights and rule of law, security apparatus, fractionalized elites, and external intervention).[131] Very little has changed in Asia Pacific between 2009 and 2014 respecting the Fund For Peace index of failed

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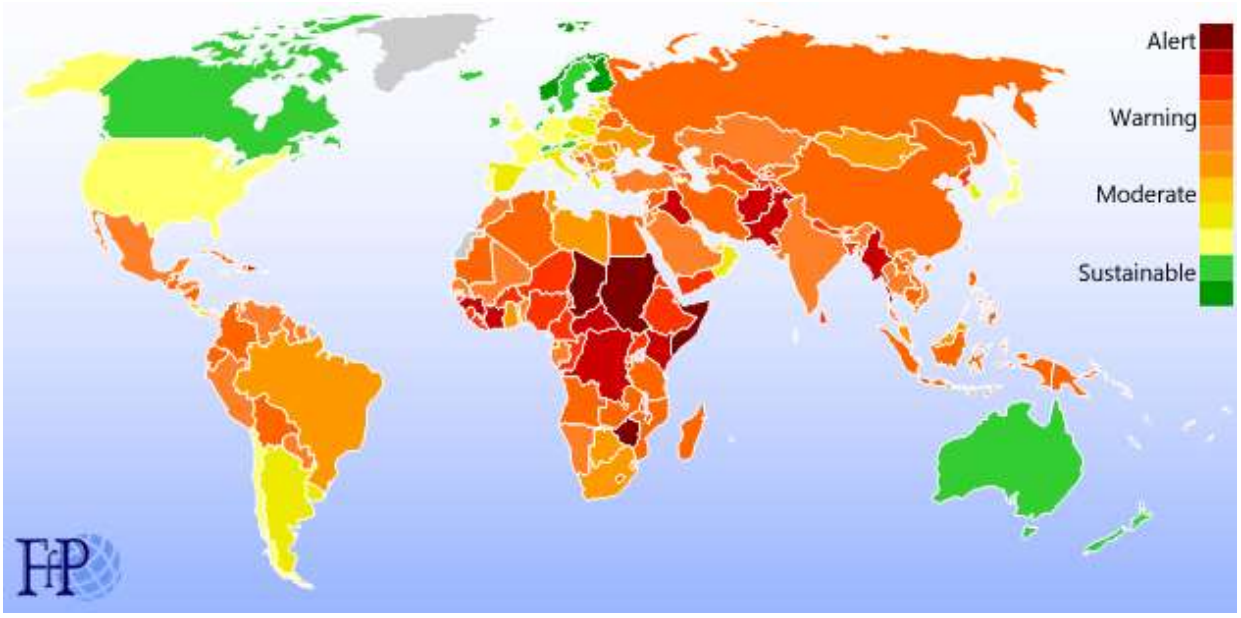
[130] National Defence and the Canadian Armed Forces, "Operational Support Hubs," last modified 7 October 2014, http://www.forces.gc.ca/en/operations-support/os-hubs.page

[131] Fund for Peace, "The Indicators," last accessed 11 May 2015, http://fsi.fundforpeace.org/indicators

and failing states. The only states in Alert status were and continue to be Myanmar (Burma), Nepal, North Korea and Timor-Leste. It is likely, therefore, that Canada will deploy on humanitarian operations in this region and will need to move its assets from Canada to get there.



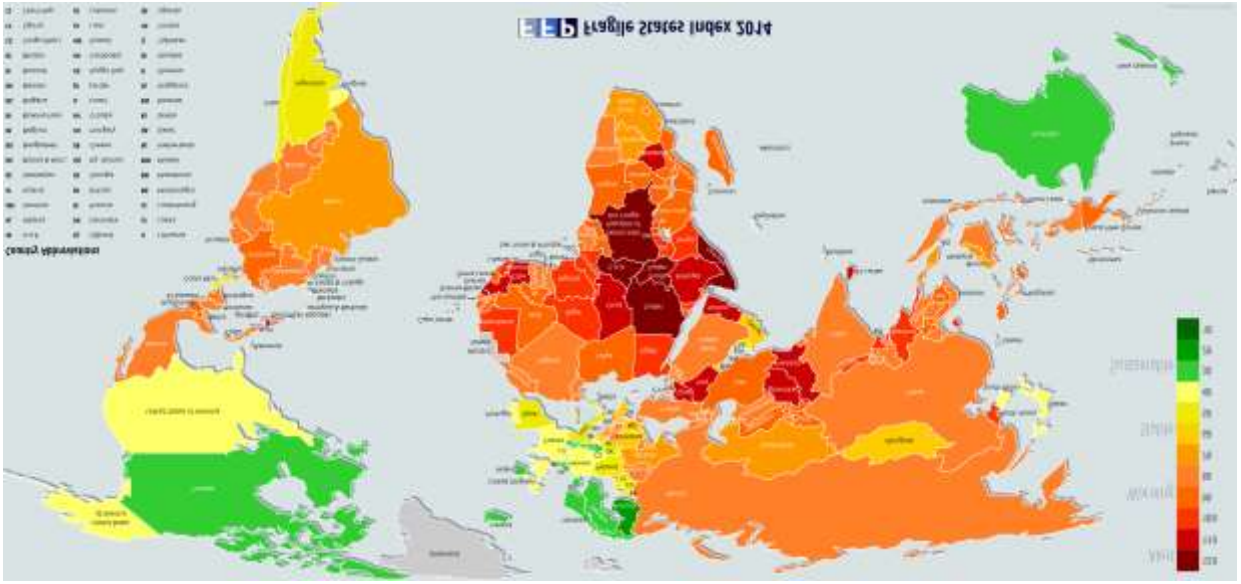


Figure 5.1 – Comparison between 2009 (top) and 2014 (bottom) Fund for Peace Index of Failed and Failing States

Source: Fund For Peace website: last accessed 11 May 2015 http://fsi.fundforpeace.org/

Air power is principally the method of initial intervention in operations, utilizing speed, reach, agility and relative persistence to establish and then sustain. The CC130J is the only task specific tactical air mobility asset in the RCAF inventory. It is designed to provide both strategic airlift (i.e. the capability to carry cargo and personnel from Canada to anywhere in the world) and intra theatre airlift (i.e. capability of delivering cargo and personnel via aerial delivery or austere landing zones even in a non-permissive environment). The optimal distribution between OSHs was found by centering a range ring representing the optimal operating range (2,700 nautical miles) with a maximum load (40,000 pounds) on the chosen location and comparing the range ring overlap.

The original Asian-Pacific recommended locations were Singapore (OSH SE Asia) and Japan (OSH E Asia). However, the distances between Singapore and Japan are great (5,250km or 2,835 nautical miles). A sortie departing either would have limited endurance and range options and no possibility of a return to originating aerodrome in the event that a landing is not possible at destination (i.e., 2,700NM is the optimal range of a CC130J with a 40,000 pound payload, described above).

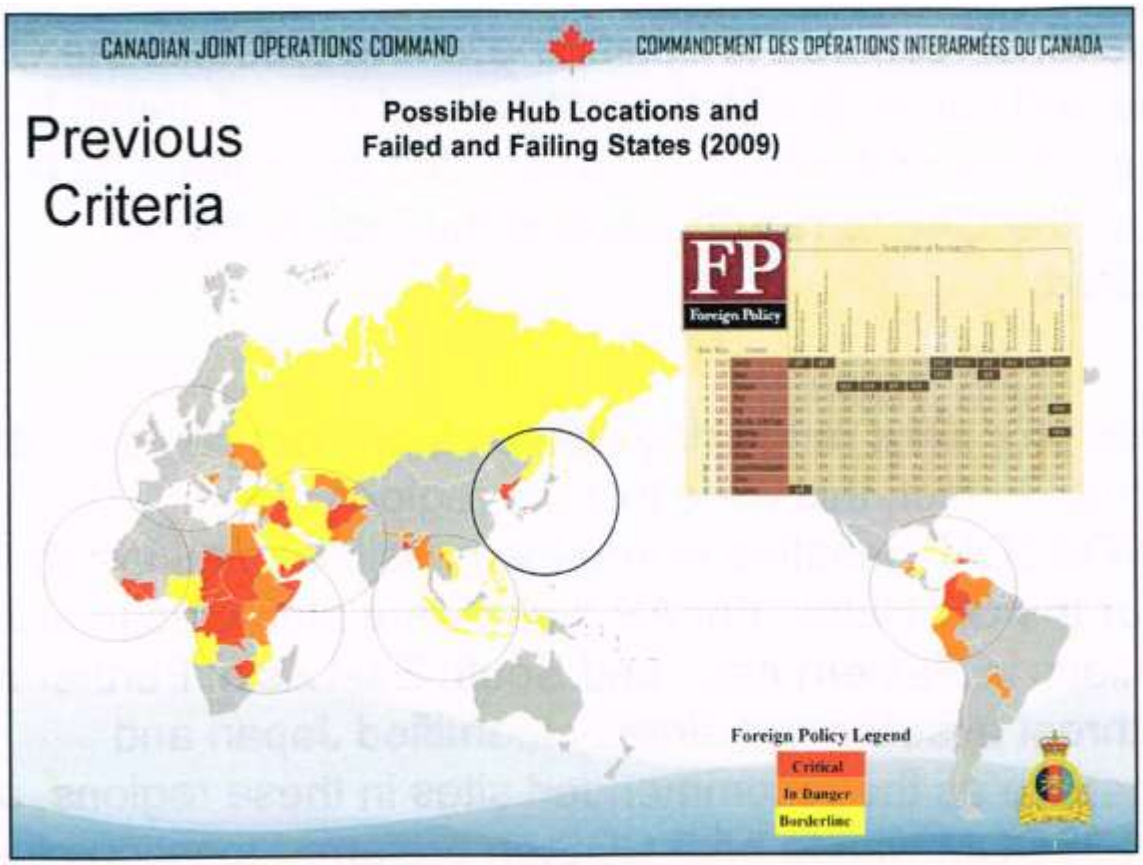


Figure 5.2 – Possible OSH Asia Pacific Locations (2009)

Source: CJOC J5 Asia Pacific Briefing, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia"

The OSH locations were revised in May 2010, December 2011 where the Republic of Korea was also identified as a potential location for OSH NE Asia (vice E Asia) and August 2013 where due to issues with the Constitution of Japan (i.e., National Diet, and a slow and cumbersome diplomatic agreement process), the Republic of Korea (ROK) was identified as

prime candidate for OSH NE Asia. Canada's economic interest in the ROK is indicated in the first Free Trade Agreement for Canada in Asia Pacific.[132]

Initially, there were thirteen candidates for OSH SE Asia: Australia, Brunei, Burma (Myanmar), Fiji, Guam (USA), Indonesia, Malaysia, New Caledonia (France), New Zealand, Philippines, Singapore, Thailand, and Vietnam. The first selection refinement looked at "Freedom of Movement." Issues with air and sea traffic density and access in and through littoral waters surrounding the Malacca Strait does not make good sense "Militarily" (i.e., increased force protection measures during transit, requirement for submarines to transit on the surface). Although Port Klang is an optimal location for Malaysia, it is also within the influence of the straits of Malacca in the same manner as Singapore. However, doe to its Strategic significance in the region, Singapore is still identified as a candidate for OSH SE Asia and "Politically" is a key relationship in gaining access to ASEAN beyond the ASEAN Regional Forum that Canada currently participates in. Specifically, Canada has an interest in East Asia Summit (EAS), which is primarily focused on trade and economy. The USA is a member of EAS as is Australia and New Zealand. Canada continues interest in the Asian Defence Ministerial Meetings (ADMM+), which is an important gateway to the EAS.

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132 Canada, Department of Foreign Affairs, Trade and Development, *Canada-Korea Free Trade Agreement: Creating Jobs and Opportunities for Canadians – Final Agreement Summary*, (Ottawa: DFATD, 2014), 6. Also, Foreign Affairs, Trade and Development Canada, "Canada-Korea Free Trade Agreement (CKFTA)," last modified 10 April 2015, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/korea-coree/index.aspx?lang=eng

The next criterion applied was defence alignment. Australia, Guam (USA), New Caledonia (France), New Zealand, Philippines, and Thailand are tied through either membership in NATO or by treaty with a NATO member. Canada, USA and France are NATO. USA has treaty ties to Philippines and Thailand as well as ROK and Japan in NE Asia. Australia and New Zealand share very close ties through the ANZUS treaty.[133] These countries are best aligned with Canadian security interests.

The next criterion addressed "Rule of Law" and security. Endemic corruption and an inconsistent observance of the Rule of Law in Indonesia, Malaysia, and the Philippines and terrorist cells such as Jemaah Islamiya operating in Brunei, Indonesia, Malaysia, Southern Philippines, Singapore and Abu Sayyaf also in Southern Philippines present significant security concerns for the establishment of an OSH. Communist Vietnam and Burma (Myanmar) are quasi democratic states where the Khmer Rouge are appointed a large number of seats. Singapore also proves difficult for the government to establish a Status of Force Agreement (SOFA) due to their unwillingness to enter such an arrangement. Their government also applies the death penalty and they apply "caning" as a corporal punishment. Singapore is closely aligned with China and any arrangement with them could be in jeopardy if that relationship was challenged. In addition, Indonesia is the number one centre for piracy globally. Australia, Guam (USA), New Caledonia

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[133] Canada, CJOC, J5 AP, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia," Ottawa, n.d., 25.

(France), and New Zealand are therefore the only nations with a credible history of adherence to the tenets of Rule of Law with values similar to Canada.[134]

It is worth considering that Canada shares a common colonial past and close cultural tie with Australia and New Zealand as Commonwealth nations as well as very close ties with the USA. Any intervention, particularly involving combat will influence who Canada is partnered with in a coalition or alliance. Considering where Canada is likely to send assistance in the region and for what purpose it is increasingly likely that the government of Canada will undertake Humanitarian Operations in Asia Pacific. The UN states that nine of the top twelve global disaster hotspots are located in this region. The nations at the highest risk according to exposure to nature disaster and ability to counter such devastation in order are: Vanuatu, Tonga, Philippines, Bangladesh, Solomon Islands, Cambodia, Timor-Leste, Brunei, Papua New Guinea, Fiji, Japan, Vietnam and Indonesia.[135]

Observing the optimal range of the CC130J, Northern Australia is the most advantageous location for an OSH in SE Asia. New Zealand is too far south. Vietnam, Thailand and Singapore are too far east. Guam is too far north. New Caledonia and Fiji are too far east. The last criterion applicable to OSH operations is standard of living. Based on the UN Human Development Index 2014, Australia ranks two, USA ranks five, New Zealand ranks seven, and Canada ranks eight.

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[134] *Ibid., 28.*

[135] Canada, CJOC, J5 AP, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia," Ottawa, n.d., 30.

All criteria considered, Northern Australia produces the greatest yield in the potential for an OSH in the Asian Pacific region.[136]

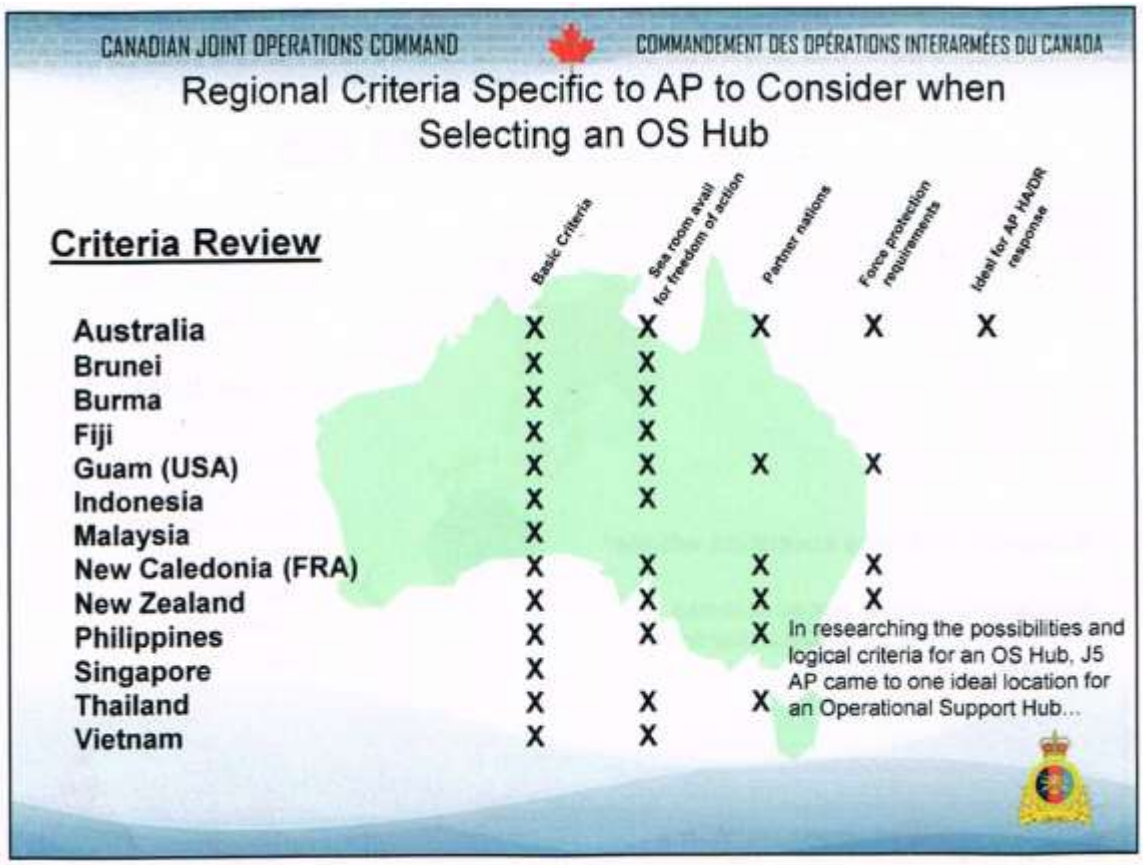

Figure 5.3 – Potential SE Asia Pacific OSH Locations

Source: CJOC J5 Asia Pacific Briefing, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia"

With the addition of RAAF Darwin as an OSH location, there is adequate range coverage to launch and recover tactical airlift missions from the originating aerodrome if required. RAAF Tindal is located 300km south and services USAF C17 Strategic airlift aircraft, USN F/A18

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[136] United Nations Development Program, *Human Development Index*, last accessed 20 May 2015, http://hdr.undp.org/en/data

Strike Fighters and B52 Strategic Bombers. Port Darwin is located 12km west and can accommodate military and civil shipping of any size.[137] The opportunity for joint and combined interoperability with Australia and the USA through exercises and common operating environment as well as presence in the region leveraged through the strong influence of Australia is an unparalleled opportunity for Canada to advance national interests in Asia Pacific. An OSH in Asia would offer opportunities to participate in military exercises (i.e., Talisman Sabre, a biennial USA/Australian exercise) and operations with three of the five eyes partners and increase Canadian influence and relevance as a defence partner in the region. This will also assist Canada in developing force generation (FG) and capability enhancement such as amphibious operations: Australia purchased a landing ship from the Royal Navy (i.e., HMAS *Choules*) and during RIMPAC12, the Commander Amphibious Task Force was a Canadian aboard USS *Essex*. Humanitarian missions in the region would likely be joint and combined forces with Australia, New Zealand and the USA.[138]

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[137] Canada, CJOC, J5 AP, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia," Ottawa, n.d., 41-45.

[138] If Canada maintains an OSH in RAAF Darwin, Australia, Canada will conduct "five eyes" exercises with regional militaries to build allied interoperability specifically for future deployments.

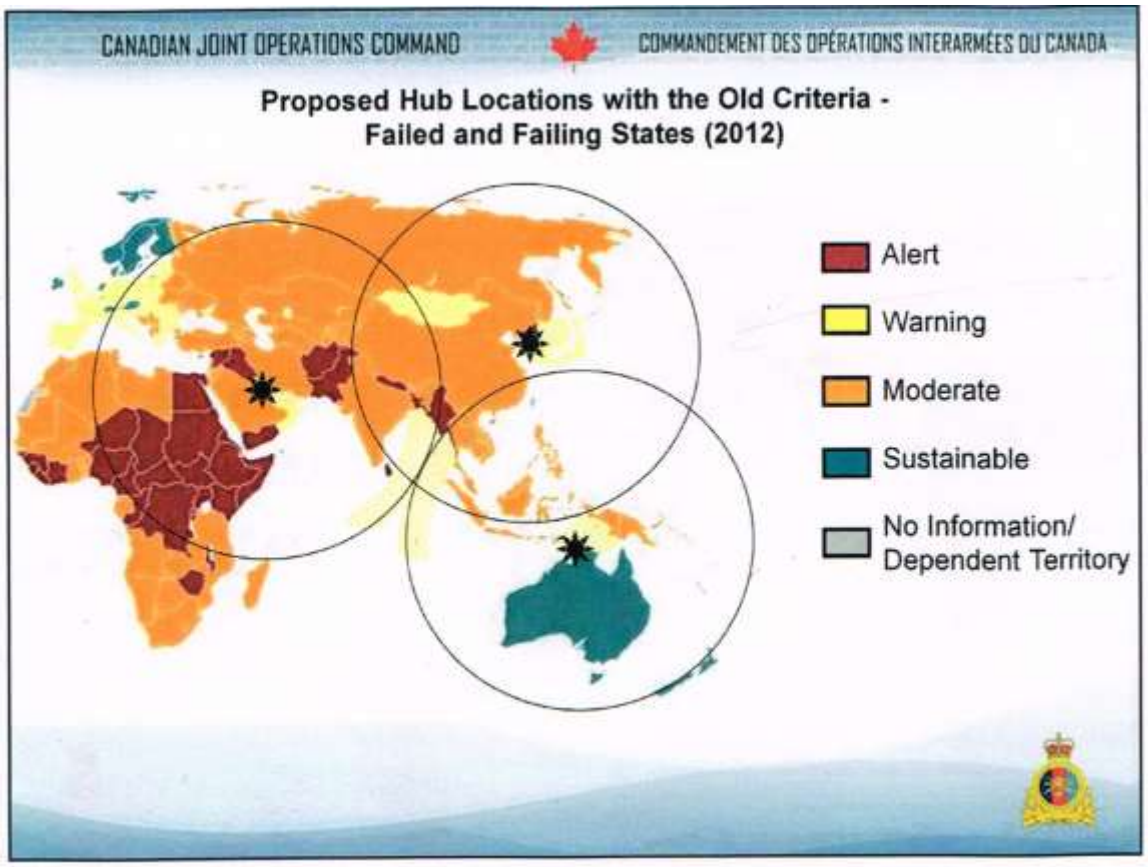

Figure 5.4 – OSH SW Asia (Kuwait), OSH NE Asia (ROK), and a proposed new SE Asia (Darwin, AUS)

Source: CJOC J5 Asia Pacific Briefing, "Asia Pacific Operational Support Hubs: Considering an Alternate Location to Singapore in SE Asia"

Recommendations

When the Far East region is taken as a whole, the distance between the NE and SE Asia is prohibitive when viewed from the restriction of optimal range provided by Canada's sole tactical air mobility platform: the CC130J Super Hercules. In the NE, the Republic of Korea (ROK) and Japan were identified as potential hub locations. Japan's pacifist constitution has made negotiations difficult; therefore, South Korea is the current front runner. Nevertheless,

abandoning negotiations with Japan may be premature. Their constitution, particularly article 9 (i.e., the National Diet) which renounces war, is under review as Japan seeks to be more relevant as a dominant power and leader in the Asia Pacific region. China's growing power and influence militarily and economically, disputed territories in the region and strengthen security ties with China and the USA are important to Japan. President Obama is in favour of the revision which has been unchanged since imposed by the victorious Allied powers in 1945 at the end of the Second World War.[139]

In SE Asia, many of the initial OSH locations pose some security threats. Recent analysis has pointed to Australia as a better location due to a preponderance of similarities between Canadian and Australian culture, economy, history and political alignments. Additionally, some of the Asian hub locations are very close to states that could present security issues for Canada (i.e., proximity to China, North Korea, and the Straits of Malacca), or are located perilously close to areas affected by persistent natural disasters (i.e., tsunamis, typhoons, earthquakes and floods). Nevertheless, in terms of reach, Australia is somewhat "distal" to the western part of SE Asia and most of NE Asia. Again, when considering the practicality of exercising air power within the 2,700nm range of the CC130J, a complex mission involving a large area of operations (AO) or multiple missions simultaneously could adversely affect mission effectiveness.

This study recommends an increase in the number of OSHs in the Far East by modifying the model in the following manner. Firstly, it is essential to establish the original SE and NE

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[139] Linda Sieg, "Japan PM Advisor Says Revision of Pacifist Constitution Vital," last modified 7 May 2014, http://www.reuters.com/article/2014/05/07/us-japan-defense-idUSBREA460HS20140507

Asia hubs according to the model. In this instance, OSH SE Asia in Darwin Australia and OSH NE Asia in ROK should be created. Concurrently, DFATD should continue negotiations with a subset of other OSH locations such as Singapore and the Philippines in the SE and Japan in the NE. The difference here rests in the language of the arrangements, which could be modified to emphasize a contingency nature of OSH activation, thus imposing limitations in the scope and duration of the hub in these locations. The intent would be to activate them only in times of necessity and solely for the duration of the operations. Effectively, Singapore, the Philippines and Japan would achieve cadre status only and then be activated as a surge capacity. Should the circumstances of these additional OSHs change favouring a more permanent arrangement, then the details could be renegotiated after the fact.

The benefits of taking this approach would serve both military and foreign policy objectives. They would provide a more effective and complete umbrella of coverage in the region for military and humanitarian operations while invigorating GoC interdependent relationships with important trade partners in Asia Pacific. Canada could bolster its contribution to stability and security in the region, improving its relevance and encouraging corollary dialogue in other areas of strategic importance, such as trade and economic advancement between participant nations. This is consistent with the CFDS missions to enhance global security and Canadian foreign policy which emphasizes economic prosperity and regional stability through stewardship and good governance.

Conclusion

This paper strongly advocates for continued efforts by the GoC to establish negotiations with nations worldwide in order to complete the OSH network. With each OSH Canada is able to react more quickly to events where Canada has interest in more places worldwide. OSH Europe was the first and most important because it greatly assisted ongoing combat operations in Afghanistan, and, it was a relatively risk mitigated "proof of concept" trial location as we had benefitted from a long history of sustainment airlift and Canadian Forces Bases through Germany since the Second World War. OSH Kuwait was the second but again, it had been in use after Canada's arrangement with the UAE was terminated. The third, OSH LAC is in Kingston, Jamaica where Canada has a long relationship in providing military training for the Jamaican Defence Force and where Canada participates in anti-drug trafficking efforts. Additionally, Jamaica is geographically proximal to Haiti where Canada will likely continue humanitarian efforts and reconstruction into the foreseeable future.

OSH West Africa and OSH East Africa are under negotiation but OSH South East Asia and OSH North East Asia are on the distant horizon according to CJOC Commander's Directive on the Establishment of OSHs.[140] Given the degree and intensity of recent Canadian diplomatic and in particular economic interest in the Far East, it is consistent with the WoG comprehensive approach to reprioritize the OSH SE Asia and OSH NE Asia in order to provide enhanced capability for projecting Canada's foreign policy in regions (i.e. and markets) that it is currently

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[140] Lieutenant-General Stewart A. Beare, *Canadian Joint Operational Command (CJOC) Directive for the Establishment of Operational Support Hubs*, (CJOC Ottawa: May 2013), 28-30/35

committed to developing. These two regions also see humanitarian interventions due to natural disaster at a much higher rate than elsewhere in the globe. It is not only likely that Canada will deploy to the Far East as part of "Good Will" diplomacy but it in Canada's best interest to be proactive in establishing necessary relationships in advance of tragedy to maximize efficiencies, speed, flexibility and persistence: lest the effort fail.

CONCLUSION

Militaries use air power in order to capitalize speed, agility, flexibility, reach, elevation and relative persistence to mitigate the dimensions of time (i.e., speed), distance and force (i.e., resources), but, not without limitations. Modern transport aircraft are capable of traversing great distances at considerable speed with a limited payload. However, a tank of gas will only take one so far: it is beyond current capability to circumnavigate the globe to deliver loads to the furthest reaches and return to the airport of departure. Wing and empennage design are optimized for load capacity but this aerodynamically restricts speeds to remain in the sub-sonic range. A way to mitigate great distance is to preposition critical assets at locations around the globe. The Operational Support Hub (OSH) network is Canada's answer to this problem.

Chapter One provided the conceptual framework for the OSH network construct and related it to CAF doctrine (i.e., Move and Sustain) and RCAF air power (i.e., reach and speed) in solving time, space and force question. The CFDS policy stipulates that Canadian defence responsibilities span the globe. Therefore, Canada has a vested interest in projecting power domestically, in North America and internationally as a steward of global peace and security. There is also a strong emphasis on the Canadian economy through military ties with industry. In the execution of defence policy, the CAF deploys around the world to conduct traditional military "combat" missions such as Op ATHENA in Afghanistan, and "deterrence" missions like Op REASSURRANCE in central an eastern Europe, or "peace keeping" missions: Op SNOWGOOSE in Cyprus is Canada's longest standing UN peacekeeping operation. However, the military is increasingly called upon in non-traditional missions such as humanitarian

operations (i.e., Op HESTIA in Haiti). Whereas DND is the lead in “hard” military missions, DFATD is lead when Canada expresses “soft” power in humanitarian and disaster relief missions (i.e., Op RENAISSANCE 15-1 in Nepal).

Chapter Two described the genesis and implementation of a seven hub network. With three of seven activated, there remains a large gap in the global coverage. Chapter Two also identified a potential challenge in the seven hub model. An ideal hub location provides access to intermodal transport and storage of supplies through airports of debarkation (APOD), sea ports of debarkation (SPOD), and overland transport (i.e., rail and truck). The initial trial in Spangdahlem Germany proved successful and OSH Europe was the first to be officially opened. The trial and subsequent experience also uncovered that ultimately the location of an OSH may change with the peculiar political circumstances and regional dynamics: OSH Europe moved to Köln-Bonn due to critical operational limitations in Spangdahlem and OSH SW Asia was established in Kuwait after political disagreement nullified arrangements in the UAE. OSH LAC in Kingston Jamaica represents the third hub activated and the remaining four are in various stages of negotiations.

Due to the total combined area, distances between land masses, and propensity and susceptibility to natural disaster in the Far East, the existence of two OSHs may be too thin to achieve effectiveness in the event of an actual event: particularly if the region is widely affected. Worse, in the event of two or more events (i.e.. missions) running concurrently, the area of coverage may be too large for a single OSH in SE Asia and another in NE Asia.

Chapter Three demonstrated that Canadian economic interests in the Far East are increasingly important to national foreign strategy. Trade agreements and partnerships in Asian governance bodies are one important contribution; however, Canada has and will increasingly participate in humanitarian assistance and disaster relief in the region as it is often the site of tragic natural disaster. The achieving effective OSH network coverage in the Far East is likely to raise in priority sooner than anticipated.

Canada expresses national interest in a coordinated "whole-of-government" approach both domestically and abroad. Chapter Four revealed that the Department of Foreign Affairs Trade and Development Canada (DFATD) elaborates the intent of the WoG approach within the Global Markets Action Plan (GMAP), which polarizes all of Canada's diplomatic assets toward the development and growth of national prosperity: creating jobs, opportunities for the exchange of Canadian goods and services, and trade relationships worldwide. The Canadian Budget (i.e. Economic Action Plan) equally stresses setting conditions for commercial success globally, particularly in the Far East where emerging markets offer high potential for meaningful and persistent trade relations. Nevertheless, Canadian foreign and defence policy also mandates leadership in global governance and security. Interdepartmental fusion in exercising Canadian foreign policy is clearly evident in these soft missions (i.e., humanitarian assistance and disaster relief), which are led by DFATD with DND supporting. The conduct of these missions has evolved to witness the integration of a wide body of government and non-government stakeholders who are increasingly responsible for organizing, orchestrating and providing essential capabilities for these. The trend indicates that this evolution will continue. The UN has organized inter-agency sector based "Logistics Clusters" responsible for organizing, provisioning

and executing relief operations[141] The makeup of stakeholders participating directly or through indirect support to these missions includes international government organizations, transnational non-government agencies (NGOs), and volunteer interest groups. All have a role to play but each comes from different cultures and have different foci, experience, and ways of doing their business. Coordinating such a diverse team is a challenge. Perhaps not surprisingly, due to the unique nature of the organization, training, equipment, capability and readiness, militaries are routinely called upon to deliver immediate aid as "first responders." Nevertheless, after an initial quick response, militaries take a supporting rather than leading function in humanitarian operations.

An effective way for the CAF to support humanitarian operations is to provide immediate response to stabilize and secure an affected area, then provide a support infrastructure through OSH network logistics operations. Regardless of the mission type, a common important consideration for any operation is the relationship between speed, distance and force (i.e., resources). Whether delivering beans, bullets, or band-aids, mission essential resources have to arrive at the appropriate location at an appropriate time. Often "timing" (i.e., speed) proves the most critical. Taken a step further, the continuing cycle of providing timely and essential resources at appropriate locations often makes military sustainment the deciding factor in mission success.

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[141] Gary Crichard, "Collaborative Efforts to Improve Logistics During Humanitarian Relief Operations," (Master's of Defence Studies, Canadian Forces College, 2011), 55-71.

Chapter Five discussed other global logistics options such as commercial contracted cargo and passenger services. A major disadvantage with these is that the government does not have control over the company beyond the contract and cannot compel the contractor into harm's way. The consequence of contract non-compliance could be disastrous for the mission and the Canadian reputation as responsible stewards of peace and security. This chapter also described the specific characteristic of he region and the process by which OSH SE Asia and OSH NE Asia were selected. More importantly, elaborated a potential lack of coverage in the Far East OSH network. An amended OSH network construct to include overlapping coverage was recommended with OSH SE Asia in Darwin Australia, OSH NE in Korea, and a sub-network of agreements with Singapore, the Philippines and Japan for OSH Cadre status. These would be activated on a surge basis determined by exceptional need.

Although not addressed in this study, further research, possibly a joint endeavour, between experts in East Asian and Asia Pacific foreign relations and Canadian defence goals would yield a more wholesome analysis of strategies for leveraging influence in the Far East. This is consistent with the WoG approach to foreign policy and encourages interdepartmental cooperation for the benefit of Canada's strategic interests in the region and possibly a viable model for future collaborative efforts.

This shows that to achieve national foreign and defence policy objectives, Canada must not only possess the capability to project but also sustain strategic interests. Given the time, space, force constraints on delivering timely "influence," a robust global OSH network is critical. The current established OSH network has not been completed and there are significant lapses in

coverage, particularly in the Far East where Canada has increasing interests but currently no coverage. Establishing support networks in key locations around the globe facilitates both military and non-military Government of Canada sustainment requirements for current and future interests (i.e., diplomatic, economic, humanitarian assistance, and military intervention). A robust OSH network is the most effective and efficient means to deliver this.

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