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**ISSUES & RECOMMENDATIONS FOR INSTITUTING
CAPABILITY-BASED PLANNING IN THE CANADIAN FORCES**

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Abstract

In 2000, the Department of National Defence (DND) and the Canadian Forces CF) accepted Capability-Based Planning (CBP) as their force planning approach. CBP is a new approach that is still being developed by Canada and its principal allies in The Technical Cooperation Program (TTCP). It is argued that CBP cannot be completely institutionalized in the DND and CF until it has been fully implemented and operationalized. Full implementation will not be possible until a strong-matrix organization is in place, all Joint Capability Assessment Teams (JCATs) are established and have the same governance structure, robust cadres of permanent staff are assigned to the JCATs; and, cultural change that recognizes the pre-eminence of CF needs above functional and service needs has taken hold. CBP will not be fully operationalized until the inputs to the capability assessment process, and the process itself, are better developed. Specifically, Force Planning Scenarios and the Canadian Joint Task List should include performance metrics in their descriptions, and capability goals should be validated by modelling and simulation and as part of the capability development process. Furthermore, the assessment methods and tools developed by the Sustain JCAT should be adopted by all JCATs. Particularly, functional organizations, as well as all JCATs should develop functional task lists that are cross-referenced to the CJTL.

In Operation IRAQI FREEDOM, the Marines had a [Blue Force Tracking] system: turn it on, and all Marine ground units were shown. The Army and coalition forces had different systems, and, worse yet, the Army system did not show Marine or coalition elements…. Without joint guidance, the Army and the Marine Corps relied on Service-specific solution processes, and predictably fielded two systems that weren't interoperable.[1]

Chapter 1.   Introduction

The Department of National Defence (DND) and the Canadian Forces (CF) formally adopted capability-based planning (CBP) as a tool for force development in June 2000.[2] This decision was made after a decade of adjusting to changes that followed the end of the Cold War. During this period Canada, like many nations:

… began a type of demobilization, cutting defence spending in search of a 'peace dividend,' reducing force levels and capabilities… [yet] by 1993, the international security environment was devolving in a pandemonium of regional and intrastate conflicts without any apparent overarching strategic form – the 1990s had become the no-name era of international violence.[3]

While Canada's military forces and defence budgets were decreasing in size, the number and complexity of potential threats and force employment scenarios were increasing. The CF needed to meet these post-Cold War challenges while under fiscal constraints and possessing ageing Cold War-era equipment and doctrine. Realizing that fundamental change had to be made, the CF sought a force development strategy that would produce the most capable forces possible within its assigned resources.

Until the 1990s, Canada employed threat-based planning to address the contingency of launching military operations against Soviet-style forces using equipment

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[1] Major-General Ken Hunzeker, "Evolution of the JROC Warfighting Capability-Based Assessments," *Phalanx, The Bulletin of Military Operations Research* 37, no. 4 (2005), 8.

[2] Canada, Department of National Defence, *Capability Based Planning for the Department of National Defence and the Canadian Forces* (Ottawa: Vice Chief of Defence Staff, 2002), 2.

[3] Douglas L. Bland and Sean M. Maloney, *Campaigns for International Security* (Kingston: McGill-Queen's University Press, 2004, 106-107.

and doctrine that were well-studied by the CF. The emerging global security conditions of the 1990s, however, led DND to the following realization:

> At present, there is no identified major direct military threat to Canada, and none is foreseen in the near future. Instead there are a wide variety of threats and challenges to global and regional stability, and CF involvement in a significantly increased… number of smaller scale military operations [is expected.] The difficulties of planning for many small, but frequently different in detail, operations impose a high cost in uncertainty for planners.[4]

To solve this planning dilemma, and recognizing that it "must prepare for a wide variety of future contingencies, and do so with limited resources," DND sought a force planning approach that did not rely on identification of specific threats.[5] Planners explored various approaches with their counterparts from allied nations and selected capability-based planning as the best way to meet the challenge of planning for uncertainty.[6] With the formal acceptance of CBP at the turn of the millennium, the CF and its closest military allies began to introduce the new planning model into their force development processes.

The CBP process consists of identifying capability goals through strategic analysis, assessing current and future capabilities against these goals, and factoring in existing and planned capability development programs to achieve the optimal suite of military capabilities required by government policy. CBP is an approach that:

> … prepares defense [sic] organizations for the future, but not in terms of concrete weapons systems and/or specific manning levels. Instead… it identifies the tasks to be done and the generic capabilities needed to accomplish them.[7]

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[4] Canada, Department of National Defence, *Strategic Capability Planning for the Canadian Forces* (Ottawa: Vice Chief of the Defence Staff, 2000), 6.

[5] Canada, *Strategic Capability Planning…*, 27.

[6] The Technical Cooperation Program (TTCP), TR-JSA-TP3-2-2004 *Guide to Capability-Based Planning* (A Paper prepared for the MORS Workshop held in Alexandria, VA, USA, 19-21 October 2004), ii.

[7] Colonel Peter Faber, "NATO Long-Term Defense Planning: Implications for the Future" (Rome: A discussion paper prepared for NATO at the NATO Defense College, Rome, n.d.), 2.

When properly implemented, CBP identifies capability gaps that should receive priority attention in future planning cycles.[8]

The CBP process has two main customers: the decision-makers who comprise senior defence leadership, and the capability-developers who must "provide the best options to achieve capability goals and need to understand the synergies between their options and the rest of defence capability… a complex and subjective task."[9]

Institutionalizing CBP consists of two components: implementation, which is the responsibility of the decision-makers, and operationalization, which is the responsibility of the capability-developers. Institutionalization is achieved once these components have been developed sufficiently such that CBP is fully supported and fully functioning within DND.

Implementing CBP requires organizational change, appropriate resources and cultural change, as emphasized below:

> … the adoption of an overarching framework… that necessarily employs a more generic lexicon than… used in the past… require[s] all planners to, first, adopt a new framework and, second, adapt their previous practice to a common framework. While the changes are small in detail, the overall degree of change is sufficiently fundamental that it can be likened to a culture shift within DND. It is therefore not surprising that full adoption of capability-based planning will take time.[10]

These are the essential enabling conditions that the decision-makers must provide if the capability-developers are to operationalize CBP.

Operationalizing CBP means developing practical methods and approaches from theoretical concepts so that real people can achieve optimal results in the field. Capabilities must be developed in concert with each other and in recognition of the over-arching intent, which is to achieve the optimal suite of capabilities for the CF.[11] Synergies

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[8] Canada, *Capability Based Planning…*, 4.

[9] TTCP,…*Guide to Capability Based Planning*, 6.

[10] Canada, *Capability Based Planning…*, 37.

[11] TTCP,…Guide to Capability Based Planning, 6.

among capabilities can be discovered only if adequately resourced organizations are established to study and assess the capabilities. Thus, proper implementation of CBP is a pre-condition for its operational success.

In concert with organizational change and provision of adequate human and material resources, a key implementation requirement is cultural change. This is no small matter. Resistance to change has been a hallmark of the CF for decades, as noted by Douglas Bland and Sean Maloney, authors and defence policy analysts. Bland and Maloney note "the debilitating influences of organizational politics in defence planning…" and question whether "…planners would cast off their organizational biases and work toward the common good," given that "…planners, especially the military planners, owe allegiance to their primary organizations and… tend to emphasize their organization's interests within the so-called joint planning process."[12]

Nonetheless, cultural change has been decreed for the CF. At his appointment as Chief of Defence Staff on 04 February 2005, General Rick Hillier stated the intent to create a Canada Command for national defence in which there is "a role for the Air Force, Navy and Army, working as one team."[13] This will require the subordination of parochial service interests to a common vision of the CF's capability needs, a shift in CF culture, which General Hillier has initiated through the creation of special Chief of Defence Staff (CDS) Action Teams (CATs). These are assigned to work towards the transformation of the CF into integrated organizations under unified national command and control.[14] Operationalizing CBP within the CF implies adopting it in a way that best facilitates development of the CF as a whole; this would best support General Hillier's vision.

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[12] Douglas L. Bland and Sean M. Maloney, *Campaigns for International Security* (Kingston: McGill-Queen's University Press, 2004), 47.

[13] Kristina Davis, **"**New CDS sees CF as one effective force, " *Maple Leaf*, vol. 8, no. 6 (9 February 2005) [journal on-line]; available from http://www.forces.gc.ca/site/community/MapleLeaf/html_files/html_view_e.asp?page=vol8-06p1-3#e3; Internet; accessed 10 March 2005.

[14] Major Krista Simonds, telephone conversation with author, 19 April 2005.

Lingering cultural practices such as inter-service rivalry and intra-service parochialism may be addressed, in part, by organizational change. In order to implement CBP, the CF conceived a framework that identified five capability programs: "Command & Control; Conduct Operations; Sustain Forces; Generate Forces; and, Corporate Policy & Strategy."[15] To date, Joint Capability Assessment Teams (JCAT) have been established for only two of the five programs: Command & Control and Sustain Forces. Furthermore, each JCAT has approached CBP somewhat differently.

While operationalization of CBP is underway in the CF, it is still in a developmental stage. The Sustain JCAT has progressed furthest in developing methods for capability assessment, but work so far:

> … represents Version 1 of what is intended to be an ongoing Assessment and Performance Measurement process. This includes prototypical specific assumptions, terms and definitions, process inputs and outputs. It is intended that these continue to be refined in successive versions….[16]

Future progress by the Sustain Forces JCAT will be limited to the refinement of methods and techniques until the remainder of the JCATs are established, which will foster the synergistic development of capabilities for all the CF's needs.

Complete institutionalization of CBP cannot occur until the enabling conditions have been fully implemented, and the operational techniques developed and exercised within the context of the whole organization.

The steps taken to date to institutionalize CBP have been tentative, incomplete and developmental. The thesis of this paper is that further progress will be constrained until DND takes deliberate steps to implement CBP by making appropriate organizational and cultural changes. Furthermore, DND should build upon the significant progress towards operationalizing CBP made by the Sustain JCAT. Taking the Sustain JCAT as its

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[15] Canada, *Capability Based Planning…*, 4.

[16] Canada, Department of National Defence, "Sustain CJTL Assessment Framework: Overview and Analysis," (draft paper prepared by Directorate of Defence Analysis staff for the Director General Strategic Plans, 04 February 2005), 3.

model, this paper identifies issues and makes recommendations that could lead to institutionalization of CBP as the force planning method in the DND and CF.

This thesis is examined in Chapter 2 with a review of some of the literature that provides the foundation for Canada's adoption of the CBP process. This chapter also discusses a generic model of CBP that is recognized by Canada's principal allies.[17] Chapter 3 describes how the CF has adapted CBP for its own use, and how the CF itself is changing in order to use CBP. Chapter 4 provides an analysis of the steps taken to date and provides recommendations that could lead to the institutionalization of CBP. Chapter 5 summarizes the issues and recommendations and concludes that implementing organizational and cultural change, and adopting methods developed by the Sustain Forces JCAT, are the next major activities that the CF must undertake to achieve institutionalization of CBP.

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[17] Canada collaborates and shares military information with Australia, New Zealand, the United Kingdom and the United States. Available from "The Technical Cooperation Program homepage," http://www.dtic.mil/ttcp/; Internet; accessed 02 March 2005.

Chapter 2.   Background and a Capability-Based Planning Model

This chapter provides a synopsis of the literature associated with CBP and an overview of military force planning, the context in which CBP is employed. The chapter also presents an internationally recognized model of the CBP process.

The Canadian military participates in The Technical Cooperation Program (TTCP) which "… is an international organization that collaborates in defence scientific and technical information exchange; program harmonization and alignment; and shared research activities for the five nations (Australia, Canada, New Zealand, the United Kingdom, and the United States)."[18] In October 2004, TTCP members collaborated in the production of a report entitled *Guide to Capability-Based Planning*.[19] The TTCP's report was selected as the key source for the generic concepts described in this paper because it is a recent publication and involved Canadian participation. The report provides an overview of CBP, outlines generic processes, recommends approaches for implementing CBP, and identifies future issues. It does not describe how CBP should be operationalized; that is left to the planning staffs of individual member countries.

The DND and CF selected CBP as its force development process in *Strategic Capability Planning for the Canadian Forces*, published in June 2000.[20] This was followed in 2002 by publication of *Capability Based Planning for the Department of National Defence and the Canadian Forces*.[21] These two documents provide a framework for implementing CBP that resembles the model process, but with the Canadian perspective described in Chapter 3. The latter document "sketches out the elements that will assist in the development of a method of integrating planning, but does not detail a

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[18] The Technical Cooperation Program homepage, http://www.dtic.mil/ttcp/; Internet; accessed 02 March 2005.

[19] The Technical Cooperation Program, TR-JSA-TP3-2-2-4 *Guide to Capability-Based Planning*, A Paper prepared for the MORS Workshop held in Alexandria, VA, USA, 19-21 October 2004.

[20] Canada, Department of National Defence, *Strategic Capability Planning for the Canadian Forces,* (Ottawa: Vice Chief of the Defence Staff, 2000).

[21] Canada, *Capability Based Planning*….

complete methodology."[22] The newly formed Canadian boards and teams have had to explore methods and approaches, and determine their own procedures. This has been influenced by the backgrounds and experiences of the constituent members and has resulted in some variation in the application of CBP.

Other sources of information include terms of reference and records of discussion for various committees, and presentations made to some of these committees. For the most part, these are not available to the public. They are found on the Defence Wide Area Network (DWAN) and are indicated in the footnotes as "Intranet."

CBP is an approach that may be used for force planning, which is "the process of establishing military requirements based on an appraisal of the security needs of the nation, and selecting military forces to meet those requirements within fiscal limitations."[23] Force planning is also described as an art where the planners' challenge is "to blend [an] array of perspectives and approaches so as to devise the best strategies and capabilities to support a nation's security aims."[24] To accomplish their task, force planners have various approaches at their disposal. These are summarized in Table 2.1.

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[22] *Ibid*., 4.

[23] Richmond M. Lloyd, "Strategy and Force Planning Framework," in *Strategy and Force Planning*, ed. Strategy and Force Planning Faculty, US Naval War College, 3rd ed. (Newport RI: Naval War College Press, 2000), 4.

[24] Henry C. Bartlett, B. Paul Holman, Jr. and Timothy E. Somes, "The Art of Strategy and Force Planning," in *Strategy and Force Planning* (Newport RI: Naval War College Press, 2000), 19.

Table 2.1 - Summary of Alternative Approaches to Force Planning

Approaches	Drivers	Strengths	Pitfalls
Top-Down	Interests Objectives Strategies	Systematic focus on ends Integrates tools of power	Constraints considered later Possibly inflexible Lack of detail about executability
Bottom-Up	Existing capability	Practical current focus Emphasizes real world Improves existing forces	Present emphasized over future Neglects long-term creativity Neglects integrated global view
Scenario	Specific situations	Tangible focus Encourages priorities Dynamic – treats time well	World unpredictable May take on "a-life-of-its-own" Limited insights on longer timeline
Threat and Vulnerability	Risk Adversaries Own weak points	Focus on potential adversaries Both broad and specific focus Emphasizes force capabilities	Identification contentious Reactive Biased toward quantitative data
Core Competency, Capability and Mission	Functions	Prioritizes core capabilities Maximizes strengths Exploits weaknesses of others	May retain outdated capabilities May ignore higher-level goals Tends toward sub-optimization
Hedging	Minimize risk	Full spectrum of capability Confronts uncertain future Seeks balance and flexibility	Understates own strengths Exaggerates others' capabilities Very costly
Technology	Dominant systems	Stresses knowledge Encourages creativity Creates military leverage	Risks high cost for small gain May undervalue human factors May unbalance force structure
Fiscal	Budget	Defence linked to economy Requires priority setting Fosters fiscal discipline	May lead to under-funded needs Tends to create cyclic spending Leads to "fair sharing"

Source: Bartlett, Holman and Somes, "The Art of Strategy and Force Planning," 24-32.

Of the many possible approaches shown in Table 2.1, the authors observe that "all of the approaches will probably be used to arrive at, or review, decisions" and that it would be practical for force planners to "meld force planning approaches."[25] In practice, this is normally the case. For example, although it is stated that the CF typically used a threat-based planning approach through to the end of the Cold War, this approach was used in conjunction with other approaches listed in Table 2.1 including, bottom-up and fiscal, to name two. Thus, it would be more accurate to state that threat-based planning was the predominant approach used by the CF during the Cold War. Similarly, it is more accurate to state that DND has now accepted capability-based planning as the predominant approach for force planning, and that CBP will be used in conjunction with other approaches such as scenario, top-down and fiscal. Combining these approaches optimizes the strengths and minimizes the weaknesses of the contributing approaches in order to achieve the optimal force planning process.

CBP is a method of identifying the capabilities needed to achieve strategic force goals as determined by the range of contingencies anticipated by government, and achievable with the resources assigned by government.[26] It is described as "planning, under uncertainty, to provide capabilities suitable for a wide range of modern-day challenges and circumstances, while working within an economic framework."[27] It is also viewed as "an alternative to threat-based planning [that attempts] to break down traditional stovepipes and provide for transparency and coherence. CBP... makes planning more responsive to uncertainty, economic constraints and risk."[28] The US

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[25] Bartlett, Holman and Somes, "Strategic Thinking…," 33.

[26] TTCP,…Guide to Capability Based Planning, 3.

[27] Paul K. Davis, "Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis, and Transformation" (RAND National Defense Research Institute, 2001), 1.

[28] TTCP,…Guide to Capability Based Planning, 1.

Department of Defense states that CBP "focuses more on how adversaries may challenge us than on whom those adversaries might be or where we might face them."[29]

TTCP describes CBP as a "systematic approach to force development" that uses four major building blocks.[30] The first block provides government guidance and expectations so strategic capability objectives may be determined. These objectives "allow for a holistic assessment of defence capability… to meet the range of contingencies expected by government."[31] In effect, the first block establishes the need for military capabilities. The second building block is a concept of employment that describes how the forces will fight at the military strategic, operational and tactical levels. In order to examine and validate the concept of employment, plausible planning scenarios must be developed that reflect the types of tasks government may require. These planning scenarios may be representational or realistic. For example, the CF has developed eleven representational force planning scenarios (FPS) and a realistic Canadian Joint Task List (CJTL).[32] The third building block is a framework within which to analyze, develop and compare capabilities. This framework includes standard groupings of capabilities, known as capability partitions, which serve to break down the complex problem of capability assessment into more manageable domains. The DND model identifies eight capability partitions, which it refers to as capability areas. These areas are also the basis for DND's five functionally integrated capability-assessment teams.[33] The fourth building block represents the assigned resources within the limits of which capabilities must be realized.

The four building blocks describe what needs to be done, provide the framework within which to do it, and the resources with which to do it. It is the responsibility of the

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[29] United States, Department of Defense, "National Defense Strategy of The United States Of America: A Defense Strategy For The 21st Century," available from http://www.globalsecurity.org/military/library/policy/dod/nds-usa_mar2005_iic.htm; Internet; accessed 06 April 2005.

[30] TTCP,…Guide to Capability Based Planning, 2.

[31] *Ibid.*, 3.

[32] The force planning scenarios and Canadian Joint Task List are described in greater detail in Chap. 3.

[33] Canada, *Capability Based Planning*…, 4. The CF have identified five capability programs. These are discussed in Chap. 3.

decision-makers to provide the building blocks with which CBP is implemented. This paper refers to the analysis of capabilities, which is the internal process of CBP, as the capability assessment process. This is the domain of the capability-developers whose role is to assess capabilities, identify capability mismatches and develop capability options. CBP will be operationalized once the analysis methods are fully developed. All work is conducted within a framework based on capability partitions.

Capability partitions are intended to break down the complex problem of capability assessment into more manageable domains.[34] In effect, they replace traditional stovepipes with a structure that fosters integration across organizational stovepipes.[35] They may also help address the problem where "measures may have gone unfunded previously because they seem mundane or because they are cross-cutting items that do not compete well in any particular organizational stovepipe."[36] But, no one partition design will meet all needs and "it may be necessary to consider the trade-offs between applying one partition design across the entire organization and implementing different partition designs dependent on the needs of individual areas."[37] In the end however, each nation will choose the partition design that it deems best meets its needs.

Once the capability partitions have been established, the capability goals are derived by analyzing inputs from government, the future operating environment and the operating concepts. Setting capability goals "is the hardest part of the process and requires a combination of imagination and subject matter expertise. These goals may need to be developed across several time periods with the longer time periods being more difficult for goal setting."[38] In other words, in order to sustain a continual force planning process, goals should be set for the near-, medium- and long-terms, and they should be reviewed and re-set as often as appropriate. Capability goals are used to measure current and future capability or to test options for future capabilities. In order to simplify the

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[34] TTCP,…Guide to Capability Based Planning, 2.

[35] *Ibid.*, 7.

[36] Davis, *Analytic Architecture…*, 47.

[37] TTCP,…Guide to Capability Based Planning, 8.

[38] *Ibid.*, 9.

overall process, goals should be based upon success in the most stressing circumstances.[39]

Once the goals have been identified, planners can assess capabilities at any point in time. TTCP suggests that assessments take place "three or four times over approximately 15 years to strike the balance between excessive work and large gaps in the assessment."[40] These assessments "consider all of the Inputs to Capability and must allow for a whole of force picture to be developed."[41] They result in identification of capability mismatches, which are the differences between current or planned capabilities and capability goals. For example, if a military force currently lacks Capability X and requires it to meet a goal, there is a mismatch if there is no plan in place to acquire Capability X; therefore, an investment is required. If a plan is already in place, however, there is no mismatch. Capability mismatches, then, represent shortfalls against which resources must be invested if the goals are to be realized. However, they can also identify economical opportunities to divest unnecessary capabilities or excess capacity.

Up to this point, capability goal setting and analysis should be generic and impartial in order not to introduce solutions too early in the process. The development of capability options, however, "requires the input of subject matter experts and skilled staff."[42] Typically, these staffs are found within functional organizations and may have biases and parochial interests to defend, as pointed out by Bland and Maloney.[43] Potential problems could include mutual support pacts with other participants in the process in order to promote each other's solutions, or refusal to support options that don't share the spoils. Similar problems could also appear at the decision-maker level where the emphasis is on "jointness" and finding "joint" solutions.[44] Consider the case in which the best option for the CF is rejected, despite being a superior option, because it is not joint.

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[39] *Ibid.*, 10.

[40] TTCP,…Guide to Capability Based Planning, 11.

[41] *Ibid.*, 12.

[42] *Ibid*.

[43] Bland and Maloney, *Campaigns…*, 47.

If the CF is to be "pure" in its application of the CBP process, then the ultimate choice should be the one that is best for CF as a whole. The application of the CBP process, and the actions by the participants in the process, should promote institutional CF interests over functional or service interests.

One of the most difficult aspects of option development is determining the resource costs (personnel, fiscal or other necessary resource inputs) for each option, especially for long-term planning horizons or new capabilities.[45] Because force development has fiscal limits, however, this action is necessary to compare and evaluate options. Balance of Investment (BOI) is the step in the process in which "decision-makers confront the issue of allocating a limited budget to the proposed capability option plan to achieve the capability goals."[46] The outcome of the BOI process is "a framework for investment… [that] serves as the basis upon which defence develops its strategic investment or capability development plan."[47] For DND, the *Strategic Capability Investment Plan* serves as its capability development plan.[48]

In summary, the CBP process is an approach to force development that Canada and its principal allies deem most appropriate in the present security environment. It has four basic building blocks and a capability assessment process. The CBP process caters to two main customers: the decision-makers, who set the capability goals after studying the government's intent, the security environment and the operating concept; and, the capability-developers who conduct capability assessments, identify mismatches and produce capability development options for consideration by decision-makers. The output of the CBP process is a capability development plan that indicates the investments that should be made to develop the necessary military capabilities. Ultimately, CBP's purpose is to identify the best suite of capabilities for military forces operating in an uncertain planning environment.

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[44] The term "joint" refers to cooperation among two or more services, such as Navy, Army and Air Force.

[45] TTCP,…Guide to Capability Based Planning, 12.

[46] *Ibid.*, 11.

[47] *Ibid.*, 13.

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[48] The *Strategic Capability Investment Plan* is available on the Internet at
http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/ddm/scip/scipc01_e.asp.

Chapter 3.   Capability-Based Planning in the Department of National Defence and the Canadian Forces

This chapter describes the steps that DND has undertaken to adopt CBP as their overarching force development approach. The chapter begins by describing what senior leaders hoped to achieve by adopting CBP, then it shows how CBP is situated within the Defence Planning & Management (DP&M) framework. It presents the steps taken to implement the CBP process and those taken to operationalize it. Finally, the Canadian approach to CBP is described by considering inputs to the process, the capability assessment process, and outputs from the process. Throughout this description, issues are identified for further consideration.

DND established CBP as its primary force development process for strategic-level planning in 2000. Although the explicit goal of adopting CBP was to ensure the continued combat effectiveness of the CF into the future, there were also several implicit goals.[49] Among these was the desire to break down the traditional functional "stovepipes" that predominated during the threat-based-planning era of the Cold War, and another was to provide a common methodology and lexicon so defence planners from disparate backgrounds could discuss and compare elements of capability.[50] DND has not been wholly successful in achieving either of these goals, which will be discussed. It is acknowledged, however, that DND is still adapting itself and the CBP process, to best fulfil its planning needs. Full institutionalization of CBP will take time.[51]

The CBP process is nested in the DP&M framework, which is shown in Figure 3.1.

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[49] Canada, *Capability Based Planning…*, 3.
[50] Traditional functional "stovepipes" refers primarily to the Navy, Army and Air Force.
[51] Canada, *Capability Based Planning…*, 37.

Government of Canada Policies & Directives

Strategic Visioning

Performance

Capability

- Horizon 1 - a short-term view of 1 to 4 years, focusing on maintaining and enhancing current capabilities;
- Horizon 2 - a medium-term view of 5 to 10 years, focusing on replacing or enhancing current capabilities; and,
- Horizon 3 - a long-term view of 10 to 30 years, dependent on the nature of capability and the degree of technological change involved.[53]

Direction for DP&M commences with Strategic Visioning, which is conducted by senior leaders in DND and deals with fundamental changes required for Horizon Three. This provides the context and inputs for CBP. The challenge for CBP, which focuses mainly on Horizon Two, is to introduce effective ways of transitioning DND to Horizon Three objectives. For its part, CBP provides inputs for Resource Prioritization. Business Planning is conducted by function and is used to confirm how the "Level Ones"[54] plan to achieve their own objectives and coordinate work on shared objectives.[55] Level Ones are participants in the strategic visioning process and also provide representatives to the CBP process. This serves two purposes: first, it provides subject-matter-expert and stakeholder input to the CBP process; second, it keeps the Level One informed, which helps in the preparation of business plans.

The CF's CBP model, shown in Figure 3.2, contains TTCP's building blocks and capability assessment process, which have been adapted for Canadian use. Activities are grouped by planning horizon, which provides force planners with a logical framework that is aligned with the DP&M framework. The model shows that CBP spans across the three planning horizons with the capability assessment process centred on Horizon Two.

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[52] Canada, Department of National Defence, "Defence Planning & Management," Internet: http://www.vcds.forces.gc.ca/dgsp/intro_e.asp; accessed: 22 March 2005.

[53] *Ibid.*

[54] The senior leadership in the Department of National Defence (DND) are referred to as the "Level Ones." They are the heads of functional divisions, which, in this paper, includes the three environmental services. They include the DCDS, the Chiefs of the Environmental Commands (Navy, Army and Air Force), and the various Associate Deputy Ministers (ADM). See Appendix 1 for details.

[55] Canada, Department of National Defence, "Management Principles & Business Model," http://www.vcds.forces.gc.ca/dgsp/pubs/dp_m/management_e.asp; Internet; accessed 22 Mar 05.
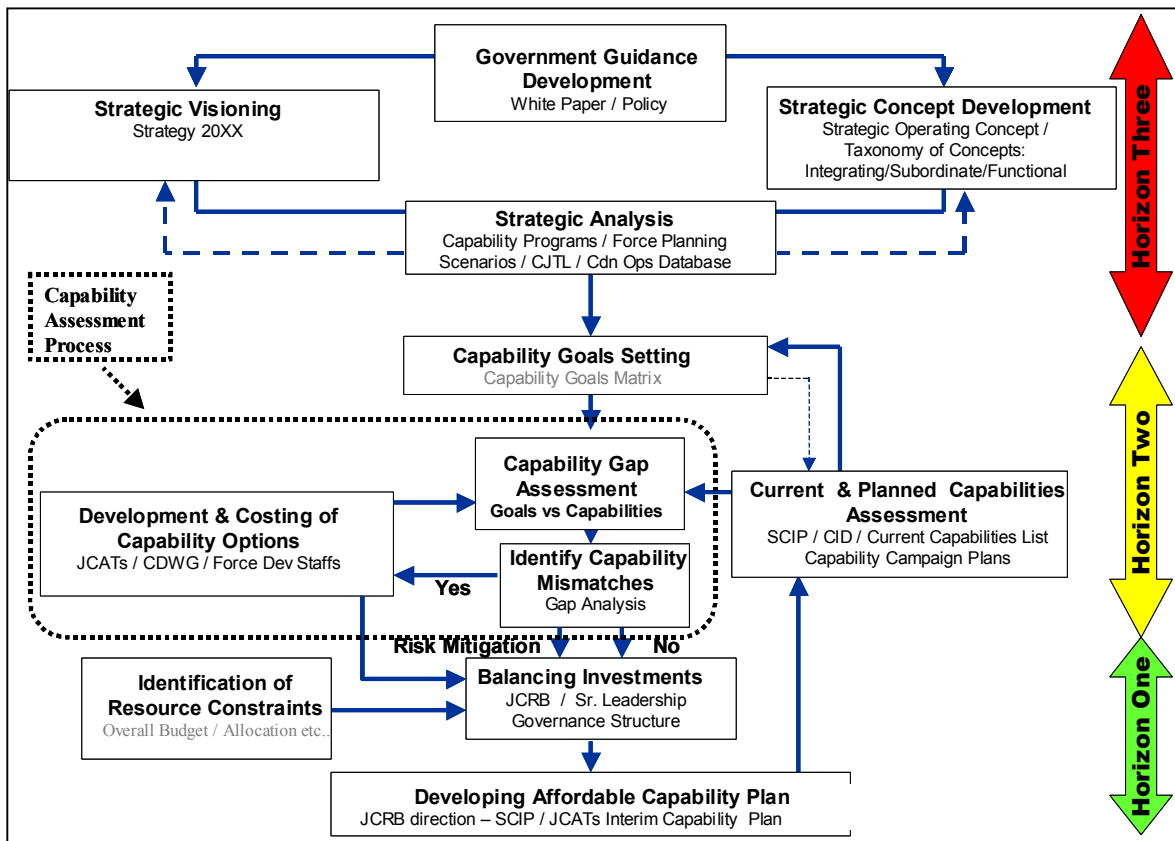
Figure 3.2: CF Capability Development Process

Source: Canada, Department of National Defence, "Capability Based Planning Tools: Supporting the New Canadian Forces Vision" (presentation to the VCDS by DDA 3-3, 13 April 2005), Adapted from Slide 5.

The CF's CBP model recognizes that CBP is an iterative process as indicated by the feedback loops that are built in to it. This facilitates spiral development, an important approach recognized by participants in the process.[56] Here, spiral development refers to the concept that each iteration improves upon the preceding iteration.

Capability assessment cannot begin without first establishing capability goals. Goals are set by the decision-makers upon completion of strategic analysis. Table 3.1 shows how the CF translates policy into goals.

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[56] Canada, "Sustain CJTL Assessment Framework: Overview and Analysis," 3.

Table 3.1 – Translating Policy into Goals

• White Paper	➢ Defines Government Expectations
• Strategy 2020	➢ Articulates DND/CF vision and identifies 'Strategic Thrusts'
• CF Concept of Employment	➢ Describes 'How' the capability will be delivered
• Force Planning Scenarios	➢ Illustrate 'Where & When' the Concept of Employment will be applied
• Capability Goals Matrix/CJTL	➢ Identifies relative levels of capability necessary to accomplish the Defence Mission – the 'What'

Source: Canada, *Capability-Based Planning…*, 12.

The 1994 White Paper and Strategy 2020 are the current reference documents that provide strategic direction to the DND and CF.[57] The Concept of Employment describes how the senior leadership envisions the military capability will be delivered.[58] These documents are updated from time to time, and are used to derive the key inputs to the CBP process.

The DND and CF have identified eleven Force Planning Scenarios (FPS) "to better analyse future requirements and thus assist in the development of an appropriate force structure."[59] These scenarios are intended to:

> … provide the context in which CF capability requirements and force
> structure options will be assessed. They span the spectrum of conflict…
> and describe operations representative of those anticipated by the CF. The

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[57] These documents may be viewed at http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/intro_e.asp#S.

[58] Canada, Department of National Defence, "Defence Planning Guidance 2001," http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dfppc/dpg/dpg2001/chap2_e.asp#210; Internet; accessed 22 Mar 05.

[59] Canada, Department of National Defence, "Descriptions - Departmental Force Planning Scenarios (FPS)," http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/scen/intro_e.asp; Internet; accessed 22 Mar 05. See Appendix 2 for details.

scenarios will evolve as required to ensure they continue to reflect the strategic environment and Canada's defence perspectives.[60]

The FPS range from non-combat operations that could take place during times of peace or conflict, to combat operations that could take place in times of conflict or war. They encompass both domestic and international operations. The current set of FPS "provide a *representative* set of the situations in which the CF anticipates conducting operations."[61] The decision to provide a representative rather than a detailed set of FPS was a deliberate choice because it was thought that a more comprehensive list would increase complexity and could "exacerbate the tendency toward more certainty in planning than knowledge allows."[62] During the capability assessment phase of the process, however, it was discovered that the FPS were too general in nature and left many considerations open to various interpretations by the participants in the process. Recognizing this, Directorate of Defence Analysis (DDA) facilitators assisting at a decision-support system (DSS) workshop that took place in December 2004, were compelled to provide specific scenarios in order to ensure that participants were working from similar perspectives as they made their individual assessments.[63]

The CF has used the current set of 11 FPS since the late 1990s but is now considering changes in order to incorporate new possible employment scenarios in the post-11 September 2001 era.[64] In fact, as this paper is being written, a special Chief of Defence Staff (CDS) Action Team (CAT) has been assembled by the new CDS, General Hillier, to study the CF's capability needs.[65] This has led to a suspension of some capability-development work pending the outcome of the CAT's work, which is due by June 2005. In addition, given that Canada published its new International Policy Statement and released a Defence Policy Statement on 19 April 2005, the new FPS will

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[60] Canada, "Defence Planning Guidance 2001," art. 210 par. 5.

[61] Canada, "Capability Based Planning…," 29. Original text included emphasis.

[62] *Ibid*.

[63] Canada, "Sustain CJTL Assessment Framework: Overview and Analysis," 16.

[64] Canada, Department of National Defence, Joint Capability Review Board, "Record of Decision/Discussion" (18 August 2004), 4-5.

[65] Major Krista Simonds, telephone conversation with author, 19 April 2005.

likely have to incorporate new strategic direction for international and domestic operations.[66] All told, this will likely drive the need for a renewed set of capability goals and new suite of capabilities.

In TTCP's model, capabilities are grouped into manageable domains known as capability partitions. In its CBP model, DND identified eight capability areas that were used as the basis for structuring the Canadian Joint Task List (CJTL). While the FPS describe the types of operations that the CF, using the Concept of Employment, might be required to undertake, the CJTL "details the hundreds of different tasks from which Canadian defence planners identify those specific tasks that the CF will actually undertake to accomplish the Defence Mission set by the Government."[67] The CJTL "establishes a framework for describing, and relating, the myriad types of capabilities that may be required, to greater or lesser degrees, by DND/CF. [It provides] a common lexicon for CF/DND force development within the context of force planning scenarios."[68] The CJTL may be represented graphically as a hierarchical chart that has eight vertical divisions - the capability areas - and three horizontal levels representing strategic-, operational- and tactical-level tasks, resulting in 24 tasks. Table 3.2 illustrates this framework, with the tasks represented by the shaded boxes.

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[66] The International Policy Review and Defence Policy Statement are available from http://www.forces.gc.ca/site/reports/dps/index_e.asp; Internet; accessed 20 April 2005.

[67] Canada, *Capability Based Planning…*, 19.

[68] Canada, Department of Defence, "Canadian Joint Task List v1.4," http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/cjtl/cjtl14/intro_e.asp; Internet; accessed 29 March 2005.

Table 3.2: Canadian Joint Task List – Capability Areas and Levels

Level	Command & Control		Operations			Sustain	Generate	Corporate Strategy
	Command	Info/Intel	Conduct	Mobility	Protect			
Military Strategy	S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8
Operational	Op 1	Op 2	Op 3	Op 4	Op 5	Op 6	Op 7	Op 8
Tactical	T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8

Source. Canada, Department of National Defence, "Canadian Joint Task List v1.4," http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/cjtl/cjtl14/intro_e.asp; Internet; accessed 29 March 2005. This table was modified to represent the CJTL vice the Capability Goals Matrix shown in the source.

There are approximately 450 tasks, sub-tasks, and sub-sub-tasks in the CJTL, referred to generically as Canadian Joint Tasks (CJTs).[69] Hence, the 24-box table in Table 3.2 summarizes the CJTL as described below:

> The joint tasks within each level are further broken down into two additional layers of sub-tasks. Each layer of sub-tasks becomes more detailed and specific. This three-tier blueprint, and associated sub-levels, is needed to capture the complex, multi-dimensional, multi-level nature of military activity.[70]

An example of this hierarchy, using Task Op 4, Operational Mobility, is shown in Appendix 3. Given that the FPS are likely to change in the near future, it is also likely that a review of the CJTL will be required to ensure that all possible tasks that might be needed to accomplish the new FPS are identified.

The CJTL is part of the foundation upon which capability goals are developed. As such, the representation of the CJTL shown in Table 3.2 may also be used to illustrate

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[69] Canada, *Capability Based Planning...*, 20.

[70] Canada, "Canadian Joint Task List v1.4". The CJTL was derived from the U.K.'s Joint Essential Task List (JETL) in the late 1990s. The JETL itself was derived from the U.S.'s Joint Mission Essential Task List (JMETL), which was developed in the early to mid 1990s. See: Canada, *Strategic Capability Planning…*, 22, for more information.

capability goals as was done in *Strategic Capability Planning for the Canadian Forces*, published in June 2000.[71] Goals were determined through a subjective process in which senior leaders exercised their judgement and made use of the operational research tools, FIDO and SOCRAM.[72] They identified whether each task had high (H), medium (M) or low (L) relative importance for the CF in the context of the FPS.[73] Thus, each task box was inscribed with an H, M or L. Each task box was also colour-coded: green if it was assessed that the capabilities satisfied the stated goals, yellow if there was a shortfall, and red if there was a serious shortfall. In theory, resources would be assigned to the red- and yellow-marked tasks in order that they might be improved to meet their respective goals. In 2002, it was formally recognized that there were "significant differences anticipated in the character of CF [domestic and international] operations at the operational level."[74] This was resolved by dividing the operational level into Operational (Domestic) and Operational (International), which resulted in the 32-box Capability Goals Matrix that is now in common use.[75]

Capability goals are "…derived from the 1994 Defence White Paper and Strategy 2020 policy objectives."[76] These are presented in *Capability Outlook 2002-2012*, a "key strategic level defence-planning document in the overall defence management system" that "examines projected capability gaps and strategic trends, by capability area, and identifies priorities to harmonize strategic planning and future force development over

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[71] Canada, *Strategic Capability Planning*….

[72] *Ibid.*, 24-26. FIDO refers to Fundamental Investigation of Defence Options and SOCRAM refers to Scenario Operational Capability and Risk Assessment Model.

[73] Canada, *Capability Based Planning*…, 22. Pages 21-22 of this reference explain that an "… area where DND and the CF seeks [sic] a High degree of capability is one where DND and the CF must be capable of exerting an effective, unilateral defence ability in the majority of the applicable CJTL sub-tasks associated with that capability area…. Medium Level… the CF will not be required to operate entirely on its own…. Low… the CF seeks a minimum level of capability in this area."

[74] *Ibid.*, 22.

[75] *Ibid.* See Table 4.1 "Capability 'Goals' of the CF."

[76] Canada, *Capability Outlook 2002-2012*, 2, 5.

the mid term."[77] This document, then, presents the capability goals used as inputs for the CBP process.[78]

In order to provide a standard way of analyzing capabilities, it was determined that all capabilities be described as the product of six functional components known collectively by the acronym "PRICIE."[79] "The PRICIE components are the 'building blocks' of a Capability. If there are deficiencies within a Capability they will manifest themselves in the PRICIE components."[80] Briefly, PRICIE represents Personnel; Research and development, and operational research; Infrastructure and organization; Concepts, doctrine and collective training; Information technology infrastructure; and Equipment, supplies and services.[81] Broadly, the green-yellow-red status of a capability area may be estimated at any designated point in time by analyzing its constituent PRICIE components. If, for example, it is judged there will be sufficient personnel resources available to meet a capability goal, then the P-component of the capability area is assessed as green. If it is judged that the remaining PRICIE-components will have some shortfalls, and each is assessed as yellow, then the overall capability area would be assessed as yellow, representing a summation of all the PRICIE-component contributions. This method provides a simple visual representation of a macro-assessment of current and projected organizational performance and, in 2000, it was sufficient to initiate CBP and enable subordinate staffs to begin their work.[82] This work, which includes a more rigourous capability assessment process using the PRICIE construct,

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[77] *Ibid.*, 2.

[78] "The original Capability Goals and Capability Outlook 2012 was first developed by subject matter experts during the autumn of 1999 and was subsequently endorsed by the JCRB (Chaired by the DM and the CDS) in March 2000. The Capability Goals and Capability Outlook 2012 were subsequently refined following a CDS Issues Seminar in November 2000, which included input from CF General and Flag Officers." Canada, "Sustain CJTL Assessment Framework: Overview and Analysis," 6.

[79] Canada, *Capability Based Planning…*, 24.

[80] Canada, "Sustain CJTL Assessment Framework: Overview and Analysis," 9.

[81] Detailed descriptions of each of the six functional components of capability, known collectively as PRICIE, may be found in: Canada, *Capability Based Planning…*, 24-27.
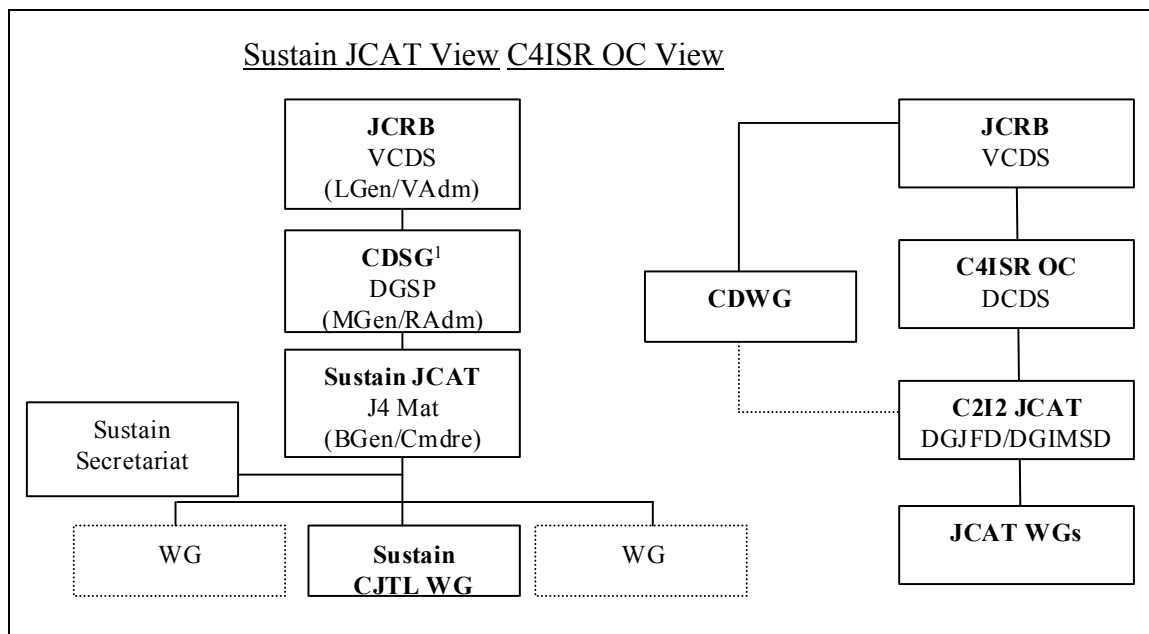
[82] Canada, *Strategic Capability Planning…*, 24.

takes place within various boards, groups and teams that make up the CBP governance framework.

One of the first major steps in implementing CBP was to create a hierarchical cross-functional governance structure based on grouping the eight capability areas into five capability programs: "Command & Control; Conduct Operations; Sustain Forces; Generate Forces; and Corporate Policy & Strategy," which are indicated across the top row of Table 3.2.[83] In addition to engaging participants from the functional organizations, technical advice and support regarding the CBP process are provided at all levels by the Director General Strategic Plans (DGSP) and his staff, particularly the Directorate of Defence Analysis (DDA). Finally, Directorate of Operational Research (DOR) staff provide operational research tools.

To date, assessment teams have been established for only two of the five capability programs: Command and Control, and Sustain Forces. One can infer from this that force development practices within the three other areas of responsibility are still being conducted, to some extent, in a bottom-up service-based system. In the absence of established JCATs, it is up to individuals leading projects in these other three capability areas to incorporate integrating concepts of the CBP process to the extent they are able. Clearly, the lack of an established JCAT would be an impediment to integration for such projects, but it also impedes the ability of the two existing JCATs to integrate their work with projects in other areas. Compounding the problems inherent in this currently incomplete structure, is the issue that the two established JCATs have differing views of the CBP governance structure, as is shown in their respective terms of reference. The differences are shown in Figure 3.3.

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[83] Canada, *Capability Based Planning…*, 20.

Sustain JCAT View <u>C4ISR OC View</u>

| JCRB VCDS (LGen/VAdm) |
| CDSG[1] DGSP (MGen/RAdm) |
| Sustain JCAT J4 Mat (BGen/Cmdre) |

Sustain Secretariat

CDWG

| JCRB VCDS |
| C4ISR OC DCDS |
| C2I2 JCAT DGJFD/DGIMSD |
| JCAT WGs |

WG | Sustain CJTL WG | WG

Notes
1. While the Sustain Forces JCAT terms of reference shows the Capability Development Steering Group (CDSG) in its governance structure, it acknowledges that the actual organization is known as the Capability Development Working Group (CDWG).
2. See Abbreviations glossary for an explanation of the acronyms.

Figure 3.3: Two Views of the CF Governance Framework for CBP

Sources: Canada, Department of National Defence, "C4 ISR OC Terms of Reference," http://dcds.mil.ca/dgjfd/djfc/C4ISR/pages/viewHTML_e.asp?islandid=16; Intranet; accessed 30 March 2005 and Canada, Department of National Defence, "Sustain Forces JCAT Terms of Reference," http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

Although there are differences in the governance frameworks shown in Figure 3.3, both share a common view of senior-level oversight, beginning with the Joint Capability Review Board (JCRB), which reports to the Defence Management Committee (DMC).[84] The JCRB is chaired by the Vice Chief of Defence Staff (VCDS) and its core members are DND's Level Ones. The JCRB's mandate is:

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[84] Further information on the DMC may be found at http://www.vcds.forces.gc.ca/dgsp/pubs/commit/dmc_e.asp.

> … to review proposals, challenge the issues and provide direction for the
> development of… Future Capability Plans. For strategic projects, the
> JCRB routinely develops a joint understanding of Concepts of
> Employment/Operations, debates and reaches consensus….[85]

The second level of governance under the JCRB is the Capability Development Working Group (CDWG). The CDWG's mandate is "to co-ordinate DND/CF capability-based planning and review force development initiatives with a view to ensuring their alignment and coherence."[86] In practice, the CDWG reviews documentation destined for the JCRB. Below the CDWG, the CBP governance framework is not uniformly structured, and since only two of the five capability programs are being addressed by the CBP process at present, the framework is incomplete.

As explained, assessment teams have been established only for the Sustain Forces and Command and Control Capability Programs. The latter program is supervised by the C4ISR Oversight Committee.[87] This was the first capability program to be established and its purpose is:

> … to provide the essential degree of strategic perspective and leadership
> on all C4ISR related matters. It will oversee and direct the Command and
> Control Capability Plan, and provide direction and guidance to the
> Command and Control and Information and Intelligence Joint Capabilities
> Assessment team (C2I2 JCAT). The committee will concern itself with all
> aspects of strategic, operational and tactical level C4ISR force
> development.[88]

The C2I2 JCAT, for its part, is concerned with:

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[85] Canada, Department of National Defence, "Terms of Reference Joint Capability Requirement Board (JCRB)," http://www.vcds.forces.gc.ca/dgsp/pubs/commit/jcrb_e.asp; Internet; accessed 30 March 2005.

[86] Canada, Department of Defence, "Terms of Reference Capability Development Working Group (CD WG)," http://www.vcds.forces.gc.ca/dgsp/pubs/commit/cdwg_e.asp; Internet; accessed 21 March 2005.

[87] C4ISR refers to Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance.

[88] Canada, Department of National Defence, "Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance Oversight Committee (C4ISR OC) Terms of Reference," http://dcds.mil.ca/dgjfd/djfc/docs/djfc3/C4ISR/C4ISR-TOR.doc; Intranet; accessed 30 March 2005.

> … the coordination and integration of force capabilities that support and enable Joint C2I2 functions of the CF at all levels from the tactical through the operational to the strategic. Its point of view will be how to best achieve the C2I2 capability goals - to optimize the development of CF capability in the C2I2 program.[89]

The present work being undertaken by the C2I2 JCAT is focussed on specific projects currently underway: concept development tasks in support of an Operations Web; and, improving the integration of the Recognized Maritime Picture in the CF Common Operating Picture.[90]

In contrast with the approach taken in the Command and Control Capability Program, the purpose of the Sustain JCAT is very similar to that of the C4ISR Oversight Committee. Its purpose is "… to provide the essential degree of strategic perspective and leadership on all sustainment capability related matters… [and] concern itself with all aspects of strategic, operational and tactical level sustainment force development."[91] Based on the author's personal experience, the Sustain JCAT also assumes other responsibilities similar to those of the C2I2 JCAT; thus, in some ways, the Sustain JCAT covers responsibilities similar to those of the C4ISR OC and C2IC JCAT combined.[92] These responsibilities include capability analysis and assessment, and the identification of capability options.

Given that one of the implicit goals of implementing CBP was to establish a common methodology throughout the CF, one might have expected to see parallelism in the governance structure and terms of reference of the two capability programs discussed here, but it has been shown that this is currently not the case. Furthermore, JCATs have yet to be created for the other capability areas. This uncoordinated and incomplete

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[89] Canada, "Command, Control, Communications… Terms of Reference." Available from http://dcds.mil.ca/dgjfd/djfc/C4ISR/pages/viewHTML_e.asp?islandid=16; Intranet; accessed 30 March 2005.

[90] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 31 August 2004. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

[91] Canada, Department of Defence, "Sustain JCAT Terms of Reference," http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

governance structure impedes horizontal integration across the capability areas limiting, thereby, the ability for capability-developers to generate holistic capability options. In other words, the lack of full implementation limits operationalization.

JCATs were granted the option of creating subordinate working groups to address specific work. For its part, the Sustain JCAT created two subordinate working groups. One of these is the Sustain Information Management (IM) Working Group that serves to:

> … provide Subject Matter Expert (SME) advice concerning IM and how it will impact the DND/CF Sustain capability. This will involve advising on IM capability shortfalls and recommended priorities to support Assessment and Campaign Planning activities.[93]

The other working group created by the Sustain JCAT is the CJTL Working Group (CJTL WG) which is intended to develop "… the means for quantitative assessment of Sustain capabilities and gaps. The assessment will provide the foundation for all Sustain Capability Based Planning activities."[94] In fact, at this time only the Sustain JCAT is developing quantitative methods for future assessments as the C4ISR OC and C2I2 JCAT are focused on integrating current projects and initiatives. The work being done by the Sustain CJTL Working Group is regarded with interest by the C2I2 JCAT and has also been briefed to TTCP members by Canadian analysts.[95] Since the Sustain JCAT is leading the CF in CBP process development, the next section of this paper will describe the assessment process, identified earlier in Figure 3.2, and which is being concurrently used and developed by the Sustain JCAT and CJTL Working Group.

The internal process consists of the three basic activities shown in Figure 3.2: capability assessment; identification of capability mismatches; and, identification of force development options. The Sustain Forces JCAT is mid-way through this process and its "focus… in coming months will be to prioritize the gaps which have been identified,

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[92] From July 2003 to June 2004, the author was an active member of the Sustain CJTL Working Group.

[93] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 21 June 2004. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

[94] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 31 August 2004.

[95] Mr. Leonard Kerzner, telephone conversation with author, 14 April 2005.

develop options and prioritize those options."[96] The Sustain Forces JCAT has completed its work on Capability Assessment, as shown in Figure 3.4. It has developed assessment techniques that will be important for Operationalizing CBP and should be adopted by other JCATs in due course.
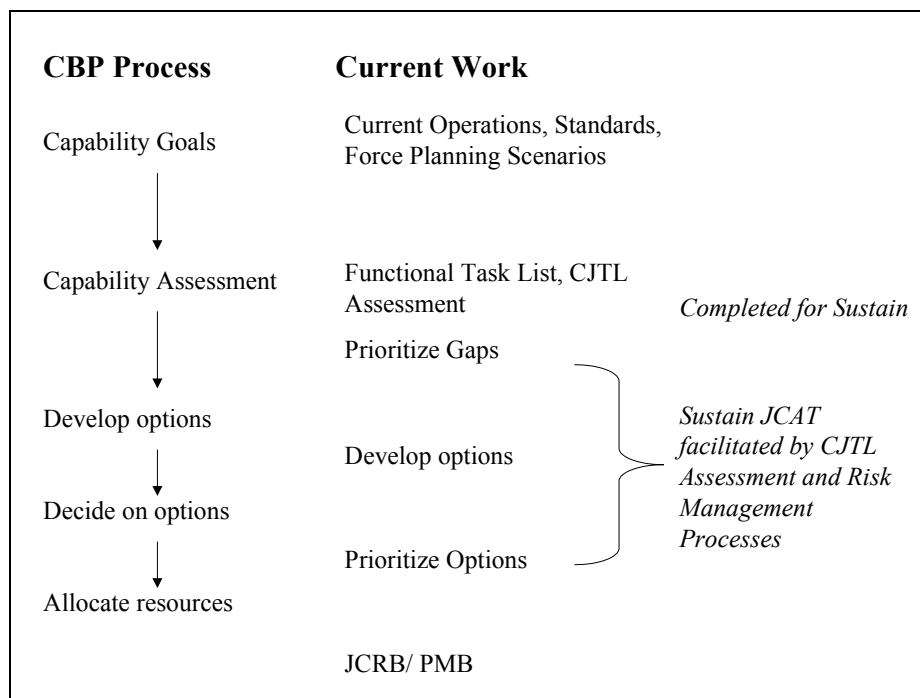
Figure 3.4: CBP: Theory versus Practice for Sustain JCAT

Source: Sustain Forces JCAT Homepage, Briefing made to Sustain Forces JCAT, 08 March 2005. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

The CJTL WG developed the CJTL Assessment Framework to assist the Sustain Forces JCAT in the CBP process. It is conducted as "… a collective effort that encourages stakeholder input and comment throughout [and it] allows for a high degree of joint and cross functional collaboration for the development of the process, the input of data, and the actual assessment."[97] It began by first identifying all Canadian Joint Tasks

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[96] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 08 March 2005. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

[97] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 31 August 2004.

(CJTs) that are contained in the Sustain Capability Area of the CJTL.[98] Next, it created Functional Task Lists (FTL).

The Sustain FTL is a compilation of all the functional tasks (FTs) that are required to accomplish the Sustain CJTs. "Functional Tasks are those tasks necessary to achieve a particular CJT from a functional or force generator perspective."[99] While a CJT typically has numerous FTs associated with it, it is also the case that some FTs contribute to more than one CJT. To explore this, the CJTL WG undertook a mapping exercise in which all Sustain FTs were cross-referenced to supported Sustain CJTs. In this way, the contribution made by each functional organization to the Sustain Capability Area was made clear. An example of this is shown in Appendix 3.

Overall, capability assessment is a highly complex undertaking, especially when considering the numerical quantity of variables. In all, more than 40 participants in the Sustain JCAT are dealing with 83 Sustain CJTs, 228 FTs and six PRICIE components.[100] Furthermore, the composite FTL was built through separate DDA staff interviews with each of the 22 functional participants in the CJTL WG.[101] In the end, the CJTL WG's mapping exercise revealed a very complex system of interconnected and inter-related tasks. Another variable complicating the process is the level of commitment and participation by the various participants in the process.

Most participants in the Sustain Forces JCAT and CJTL WG contribute to the CBP process on a part-time basis – their primary responsibilities are to their parent functional organizations. This is reflected in this concern raised following the December 2004 DSS workshop:

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[98] Canada, "Canadian Joint Task List v1.4."

[99] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 31 August 2004. "Functional" and "Force Generator" refer to the stakeholder organizations that participate in the Sustain JCAT. The latter term means the Navy, Army and Air Force while the former term refers to the remainder of the Level One organizations in the DND and CF. See Sustain JCAT Terms of Reference for additional information about JCAT membership.

[100] Mr. Leonard Kerzner, Directorate of Defence Analysis 3, telephone conversation with author, 14 April 2005.

[101] *Ibid*.

> …there still did not seem to be tangible commitment by Senior Leadership to the Capability Based Planning Process and the work of the JCATs in particular. As such, there continues to be reluctance to devote resources to this work given the realities of competing priorities and concerns that the work may not be deemed of relevance by their respective [Level Ones].[102]

This is not to suggest that individuals are not personally dedicated to making the CBP process work, but there may be some doubt whether participants were able to devote sufficient time and effort to the process, and whether the amount of time and effort given was uniform across all participants. There may also be some question whether they shared a common understanding of the process itself, or a similar appreciation of its constituent parts; such as, the FPS, capability goals, or the meaning of joint, strategic, operational or tactical military concepts.[103] Noting that the FPS are representational for example, one could surmise that each scenario is liable to be interpreted differently by each participant. Furthermore, participants have personal biases and experiences that could also lead to variance in the way they participate in the assessment process. Regardless, it was evident that it would be beneficial to develop and use a decision-support tool to assist in addressing some of the many degrees of complexity inherent in the capability assessment process.

DDA staff developed the Task Roll-Up and Capability Evaluator (TRACE) software "as the main tool to conduct the Sustain CJTL Assessment. It includes a capability to compile and analyze stakeholder input and to complete assessments in both an automated and manual mode."[104] The stakeholder input to TRACE was undertaken by asking representatives of functional organizations to study the Sustain CJTs, identify the contributing FTs within their area of responsibility, then assess each PRICIE component of each FT. Next, the status of each CJT's PRICIE components was determined by "rolling-up" the FTs' PRICIE-component assessments into the CJT. The rule for setting the assessed level of deficiency was "… if the majority of the colour ratings in a PRICIE

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[102] Canada, Department of National Defence, "Capability Based Planning Tools: Supporting the New Canadian Forces Vision" (presentation to the VCDS by DDA 3-3, 13 April 2005), notes to slide 26.

[103] Canada, "Sustain CJTL Assessment Framework: Overview and Analysis," 17-18.

area are of a given colour, then that colour was used to reflect the status of that particular PRICIE area. In the case of ties, the colour reflecting the greatest risk was selected."[105] In the end, TRACE revealed the overall assessment for each CJT, as well as the assessments for its PRICIE components and those of the contributing FTLs. An example is shown in Table 3.3.

Table 3.3: Use of TRACE to Evaluate a CJT

CJT S6.1 →	**S 6.1 Sustain the Force with Materiel and Services** $_Y$					
PRICIE components →	P_Y	R_Y	I_G	C_Y	I_R	E_Y
FTL1$_R$	P_Y	R_G	I_R	C_G	I_R	E_Y
FTL2$_Y$	P_Y	R_Y	I_Y	C_G	I_Y	E_Y
FTL3$_G$	P_G	R_Y	I_G	C_Y	I_G	E_G
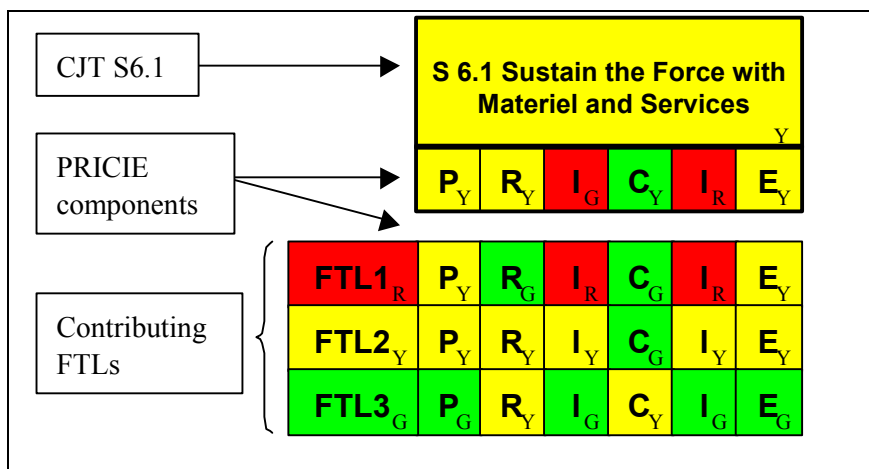
Notes
1. This example has been altered from the original.
2. Box colours are indicated by the subscript R, Y or G where red represents a serious shortfall; yellow represents a shortfall; and, green means satisfactory.
3. In this example, it has been determined that CJT S6.1 has a shortfall, based on the roll-up of its PRICIE components; hence it has been marked yellow.
4. In this example, one can also see how the hypothetical contributing FTLs were assessed.

Source: Sustain Forces JCAT Homepage, Briefing made to Sustain Forces JCAT, 02 February 2005. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

The CJTL Assessment Framework and decision-support tool TRACE improved the fidelity of capability assessment for the Sustain capability area by involving subject matter experts in a refined analysis of the contributing CJTs. This assessment examined

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[104] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 31 August 2004.

[105] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 02 February 2005. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

in detail the FTs that make up the CJTs. One might observe, however, that the process in its current form does not provide a quantitative analysis, which is what the CJTL WG was established, in part, to provide. Until the FPS and CJTL contain clearly expressed measures of success, and assessments are conducted without relying solely on the professional judgement of subject matter experts, the current assessment process is limited to being a qualitative analysis.

Ideally, the result of the capability assessment is that for each FPS, every CJT would be identified as green, yellow or red. These results would then be rolled-up to the level of the parent capability area and compared with its capability goal, which has a pre-determined target capability level of either high, medium or low. This step in the CBP process is the identification of capability mismatches. In December 2004, the CJTL WG completed its assessment of each CJ,T except for Operations-Domestic, which was not assessed.[106] An example of the type of results produced by the analysis is shown in Table 3.4.[107]

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[106] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 02 February 2005. Also, see Table 3.2 and recall that the Operations row would be divided into two rows, one for International Operations and the other for Domestic Operations.

[107] Actual results are not available to the public.

Table 3.4: Sustain Current Capability Gap – 2005

	Overall	Personnel, Professional Development and Leadership	Research and Development /Operational Research	Infrastructure and Organization	Concepts, Doctrine and Collective Training	Information Technology and Infrastructure	Equipment Supply and Services
Military Strategic	**M** (yellow)	yellow	red	red	yellow	yellow	yellow
Operational International	**M** (yellow)	red	yellow	yellow	yellow	yellow	green
Tactical	**H** (yellow)	green	green	yellow	yellow	yellow	red

Notes
1. This example has been altered from the original.
2. In this example, it is assessed that overall, each level of the Sustain Capability Area has shortfalls and is therefore coloured yellow in this table.
3. The overall assessment is a "roll-up" of the six PRICIE components shown in the other columns.
4. Detailed activities preceding the development of this table are shown in Appendices 3 and 4.

Source: Sustain Forces JCAT Homepage, Briefing made to Sustain Forces JCAT, 02 February 2005. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005.

Identification of capability mismatches may be undertaken for any selected point in time. To do so requires, first, establishment of Capability Goals for the chosen timeframe, then assessment of the capabilities existing at that time. This assessment would take into account deterioration or obsolescence of current capabilities during interim years and new or upgraded capabilities based on projects scheduled in the timeframe. Such an analysis would identify extraneous capabilities that could be divested and investments that should be made to upgrade inadequate capabilities or to acquire new capabilities. This concludes the work that the Sustain JCAT has accomplished to date. Its next step is to prioritize the capability mismatches.

Analysis of capability mismatches will result in the identification of a significant need for resources. These will require prioritization to determine where effort should be directed and resources assigned. To address this, "[t]he focus of the Sustain Forces JCAT

in coming months will be to prioritize the gaps which have been identified, develop options and prioritize those options."[108]

Once the capability mismatches have been prioritized, the development of options to address the mismatches may be undertaken. Major Krista Simonds, the DDA staff officer assigned to assist the Sustain Forces JCAT and CJTL WG, advises that the development of capability options begins with a review of the mismatches to determine whether there are current projects or initiatives in place to address them.[109] Remaining mismatches are then referred by the Sustain Forces JCAT to the functional organizations responsible for managing the PRICIE components identified as lacking. This referral process will generate concepts for developing options to be explored. Additionally, concepts or solutions may be sought from allies or even non-military sources with experience in addressing similar needs. A critical and complex element of option development is to prepare an estimate of the cost of each option. Once options have been developed and costed, they will be presented to the JCRB for decisions, direction and guidance. As Major Simonds points out, this is best done when all JCATs are in place so all options may be presented together in order to compare the relative importance of each, then assign resources. Until all JCATs are established, resources will continue to be assigned to projects using a combination of pre-CBP processes and the CBP process.

Once capability options have been developed and submitted to the JCRB for consideration and approval, resources are allocated annually in the Strategic Capability Investment Plan (SCIP). The SCIP:

> … [addresses] the equipment required to project and apply military power, the human resources required to operate and sustain the equipment at full capacity, and the infrastructure (properties, works and support systems) needed to sustain the system of defence capabilities in garrison and on operations, both domestic and international. For completeness, this new planning regimen will include more strategic level coordination of Science

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[108] Sustain JCAT Homepage, Briefing made to Sustain JCAT, 02 February 2005.
[109] Major Krista Simonds, telephone conversation with author, 19 April 2005.

and Technology investments and Concept Development and Experimentation planning.[110]

The SCIP, which is published annually, "… builds upon capability development work including the Capability Outlook 2012 [sic] and is supported by the Capability Investment Database (CID), which provides further detailed information on all projects."[111] "The CID is an information storehouse for all proposed DND/CF initiatives that address capability deficiencies within the department and forces."[112] It also serves several important roles including to "[e]nsure alignment with the departmental business processes, [f]ormalise top down direction… [and] [e]nsure a mechanism of tracking and prioritising the requirements."[113] Together the SCIP and CID provide direction for the CBP process and a method of monitoring progress.

This chapter provided an overview of how DND has implemented and operationalized CBP to date by describing inputs to the process, the capability assessment process and outputs from the process. It highlighted the fact that CBP is a new force development approach that is still undergoing refinement and that full adoption will take time. Given that the process itself is evolving, this chapter noted some issues that are recommended for improvement in order that the overall process may function better.

While the explicit goal of the CBP process is the continued combat effectiveness of the CF into the future, it has two implicit goals that have yet to be met: the breaking down of the traditional functional stovepipes that predominated during the threat-based-planning era and the adoption of a common methodology and lexicon. In the former case, the CBP governance structure has been overlaid on DND and the CF's traditional

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[110] Canada, Department of National Defence, "Strategic Capability Investment Plan" (Ottawa: Vice Chief of Defence Staff, May 2004); available from http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/ddm/scip/scipc01_e.asp; Internet; accessed 18 April 2005.

[111] *Ibid*.

[112] Canada, Department of National Defence, "Tools and Applications," http://www.vcds.forces.gc.ca/dgsp/pubs/tools/tools_e.asp; Internet; accessed 20 April 2005.

[113] Canada, Department of National Defence, "Capability Investment Database (CID) Oversight Committee," www.vcds.forces.gc.ca/dgsp/pubs/commit/cidwg_e.asp; Internet; accessed 20 April 2005.

functional structure thus requiring participants to "job share" between their parent organization, which is their primary responsibility, and the CBP process, which is a secondary responsibility. In the latter case, the governance structure is not uniform, nor have JCATs been created for all capability areas. Given that the capability areas are not wholly independent of each other, the process will not be able to achieve its full potential until the governance structure is complete.

Strategic Visioning provides the context and inputs for CBP, and CBP provides inputs for Resource Prioritization. If the CBP process is to be purely focused on developing what is best for the CF as a whole, then these three elements of the DP&M model should be conducted with impartiality to provide the CF with the optimal capability suite possible within resource limits. What is being suggested here is that lingering problems from the functional-stovepipe-planning era would be detrimental to the spirit and intent of the CBP process; thus, ways to counter this possibility should be sought.

Some inputs to the CBP process, such as the FPS and the CJTL, are themselves developmental, but plans exist to review and maintain these as current and relevant planning tools. It was noted, however, that the FPS as they are currently written are representational in nature and do not provide a basis for consistent interpretation by capability-developers. To overcome this, the CJTL WG selected two detailed scenarios against which capability assessments were conducted. It was also noted that if the FPS are changed, then the CJTL will have to be updated.

Another issue is that a committee of senior officers exercising professional judgement determined capability goals. This approach served well as a means to initiate planning action, but it may lack rigour. First, the methods used to determine the goals should be verified; and second, the goals themselves should be validated.

It is questionable whether participants in the capability assessment process were able to devote sufficient time and effort to the process and whether they shared common understanding of the process and its parts, such as the FPS. This issue is tied to the issue

of governance and the degree to which participants are able and willing to be engaged in the CBP process.

Finally, until clear measures of success are provided for the FPS and CJTL, and assessments are conducted without relying solely on the professional judgement of subject matter experts, the current assessment process will be limited to being a refined, albeit useful, qualitative analysis. If the CBP process and capability assessments are to become quantitative and more rigourous, then the inputs to the process will have to include methods for performance measurement that can be addressed throughout the assessment process.

Chapter 4.   Issues and Recommendations

Several issues have been raised that should be addressed if the CBP process is to be fully instituted in DND and the CF. This chapter opens with a discussion of issues related to the implementation process. These issues focus on setting the enabling conditions for success, in particular the making of organizational and cultural changes that demonstrate the commitment of DND and the CF to the CBP process. Issues relating to operationalizing the CBP process are considered next. These focus on inputs to the process, in particular the capability goals, FPS and CJTL, and factors affecting the capability assessment process.

In 2000, when DND accepted CBP as its predominant force planning approach, the JCRB was established and five capability areas were recognized. By October 2002, the Sustain and C2I2 JCATs were established, and it has been suggested that one or more of the remaining JCATs may be established in the summer of 2005.[114] Thus, in spite of the five-year period since CBP was formally accepted, the governance structure is still incomplete. One may find logic in this approach by considering the initial step as revolutionary, followed by an evolutionary period during which methods and approaches could be explored, developed and refined. However, the Sustain JCAT is reaching the point at which it cannot make further improvement unless it integrates its work with that of other JCATs.

By way of example, consider how the five capability areas would be involved in the following theoretical example of a Canadian Battle Group (CBG) conducting international operations. "Corporate Policy & Strategy" would establish the CBG's relationships with other military and non-military organizations. "Generate Forces" would provide trained personnel and equipment. "Command & Control" would provide leadership, communications and knowledge. "Operations" would provide mobility, protection and the ability to take action. Last, "Sustain" would provide the ammunition,

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[114] Canada, Department of National Defence, "Capability Based Planning Tools: Supporting the New Canadian Forces Vision" (presentation to the VCDS by DDA 3-3, 13 April 2005), notes to slide 4.

rations, fuel, maintenance, medical care, etc. that are necessary for the CBG to remain in theatre and do its work. The optimal conditions for the CBG to accomplish its mission may only be arrived at if capabilities developed in each JCAT are synchronized. For example, ammunition and fuel must be compatible with weapons and equipment, and military forces must be capable of imposing desired corporate policy and aims. Since capabilities are employed interdependently, horizontal integration is necessary throughout the force development process to develop them in concert with each other. Partial integration of C2I2 and Sustain capability areas has been achieved and ongoing for less than three of the five years that have passed since CBP's inception. This time has been well spent by these two JCATs developing approaches and methods, but their further progress will be limited until all five JCATs have been established.

It has been stated that instituting CBP would break down traditional stovepipes through the creation of integrated teams. Conversely, it has also been suggested that CBP's partitions themselves are *de facto* stovepipes. This would be especially plausible if it were possible to select completely independent capability partitions that totally negated the need for horizontal integration. In a sense, this condition currently exists in the CF because the two existing JCATs are not compelled to integrate their work with other capability areas since JCATs have yet to be established. The longer these two JCATs must operate independently of other JCATs, the more likely they are to become devoted and loyal to their own *modus operandi* and, more critically perhaps, to their uniquely developed capability options. If these JCATs reach this state, it will be difficult to convince their membership to backtrack on their hard work, break out of their new stovepipes and, in effect, "post-integrate" with newly created JCATs. For this reason, and considering the previous point that further progress is limited without them, it is strongly recommended that the remaining three JCATs be established promptly so they might begin liaising and cooperating within the CBP process.

Having argued that the CBP governance structure should be completed by establishing all five JCATs as early as possible, the next issue is to determine an organizational approach. The choices range from functional-, through matrix-, to project-based options. The following discussion is based on project management approaches in

which a project is "[a] temporary endeavour undertaken to create a unique product or service."[115] In the context of this argument, assessing capabilities and developing capability options are projects.

Functional divisions are ones in which people are grouped based on their common expertise or experience.[116] In this discussion, functional divisions equate to the organizations headed by the Level Ones.[117] In a functionally structured organization, projects are "assigned to the functional [division] that has the most interest in ensuring its success or can be most helpful in implementing it."[118] The functional division leading the project solicits support from other functional divisions when additional support is needed. There are several advantages to using a functional structure. Grouping people who perform similar tasks helps them to learn from each other and become more specialized and productive at what they do, and functional leaders have greater control over the activities of their divisions.[119] In addition, "the functional division contains the normal path of [career] advancement for individuals whose expertise is in the functional area… and [is] the focus of their professional growth and advancement," which is a strong motivator.[120] There are also disadvantages. If the parent organization is engaged in many outreach activities, it will need more functional divisions to provide the various skills required, and to manage the various projects, resulting in increased complexity within the organization.[121] "As separate functional hierarchies evolve [and become more specialized], functions grow more remote from one another… [making it] increasingly

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[115] Project Management Institute Standards Committee, *A Guide to the Project Management Body of Knowledge* (Upper Darby, PA: Project Management Institute, 1996): 167, quoted in Jack R. Meredith and Samuel J. Mantel, Jr., *Project Management: A Managerial Approach*, 4th ed. (New York, NY: John Wiley & Sons, 2000), 8.

[116] Charles W.L. Hill and Gareth R. Jones, *Strategic Management: An Integrated Approach*, 5th ed. (Boston, MA: Houghton Mifflin Company, 2001), 394.

[117] See Appendix 1.

[118] Jack R. Meredith and Samuel J. Mantel, Jr., *Project Management: A Managerial Approach*, 4th ed. (New York, NY: John Wiley & Sons, 2000), 143.

[119] Hill and Jones, *Strategic Management…*, 395.

[120] Meredith and Mantel, *Project Management…*, 143.

[121] Hill and Jones, *Strategic Management…*, 395.

difficult to communicate across functions and coordinate their activities."[122] Perhaps the most significant disadvantage is that a functional "arrangement does not facilitate a holistic approach to the project. Complex technical projects… cannot be well designed unless they are designed as a totality… [and] no functional division can avoid focusing on its unique areas of interest."[123]

Pure project organization is at the other end of the organizational spectrum.[124] In this case, the "project is separated from the rest of the parent system. It becomes a self-contained unit with its own technical staff, its own administration, tied to the parent firm by the tenuous strands of periodic progress reports and oversight."[125] A pure project organization does have advantages: project divisions have their own command and reporting structure, and are responsible directly to the parent organization; the project team can develop *esprit de corps* and high motivation; and, the structure "supports a holistic approach to the project."[126] But, again, there are disadvantages: too many project divisions within the parent organization leads to duplication and inefficiency; competition among projects can lead to lack of cooperation; and, there is no repository of technical expertise from which specialist help may be sought.[127]

The matrix approach to organization attempts to couple the advantages of functional and project approaches while avoiding their disadvantages.[128] The matrix organization combines the other two approaches by a overlaying project organization onto the functional divisions of the parent firm. There are three basic types of matrix organization: "'strong' matrix [which] most resembles the pure project organization… 'weak' matrix [which] most resembles the functional organization;" and, "'balanced'

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[122] *Ibid.*

[123] Meredith and Mantel, *Project Management…*, 144.

[124] *Ibid.*, 145.

[125] *Ibid*.

[126] *Ibid.*, 146.

[127] *Ibid.*, 146-147.

[128] *Ibid.*, 147.

matrix [which] lies between the other two."[129] The main difference between strong- and weak-matrix organizations is that functional divisions assign individuals for the duration of the project in the former case, whereas in the latter case functional divisions devote "capacity" to the project.[130] In other words, in a weak-matrix system the functional division controls how much its personnel participate in projects. The CBP process requires many functional divisions to participate in the process, yet if each functional division decides how much it will contribute, the JCAT is faced with the potential problem of unequal commitment from the various representatives. In some respects, the CBP governance framework resembles both approaches. On the one hand, the JCAT terms of reference appear to support the strong-matrix approach, as highlighted here:

> … all Sustain related initiatives, inclusive of strategic and non-strategic projects sponsored by Environmental Chiefs of Staff and Group Principals, will be reviewed by the Sustain JCAT for endorsement and prioritization….[131]

This robust assertion is significant since the Sustain JCAT terms of reference, as well as its methods for capability assessment, are considered to be the model for future JCATs.[132] On the other hand, the chairman and the participants in the process, referred to as "representatives" in the JCAT terms of reference, receive their work assignments and annual personnel evaluations from their functional divisions. A situation where individuals have two bosses "violates the management principle of unity of command [and leads to] split loyalties and confusion."[133] Since the strongest influence on individual participants in the process is exercised by the functional divisions vice the JCAT, the CF CBP governance framework is most like that of a weak-matrix organization.

One of the implicit goals of adopting the CBP process is to breakdown the traditional stovepipes. During discussion of the last two issues, it was pointed out that all

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[129] *Ibid*.

[130] *Ibid*., 149.

[131] Canada, "Sustain JCAT Terms of Reference," 5.

[132] Major Krista Simonds, telephone conversation with author, 19 April 2005.

[133] Meredith and Mantel, *Project Management…*, 152.

JCATs should be created sooner rather than later so horizontal integration could assume its proper role in the process. This would help to avoid slipping toward the creation of new capability-based stovepipes, but the weak-matrix organization leaves much control with the functional divisions thus maintaining the traditional stovepipe culture at the expense of the CBP process. The solution to this is two-fold: first, take measures to support a strong-matrix organization and, second, foster cultural change that focuses all participants primarily on the CBP needs of DND and the CF, and secondarily on their functional divisions.

The JCAT terms of reference are robust and provide the basis for a strong-matrix organization. In addition, cultural change that focuses on unity and complete integration within the CF is gaining momentum, especially under General Hillier and in anticipation of his newly created CATs. These are positive steps but there is still the need for more staff whose primary responsibility is to the capability areas. Canada is not alone in this situation; the US Joint Staff J8 noted a similar organizational problem:

> Despite the strengthening of the [Functional Capabilities Boards (FCBs), which are equivalent to the CF's JCATs], they remain organizations largely staffed by people who have other full-time positions. If we really believe that the [Joint Capabilities Integration and Development System] process is the correct one, and that the work done by the FCBs really decides capabilities for the Department, it seems like these positions should *not* be additional duties.[134]

At present, DDA staff come closest to filling the role of permanent staff for the CBP process, but they are facilitators and advisors and there are few of them. Moreover, once the new JCATs are created, their efforts will be diluted still further as they "time-share" among JCATs. In addition, DDA staff are process oriented whereas functional representatives are results oriented as it is their functional divisions that will eventually incorporate approved capability options into their business plans.[135] Further study would be required to determine the source and nature of a permanent cadre of dedicated CBP staff, but the recommendation remains the same: additional staff should be assigned to

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[134] Hunzeker, "Evolution…," 12.

the CBP process and given the primary responsibility of generating capabilities that best meet the CF's needs.

The argument for assigning permanent staffs, supported by cultural change, is reinforced when one considers current cultural conditions. At present, there are incentives for participants in capability assessment and development to undertake their work in favour of their parent components, which could translate into suboptimal capabilities for the CF. This occurs because current CF culture means that individuals remain loyal to their parent functional divisions, regardless of where they may be assigned. Reasons for this include: individuals are concerned for the well-being of the division to which they expect to be assigned in the future; they have an allegiance to divisional colleagues, especially when a division has nurtured a strong ethos; and they want future functional superiors to treat them favourably on future performance assessments. One possible solution is to change the culture so that staffs will support optimal capability solutions even when these are not favourable to their functional divisions. Another solution might be to change the career field for staffs so they have a different reporting structure - to the VCDS for example - within which they can perform, be recognized and advance.[136]

Some of the criticisms of CBP that were raised in Table 2.1, are that it may retain outdated capabilities and that it tends toward sub-optimization. These undesirable outcomes may occur because of the tendency for committees to strive for consensus, possibly at the expense of the best solution. Committees may opt for consensus to avoid "strategic change [that] necessarily favors [sic] some individuals or divisions over others. For example, if managers decide to invest in resources to promote and develop one product, other products will not be created. Some managers win: others lose."[137] Such a situation could occur in the CBP process where the best solution for the CF might be for one functional division alone to fulfill the capability need and thus receive a large allocation of resources to do so. There would be pressure to reject this solution, however,

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[135] Canada, "Defence Planning & Management."

[136] The US has several Functional Area (FA) career fields to which officers are re-assigned from their original career fields to perform staff functions. Some of these are FA 49 Operations Research/Systems Analysis, FA 50 Force Management and FA 59 Strategic Plans and Policy. Additional information is available at http://www.usapa.army.mil/pdffiles/p600_3.pdf.

because it is not joint and does not share resources with other divisions. This is known as organizational conflict, "the struggle that arises when the goal-directed behaviour of one organizational group blocks the goal-directed behaviour of another… resulting in a failure to move quickly to exploit new strategic opportunities."[138] The consequence of such behaviour is a lack of action, or agreement only on mediocre compromises.

Despite the negative aspects of organizational culture described above, the positive side is that it can enhance value and lead to optimal solutions. Participants in the JCATs have different backgrounds and biases and may view capability development differently.[139] Initially, their concepts will likely be in conflict and will require the JCAT to undertake conflict resolution. If the CBP process maintains checks and balances and prevents any coalition or functional representative from exerting too much influence, while enabling all representatives to contribute their views and ideas, status quo solutions or mediocre compromises may be avoided. The ideal result of this process will be submission of optimized options to the JCRB so the best solutions may be selected.

Multi-functional teams present challenges and opportunities. On the one hand, competition increases "performance because it can *overcome inertia and induce needed organizational change.*" Too much competition, however, "can lead to a decline in performance… and [fragmentation] into competing interest groups."[140] The solutions are to maintain sufficient checks and balances, which the JCAT terms of reference appear to support; provide strong leadership in the JCATs, which is not currently the case due to influence wielded by the functional divisions; and provide cadres of permanent staff to each JCAT to promote a strong-matrix organization for the CBP governance framework.

Operationalization of CBP is dependent on the inputs to the process. Aside from resource constraints, the direct inputs are FPS, CJTL and capability goals. It was apparent that the FPS are representational in nature, which proved to be too unconstrained for the participants in the capability assessment process. This was made clear during the DSS

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[137] Hill and Jones, *Strategic Management…*, 499.

[138] *Ibid.*, 494.

[139] Meredith and Mantel, *Project Management…*, 210.

[140] Hill and Jones, *Strategic Management…*, 500.

workshop in December 2004 when DDA staff were obliged to nominate two "point" scenarios in order to provide a common theme for capability assessment.[141] This leads to the realization that participants in the process must be focussed on solving the same problem; otherwise, their conclusions will not be compatible. This problem extends beyond the boundaries of a single JCAT, as all JCATs work from the same set of FPS with the obvious potential for widely different options to be identified.

A possible solution is to recognize that each FPS can take place under a broad range of conditions. If one uses as an example Scenario 9 – Peace Support Operations, in which a CBG could be deployed anywhere in the world at any time of the year. Clearly, there are various locations (jungle, mountain, desert, arctic) and climates (cold, wet, hot) that could apply to this scenario. Each scenario has such a range of conditions, but in order to focus work within the CBP process, specific conditions must be identified. It is recommended that this problem be solved by identifying various challenging conditions, then developing point scenarios for each set of conditions. This will increase the complexity of the CBP process, but by providing all JCATs with common bases for capability assessment, horizontal integration among JCATs will be more likely.

Developing challenging point scenarios will provide conditions and standards that CJTs must be capable of meeting. The next issue is to establish measures of performance or effectiveness for the CJTs in order to determine whether the capability required to execute a given task is sufficient or not. The ability to measure performance is an essential step given that there is a desire to increase rigour within the CBP process by developing quantitative methods of assessment. This has been recognized by other organizations. For example, the US Department of Homeland Security presents the

bomb is… 2,000 to 4,000 lbs. Two of the attacks are in interior locations… and the other two detonate outside buildings.[142]

This descriptive scenario enables US planners to identify such capability needs as personnel, training and equipment. As is implied here, developing ways to measure performance would also allow capability-developers to determine how much each of the PRICIE components would have to contribute. This would result in more quantitative rigour, given that TRACE uses evaluation of PRICIE components to generate capability assessments.

Capability goals were initially derived in 1999-2000 through a subjective process in which senior leaders exercised their judgement, while making use of the decision-support tools FIDO and SOCRAM. As the original process was subjective, it is proposed that capability goals should be validated in order to demonstrate that they are indeed suitable to address the needs of the FPS. Two approaches are suggested to accomplish this; the first is to conduct modelling and simulation exercises in which the capability goals are tested against the various point scenarios. Such exercises should be constructed to remove biases, as much as is possible, to achieve independent validation.

The second suggested approach is to embed validation in the capability assessment process. The primary focus of participants in this process is to focus on comparing capabilities with the goals that have been set. This requires them to consider the quantity and nature of resources that the FTs and CJTs would require to achieve the FPS. This work presents the opportunity for capability-developers to reflect critically on the appropriateness of the goals and to report if the goals appear to be inadequate. The conditions to accomplish this would be best met by having a dedicated cadre of permanent staff to manage this activity and to encourage and compile observations.

This concludes issues and recommendations concerning inputs to the CBP process. The following issues relate to the internal process, capability assessment.

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[142] United States, Department of Homeland Security, "Capabilities-Based Planning Overview" (draft paper, December 2004); http://www.scd.state.hi.us/portalsl1_T53_R3.html; Internet;

As the Sustain JCAT is the only organization to have conducted a detailed capability assessment to date, and appears to show the way forward for the CF at this time, the following observations are related mainly to its work. The sustain capability area assessment was conducted by the CJTL WG and commenced with the identification of FTs, which were cross-referenced to the Sustain CJTs. The FTs were broken down for analysis into PRICIE components. These were assessed in the context of the FPS and subsequently rolled up, using TRACE, to arrive at an assessed rating for each capability.

A principle concern with the capability assessments was the variation in the interpretation of the inputs and concepts by the individuals participating in the process. It has already been noted that point FPS had to be created in order to guide participants' thoughts along a common theme. Still, the point FPS did not identify geographical location, time of year or nature of the other forces involved. In the end, DDA staff facilitating the assessments acknowledged that participants could have perceived these scenarios quite differently.[143] For example, some participants may have gained firsthand experience in the former Republic of Yugoslavia, East Timor or Haiti, while others may have no personal operational experience. The issue, once again, is validity: would the same results be achieved consistently by different groups? Clearly, this is an important consideration as the assessment process leads to options, which lead, in turn, to the investment of resources to implement change programs.

Possible solutions to this problem include creating full-time JCATs; or, creating robust cadres of full-time staff to assist the JCATs in their deliberations. Full-time JCATs would be staffed with broadly experienced individuals from various functional backgrounds who would have the time and opportunity to master the intrinsic demands of CBP. This would solve the problem of achieving consistent results and should result in high-quality work. In addition, it would foster individual loyalty to the process since their annual performance reports would be written by a superior who is also engaged in the process. There are possible pitfalls, however: loss of participant expertise due to lack of

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accessed 12 March 2005. This document was later removed from public access, see http://www.scd.state.hi.us/CSSPrototype/cnews/SCD_Website_News_Release1.doc.
[143] Mr. Leonard Kerzner, telephone conversation with author, 14 April 2005.

ongoing contact with functional divisions; mediocre solutions due to lack of competitive dialogue; or, loss of freedom to engage in independent thought or challenge the process or its results. The latter pitfall is linked to the concern that members of a permanent team might not have the opportunity to fully debate options until consensus is reached; instead, solutions could be dictated to it since they all have the same superior.

The second option is to create a more robust cadre than currently exists, while retaining part-time participation of the functional representatives. This approach would ensure that highly knowledgeable process-oriented staffs are available to mentor functional representatives throughout the process. It could also foster critical debate and healthy competition among the functional representatives in order to uncover the best options. A dedicated cadre would also develop experience in fostering consensus without collusion. In other words, they would help to maintain the integrity of the process.

This argument reinforces the recommendation that additional staff be found to create a permanent robust cadre of staff committed to the CBP process. Commensurate with this is the recommendation that the practice of consulting independent functional experts be retained by the JCATs, and that consensus remains the predominant decision-making requirement.

A key element of capability assessment is the use of the Sustain FTL. This construct can be used to address the issue of cross-cutting items that do not compete well in any particular capability area. An example is an FT that plays a minor role in several CJTs that are resident in different capability areas. In such a case, each JCAT might not rate the FT important enough to receive resources. The impact of the FT is best realized, however, when the sum total of its contributions is identified and clearly presented. This is most likely to be recognized by the functional division responsible for carrying out the FT.

It is recommended that each functional division create its own FTL and then map each FT to all applicable CJTs in the CJTL. This would yield several benefits. First, the functional division would have a clear view of its overall contribution to CF capabilities and could thereby quantify its relative importance to each capability area. This would

help the functional division to decide how much effort to devote to each JCAT. Second, it would help the functional division to realize the relative importance of each FT, thus assisting the division in determining how much effort to devote to creating, maintaining or improving each FT. Third, it would help to quantify how much of the FT is needed. This could even lead to resource savings if it were determined that too much capacity existed in some FTs, thus providing the functional organization with the justification to divest itself of excess capacity. Fourth, mapping all functional FTs to the CJTL would be useful to the JCATs as they create their respective FTLs. Fifth, in a case where the JCATs will not individually support the development of a minor or cross-cutting FT, then the case for the FT could be presented directly to the JCRB by a senior functional representative.

Another approach to solving the cross-cutting items problem is:

…collecting a number of low-expense low-consequence measures together [to] generate an efficiency package with significant overall effect at low cost. Individually, the measures might have been below the horizon of interest (and would therefore not have been funded), but when packaged together, they make eminently good sense.[144]

This recommendation brings forth several possibilities. First, if all FTs of low interest belong to one functional division, then a strategy for having them recognized would be to demonstrate their interdependence, and thus their collective importance. Second, if the FTs belong to several functional divisions then, with some cooperation, they could be presented as a collective. Caution is required in this latter case, given that reciprocal buttressing of sub-optimal FTs could be counterproductive to the CF. This concern is mitigated if all work is undertaken openly and transparently so effective critiquing can take place. Third, if a functional division is able to demonstrate that low-interest FTs are critical or essential to other functional divisions, then the divisions can collectively champion the need to assign resources to the development of those FTs.

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[144] Davis, "Analytic Architecture…," 48.

Several arguments have been presented extolling the benefits of generating FTLs, not only from the point of view of their utility to the respective JCATs, but also for the utility they provide to the functional divisions. It is recommended that all JCATs prepare their own FTLs and that the functional divisions be encouraged to identify all FTs supporting all capability areas so they might be mapped to the CJTL.

The final issue to be raised is that the capability assessment process used by the Sustain CJTL WG was not, in fact, a quantitative analysis. This issue, covered earlier in this paper during consideration of the FPS and CJTL, resulted in a recommendation to develop means to measure performance by providing specific performance targets for both the FPS and the CJTs. An additional benefit of doing this is the assistance it provides in development of capability options. Specifically, quantifying required capabilities would assist functional staffs in arriving at the total capability needed across all their FTLs, which would help to avoid piecemeal presentation of capability needs to the JCRB. Furthermore, it would facilitate the estimation of costs for each capability option and make it easier for the JCRB to compare options before making a decision. These additional arguments reinforce the recommendation that the FPS and CJTs be more descriptive.

This chapter provided an analysis of the issues presented earlier in the paper. The analysis first considered implementation issues, especially those relating to cultural change and governance. Next, it considered operationalization issues, beginning with inputs to the process and concluding with the capability assessment process. As part of the discussion, recommendations concerning objectives and procedures were made. Chapter 5 contains a summary of these recommendations and presents conclusions.

Chapter 5.   Summary and Conclusions

This paper identifies issues and provides recommendations to advance the institutionalization of CBP within DND and the CF. It suggests that there are two aspects to institutionalizing CBP. The first is to put in place the framework and enabling conditions within which CBP will be undertaken. This is referred to as implementation. The second aspect is operationalization, which means applying and adapting the process *in situ* in order to obtain best results. Both aspects are necessary if CBP is to be institutionalized.

The argument was presented by first explaining how Canada came to the decision to accept CBP as its predominant force development model. Next, an overview of force planning approaches was provided, followed by presentation of a CBP model that is generally accepted by Canada's principal allies. Following this, Canada's approach to CBP was described and issues for deliberation were identified. This led to the development of recommendations for consideration by participants in the CBP process.

Recommendations were derived by first considering implementation issues. CBP must have a governance framework within which to work. One of the goals of introducing CBP was to break down the traditional stovepipes and create conditions for the integration of capabilities. It was noted, however, that only two of the proposed five JCATs have been created to date, and there are no certain plans to create the remaining three. Failure to activate all five JCATs provides the potential for the re-introduction of stovepipe behaviours based on the new capability areas and it inhibits the integrated development of capabilities. It is recommended, therefore, that all five JCATs be created as soon as is practical. Furthermore, it was identified that the two existing JCATs differ in their perception of the governance framework. As this difference could also impede horizontal integration, it is recommended that the JCATs employ the same model for governance.

The CBP governance framework has been overlaid on DND and the CF's functional organization, thus creating a matrix organization for the CBP framework. Although the terms of reference include checks and balances that give the perception of a

strong-matrix organization in place, it was argued that lack of a permanent staff and the strong influence of the functional divisions on the JCATs has meant that the organization behaves more like a weak-matrix. If traditional stovepipes are to be broken down, then the CBP governance structure must be more robust. The effectiveness of CBP will be limited until it is organized as a strong matrix with capability solutions that are optimized for the CF as a whole, vice those of the individual services. To overcome these implementation issues, it is recommended that all JCATs be created as soon as is practical, that a permanent cadre whose principle focus is the development of capabilities for the CF be assigned to each JCAT, and that cultural change is undertaken to emphasize the centralizing themes of unity and integration within the CF.

Issues concerned with operationalization of CBP were addressed. The inputs to the process are the FPS, the CJTL, and the capability goals that are derived from first two inputs. The current FPS are too general and leave too much room for conflicting interpretation by participants in the CBP process. It is recommended that point scenarios be created that describe and limit the possible conditions for each scenario. Furthermore, each CJT should be presented in terms of conditions and standards in order to demonstrate how the CJT contributes to the accomplishment of the FPS, and the importance of its relative contribution. Such procedures would assist capability-developers by ensuring they shared a common understanding of the pre-set conditions, and by providing them the opportunity to conduct performance measurement in order to properly quantify and assess capabilities. Capability goals, the third of the inputs to the CBP process, are set to determine the capacity needed to accomplish the FPS. They are also used as targets for capability development. Given their importance to the CBP process, it is recommended that capability goals be validated in two ways: first, by conducting experimentation to determine whether they are indeed sufficient for the accomplishment of the FPS and, second, by deliberate evaluation conducted by capability-developers.

In consideration of the capability assessment process, it was recommended that all JCATs and functional divisions develop FTLs that are linked to the CJTL. Together with other purposes, this will serve: to demonstrate the relevance of each FT to all

Appendix 1

Department of National Defence and Canadian Forces Level One Structure

Ser	Organization	Level One Business Planners
1	Maritime Command	CMS
2	Land Force Command	CLS
3	Air Command	CAS
4	Deputy Chief of Defence Staff Group	DCDS
5	Canadian Forces Northern Area	Comd CFNA
6	Defence Information Services Organization	ADM(IM)
7	Personnel Group	ADM(HR-Mil&Civ)
8	Materiel Group	ADM(Mat)
9	Science and Technology Group	ADM(S&T)
10	Infrastructure and Environment Group	ADM(IE)
11	Finance and Corporate Services Group	ADM(Fin CS)
12	Policy Group	ADM(Pol)
13	Vice Chief of Defence Staff Group	VCDS
14	Chief of Review Services	CRS
15	Office of the Judge Advocate General	JAG
16	Office of the DND/CF Legal Advisor	DND/CF LA
17	Director General Public Affairs	DGPA
18	Communication Security Establishment	Chief CSE
19	National SAR Secretariat	Executive Director
20	Emergency Preparedness Canada	EPC

Source: Canada, Defence Planning Guidance 2001 (Internet:
http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dfppc/dpg/dpg2001/annx4a_e.asp,
accessed 22 Marcy 2005).

Appendix 2

Force Planning Scenarios
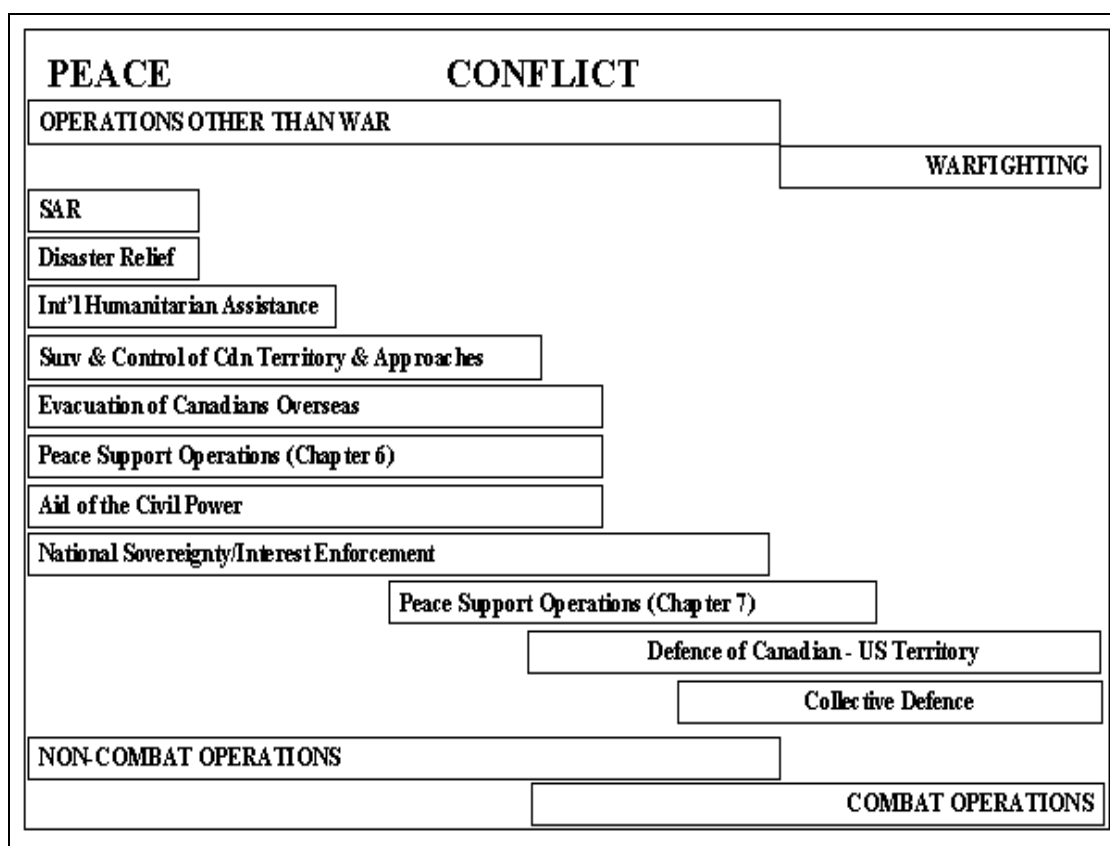
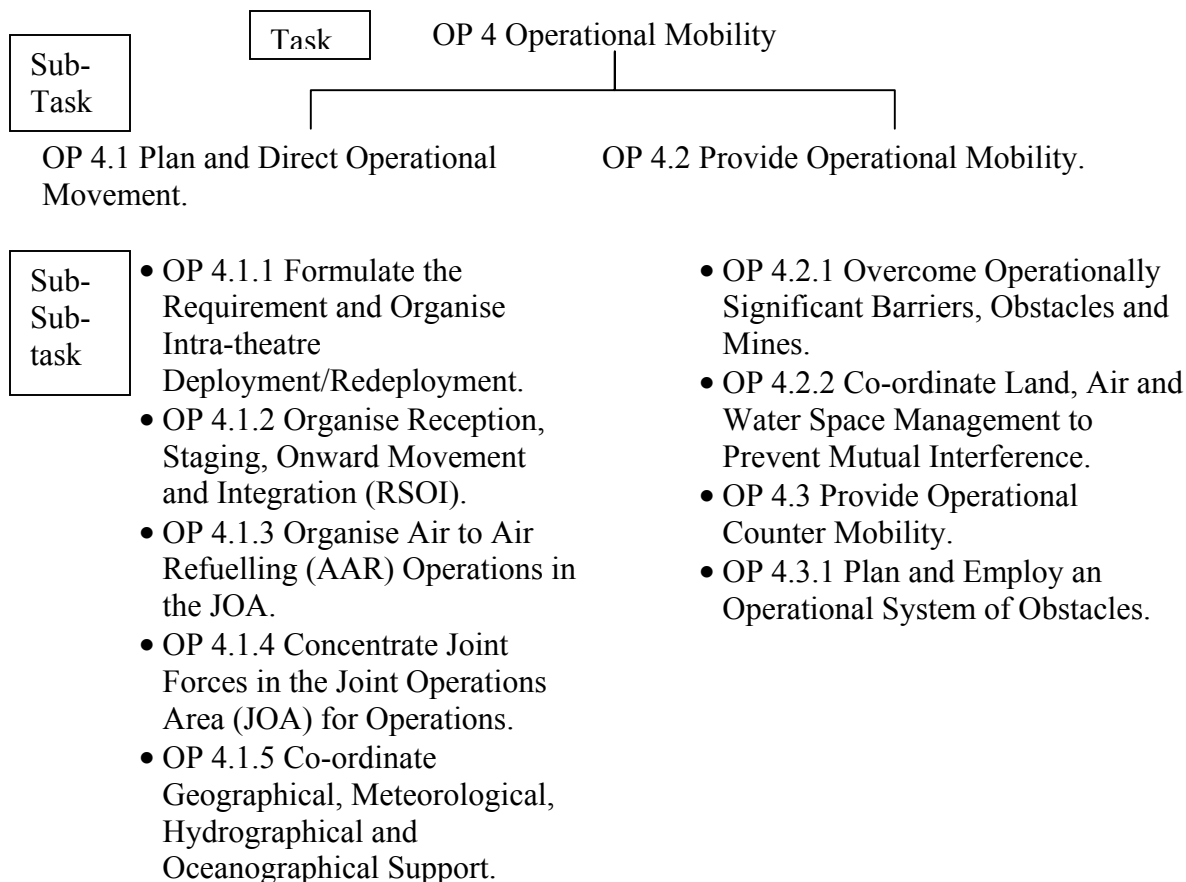| PEACE		CONFLICT
OPERATIONS OTHER THAN WAR		
		WARFIGHTING
SAR		
Disaster Relief		
Int'l Humanitarian Assistance		
Surv & Control of Cdn Territory & Approaches		
Evacuation of Canadians Overseas		
Peace Support Operations (Chapter 6)		
Aid of the Civil Power		
National Sovereignty/Interest Enforcement		
	Peace Support Operations (Chapter 7)	
	Defence of Canadian - US Territory	
		Collective Defence
NON-COMBAT OPERATIONS		
		COMBAT OPERATIONS

Source: Canada, Defence Planning Guidance 2001 (Internet:
http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dfppc/dpg/dpg2001/chap2_e.asp#210
accessed 22 March 2005).

Appendix 3

Example Breakdown of Canadian Joint Task List

Level	Command & Control		Operations			Sustain	Generate	Corp Strategy
	Command	Info/Intel	Conduct	Mobility	Protect			
Military Strategy	H	H	L	H	L	L	M	H
Operational (Domestic)	H	H	M	M	M	M	M	M
Operational (International)	M	M	L	L	L	M	L	M
Tactical	M	M	M	M	M	M	M	H

Task	OP 4 Operational Mobility

Sub-Task

OP 4.1 Plan and Direct Operational Movement.

OP 4.2 Provide Operational Mobility.

Sub-Sub-task

- OP 4.1.1 Formulate the Requirement and Organise Intra-theatre Deployment/Redeployment.
- OP 4.1.2 Organise Reception, Staging, Onward Movement and Integration (RSOI).
- OP 4.1.3 Organise Air to Air Refuelling (AAR) Operations in the JOA.
- OP 4.1.4 Concentrate Joint Forces in the Joint Operations Area (JOA) for Operations.
- OP 4.1.5 Co-ordinate Geographical, Meteorological, Hydrographical and Oceanographical Support.

- OP 4.2.1 Overcome Operationally Significant Barriers, Obstacles and Mines.
- OP 4.2.2 Co-ordinate Land, Air and Water Space Management to Prevent Mutual Interference.
- OP 4.3 Provide Operational Counter Mobility.
- OP 4.3.1 Plan and Employ an Operational System of Obstacles.

Source: Canada, Department of National Defence, "Canadian Joint Task List v1.4," http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/cjtl/cjtl14/cap4_e.asp; Internet; accessed 30 March 2005.

Appendix 4

Relationship Between the Functional Tasks and Relevant Canadian Joint Tasks

PRICIE Pillars

Diagram callout labels:
- PRICIE Category
- CJT Assessments
- FTL Assessments
- Weighting

Column heading (PRICIE category box): Personnel Professional Dev & Leadership — Return to Strategic CJTL Summary

Canadian Joint task list column headers:
- S 6.1 Sustain the Force with Materiel and Services
- S 6.1.1 Manage the Joint Supply Chain
- S 6.1.2 Negotiate and Acquire Host Nation Support (HNS)
- S 6.1.3 Establish Access and Storage Agreements
- S 6.1.4 Provide Legal Support
- S 6.2 Develop Sustainment Base
- S 6.2.1 Determine Sustainment Priorities
- S 6.2.2 Find Strategic Lift for Sustainment
- S 6.2.3 Expand Logistic Support to Match Forecasted Requirement
- S 6.2.4 Prepare the Industrial Base
- S 6.2.5 Match Medical Support to the Sustainment Requirement
- S 6.2.6 Match Transportation to the Sustainment Requirement
- S 6.2.7 Match Personnel Support to the Sustainment Requirement
- S 6.3 Direct Personnel Support
- S 6.3.1 Manage Support Services for Personnel
- S 6.3.2 Provide Health Services
- S 6.3.3 Provide Long Term Health Surveillance System
- S 6.3.4 Direct Casualty Evacuation
- 6.3.5 Activate Joint Casualty Reporting and Reception Plan (JCRRP)
- Number of Occurrences

Functional Task	Assessment	Number of Occurrences
0.0_Plan_Food	2	1
0.1_Est_Food_Svcs	1	0
0.2_Prov_Food	1	0
0.3_Monitor_Food_Contr	1	0
0.4_Prov_Food_Tech_Liais	1	1
0.5_Contr_Food_Svc_Lcl	2	0
0.6_Contr_Rations_Local	2	0
1.0_Prov_Mortuary_Affairs	3	0
2.0_Prov_Laundry_Bath	1	1
2.1_Construct_Laundry_Bath	1	1
3.0_Est_Trns_Mov_Svcs	3	0
3.1_Plan_Moves	1	1
3.2_Asst_Legal_Mssn	2	1
3.3_Acq/Contr_Lift	1	5
3.4_Move_Bulk_Fuel	2	1
3.5_Contr_jetty.N	3	2
3.6_Liaise_jetty.N	1	0
3.7_Spt_Cargo/Pers_Handling	3	6
3.8_Coord_Sust_Moves	3	3
3.9_Coord_Op_Moves	1	0
3.10_Coord_Pers_Mves	1	4
3.11_Acq/Contr_Lcl_Trnsp	2	5
3.12_Arrng_Repat_Trans	2	2
3.13_Cndt_Return_Move	1	3

Notes

1. This example has been altered from the original.

2. This slide shows all the Sustain Strategic CJTs across the top row. The left column shows about one quarter of the Functional Tasks that contribute to these CJTs. The second column shows the assessment of the Functional Tasks as determined by the organization that is responsible for executing the respective Functional Task. The numbers within the table show the relative strength of the contribution that each Functional Task makes to the CJT in the top row.

3. In this example, CJTs coloured red have serious deficiencies that may be traced to red Functional Tasks.

4. This table reflects assessments done for the Personnel component of the PRICIE construct only, similar tables would have to be created for each of the other five components of PRICIE.

5. This table provides input to the table in Appendix 4 – note that CJT S6.1 would be coloured yellow since its four sub-tasks are green, green, yellow and yellow.

Source: Sustain Forces JCAT Homepage, Briefing made to Sustain Forces JCAT, 31 August 2004. Available from http://lognet.dwan.dnd.ca/j4log/jcat/index_e.asp; Intranet; accessed 30 March 2005; Intranet; accessed 30 March 2005.

Appendix 5

Assessed Status of Sustain CJTs

Canadian Joint Task List v1.4   Capability Area 6: Sustain

Sustain CJTL Description   **Assessment of the FTL**

Strategic   **Operational International**   **Tactical**

Strategic	Operational International	Tactical
S 6.1 Sustain the Force with Materiel and Services.	**OPI 6.1 Manage Logistic Support in the Joint Operations Area (JOA).**	**T 6.1 Conduct Logistic Support in the Joint Operations Area (JOA).**
P R I C I E	P R I C I E	P R I C I E
S 6.2 Develop Sustainment Base.	**OPI 6.2 Manage Equipment Support in the Joint Operations Area (JOA).**	**T 6.2 Conduct Equipment Support in the Joint Operations Area (JOA).**
P R I C I E	P R I C I E	P R I C I E
S 6.3 Direct Personnel Support.	**OPI 6.3 Co-ordinate Support and Rehabilitate Forces.**	**T 6.3 Perform Military Engineering Support.**
P R I C I E	P R I C I E	P R I C I E
	OPI 6.4 Co-ordinate Health Support in the Joint Operations Area (JOA).	**T 6.4 Provide Support Services for Personnel.**
Go to PRICIE Summaries	P R I C I E	P R I C I E
	OPI 6.5 Develop Logistic Capability.	**T 6.5 Establish Forward Bases.**
P R I C I E	P R I C I E	P R I C I E
Overall Summary	**OPI 6.6 Develop Campaign and/or Sustainment Bases.**	
6 * 4 Matrix	P R I C I E	

Abbreviations

C2I2	Command and Control and Information and Intelligence
C4ISR OC	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance Oversight Committee
CBG	Canadian Battle Group
CBP	Capability-Based Planning
CDSG	Capability Development Steering Group (did not exist when this paper was written)
CDWG	Capability Development Working Group
CF	Canadian Forces
CID	Capability Investment Database
CJT	Canadian Joint Task (there are approximately 450 CJTs in the CJTL)
CJTL	Canadian Joint Task List
DCDS	Deputy Chief of Defence Staff
DDA	Directorate of Defence Analysis (DDA)
DGIMSD	Director General Information Management Strategic Development
DGJFD	Director General Joint Force Development
DGSP	Director General Strategic Plans (DGSP)
DND	Department of National Defence
DP&M	Defence Planning & Management
DSS	Decision Support System
FD	Force Development
FIDO	Fundamental Investigation of Defence Options
FPS	Force Planning Scenario
FT	Functional Task
FTL	Functional Task List
JCAT	Joint Capability Assessment Team
JCRB	Joint Capability Review Board
SOCRAM	Scenario Operational Capability and Risk Assessment Model
TSSU	Tactically Self-Sufficient Unit
TTCP	The Technical Cooperation Program
VCDS	Vice Chief of Defence Staff
WG	Working Group

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