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GUESSING WHAT IS ON THE OTHER SIDE OF THE HILL : A REVIEW OF CANADA'S EXPERIENCE WITH IPB.

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ABSTRACT

This research paper examines the effectiveness of the Intelligence Preparation of the Battlespace (IPB) process within the Canadian Forces. IPB was adopted in 1994 by Canada in order to remain interoperable with its ABCA allies. Adopted unilaterally by the army initially, the process has gradually been accepted by all elements of the Canadian Forces over the last ten years. The author postulates that although IPB is an overall good process that brings benefits to the Canadian Forces planning process, there are also significant deficiencies that limit its employment. In particular, IPB has failed to support the Canadian forces where it should count the most, during the conduct of both international and domestic operations. These failures are not surprising, as IPB was developed to fight a well-defined enemy, in a linear battlefield. It was designed to simplify the intelligence estimate process and to look not only at enemy capabilities but also its intentions. The environment under which IPB was developed has changed considerably since the end of the Cold War, but the process has failed to keep pace with those changes. The current operating environment is multifaceted and intricate. The adversary is more often than not nebulous, working in complex terrain. Using the IPB process in today's environment is difficult as it takes time to develop a good understanding of this complex environment. The author argues that there are two potential venues to make IPB more relevant and responsive. The first one is to link the force protection / threat assessment dimension to the process. The second is to make the process more flexible.

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INTRODUCTION

"All of the business of war, and indeed all of the business of life, is to endeavor to find out what you don't know by what you do: that's what I called guessing what was on the other side of the hill."

Duke of Wellington[1]

The inherent nature of command involves making decision.[2] In this regard, the situation faced by a military commander today remains essentially the same as the one faced by the Duke of Wellington 200 years ago. During the conduct of military operations, a commander and his staff need information, at a minimum, on the capabilities of his own troops, the capabilities and intentions of the opposing forces and the impact of the environment under which he will operate (terrain and weather). Military Intelligence is what traditionally provides information on those last two points[3], as a Commander (in theory at least) has already access to information on the strength and weaknesses of his own forces.

Many tools exist to support a commander during his decision making process, among which stand the military estimate. An estimate can take many forms and is used by many organizations, including intelligence, but the basic construct remains the same.

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[1]Intelligence Branch Association, "Just What is Intelligence Anyway?" *The Intelligence Notebook,* http://www.intbranch.org/engl/intntbk/int01 html; Internet; accessed 04 October 2004.

[2]For additional information on the concept of command, see Carol McCann and R. Pigeau, "What is a Commander?," in *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership*, ed. Bernard Horn and Stephen Harris, 79-104 (St.Catherines: Vanwell Publishing Limited, 2001), 101.

[3]Department of National Defence, B-GJ-005-200/FP-000 *Joint Intelligence* Doctrine (Ottawa: DND Canada, 2003), 1-1.

It is an "orderly analysis of a problem leading to a reasoned solution."[4] For Canadian military intelligence staff, the use of such a formal approach to support a commander is not a new phenomenon, as it goes back at least to the First World War.[5] As it can be appreciated, the intelligence estimate format evolved considerably over the last 90 years to meet the changing requirements of the military forces. In 1994, Canada agreed, along with its ABCA[6] allies of Australia, England and United States, to adopt the Intelligence Preparation of the Battlespace[7] process, better known under its abbreviation of IPB, as the coalition latest standardized military intelligence estimate methodology. In this regard, IPB is only the latest evolution for the Canadian Forces in a long tradition of employment of intelligence estimate.

The decision to adopt IPB was taken by Canada's Army and Training Board[8], working within an ABCA Quadripartite Working Group, in order for the Canadian Forces to remain fully interoperable with its closest military Allies. It was fully consistent with one of the aims of the coalition, which is "to achieve the highest possible

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[4]Department of National Defence, B-GL-300-003/FP-000 *Command* (Ottawa: DND Canada, 1996), 123.

[5]Canadian Corps, *Intelligence Instructions Canadian Corps* (Printed in France by army printing and stationary service, June 1918), 1.

[6]ABCA stands for America, Britain, Canada and Australia Coalition.

[7]The original name of IPB was Intelligence Preparation of the Battlefield, as it was a tactical, army-focused, process. But, Battlespace eventually replaced the name Battlefield in most publications, as it provides a more global view of what IPB is all about. The change took place over time as IPB was adopted by the other services of the US Armed Forces, as well as ABCA and NATO countries. For the intent of this research paper, the name Battlespace will be used.

[8]Lieutenant-colonel G. Jensen, telephone conversation with author, 07 September 2004. LCol Jensen was the Canadian Forces Army G2 at the time the decision was taken.

degree of interoperability among the signatory Armies through material and non-material standardization."[9]

IPB is defined as a "continuous and systematic process of analyzing the adversary with existing weather and terrain conditions within a specific geographic environment within the guidelines and tempo of the Operational Planning Process."[10] It is designed to support staff estimates and military decision-making. IPB was developed in the United States in the aftermath of the Vietnam War as an intelligence tools to provide commanders, not only with information on the enemy capabilities, but also on its intention. It was designed to expedite the conduct of the intelligence estimate, by using a very systematic process, in order to develop graphic outputs that are easier to assimilate. IPB is a product of the Cold War and as such was designed to meet the specific requirements of that period. It was introduced as the official US Army intelligence estimate in the mid-1980s and was gradually adopted during the 1990s by the other services of the United States Armed Forces, as well as the members of the ABCA Coalition and NATO organization.

IPB has been part of the Canadian military intelligence doctrine for the last 10 years. It is a methodology that is used widely throughout the Canadian Forces, by

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[9]ABCA, *Basic Standardization Agreement among the Armies of United States-United Kingdom Canada-Australia,*. http://www.abca hqda.pentagon mil/Public/BSA_64.doc; Internet; accessed on 04 October 2004.

[10]Department of National Defence, B-GL-357-001/FP-001 *IntelligenceField Manual* (Ottawa: DND Canada, 2001), 70. It is a very similar definition than the one used in the American publication, *Field Manual 34-130, Intelligence Preparation of the Battlefield*, 1-1.

army[11], air force[12] and naval intelligence[13] organizations, both at the tactical and operational levels. Members of the Canadian military intelligence community are now knowledgeable on IPB as it is an essential and key element being taught at the Canadian Forces Military Intelligence School in Kingston[14]. In fact, intelligence specialists cannot function efficiently today without a good knowledge of IPB. The reach of IPB goes beyond the exclusive domain of military intelligence personnel. IPB is also fully integrated with the Operational Planning Process (OPP) and as a result, it is also part of the curriculum of the Canadian Land Force Command and Staff College in Kingston and the Canadian Forces College in Toronto.

One may ask how valuable and relevant the IPB process really is. Is it a good intelligence tool? Does it provide an adequate methodology to support the planning process for every type of operations into which the Canadian Forces are involved? The aim of this research paper is to demonstrate that although IPB is an overall good process that brings benefits to the Canadian Forces planning capability, it has also significant deficiencies that limit its employment. It is the intent of this research to highlight those deficiencies and to propose new venues to improve the IPB process.

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[11]Author's experience.

[12]Major P. Johnston, email to the author, 22 March 2005. Maj Johnston is part of the Air staff A2 section at 1st Air Division HQ in Winnipeg.

[13]Lieutenant Navy S. Therriault, email to the author, 27 January 2005. Lt (N) Therriault, is a naval intelligence officer.

[14]Lieutenant-colonel P. Michaud, telephone conversation with the author, 01 November 2004. LCol Michaud, major at the time, was the Commandant of the Canadian Forces School of Military Intelligence from 2002 to 2004.

This research paper is divided into three parts. It will begin in its first chapter by setting the stage to understand IPB. It will introduce the larger field of military intelligence theory, before examining the origins of IPB, the key elements of the IPB process and the connections between IPB and the operational planning process (OPP). In the second chapter, Canada's experience with IPB will be analyzed with the intent of highlighting the pros and cons of the process in a Canadian context. This chapter will also introduce the changes that have occurred since the end of the Cold War in the military operating environment, as well as in the digitalization of military affairs. Chapter three will conclude by proposing new venues on how to make the IPB process more efficient and relevant for the Canadian Forces.

CHAPTER 1

DEFINITION, ORIGINS AND PROCESS OVERVIEW

> *"The fundamental reason intelligence is so important and central a capability and therefore a primary function of war, is that intelligence is what makes going to and conducting military operations a rational act."*
>
> *Bassey's Encyclopedia of the Land Forces and Warfare* [15]

To fully appreciate Canada's experience with IPB, there is a prior requirement to understand the process itself. It is therefore the aim of this chapter to set the stage for this research by taking a closer look at IPB. IPB will first be placed into the greater context of military intelligence. Then the origins of the process will be reviewed to understand the circumstances under which IPB was developed. The chapter will conclude by briefly describing the IPB process itself and its integration with the operational planning process (OPP).

IPB WITHIN THE CONTEXT OF MILITARY INTELLIGENCE

Intelligence is there to support three distinct but very important dimensions for a commander.[16] The first is 'force protection', which aims at providing a commander with all the information he requires to provide adequate warning to protect his forces. The

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[15]Lloyd Hoffman, "Intelligence, Military," *Bassey's Encyclopedia of the Land Forces and Warfare* (Printed in the United States of America, 1996), 511.

[16]Author's experience. This concept summarized what is described in B-GJ-0050200/FP 000 *Joint Intelligence*, 1-2.

second is 'situational awareness' in support of the accomplishment of the mission, where intelligence provides the information required to build an accurate picture of what the opposing force is doing now and what potential actions it can take. The third dimension is to support the targeting process by identifying targets of value. Those three distinct but equally important dimensions for intelligence must be taken into consideration in every military operation.

The latest Canadian Forces Field Manual on intelligence, published in 1999 and updated in 2001, defines intelligence as:

> The product resulting from the processing of information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations. The term is also applied to the activity which results in the product and the organizations engaged in such activity.[17]

Military intelligence is therefore an organization, a product and a process.

To get intelligence, the product, there is a need to have a systematic approach to do it, which is the process. The personnel and the structure dedicated to achieve this constitute the organization. To express this in other terms, to get intelligence, there is a need to know what you are looking for, to dedicate assets to get data about it, to process that data in order to make sense of it and to finally disseminate the results to those who need it. That process is known as the *Intelligence cycle*, which is defined as "the process

[17]Department of National Defence, B-GL-357-001/FP-001 *Intelligence Field Manual* (Ottawa: DND Canada, 2001), 2. This definition is taken from the AAP-6, NATO Glossary of Terms and Definitions.

by which information is converted into intelligence"[18]. It is a sequence of systematic activities that leads to the production of intelligence.

The intelligence cycle is composed of four phases[19]: Direction, Collection, Processing and Dissemination. Those four phases are interdependent; each element is dependent on the other for meaning.[20] Collection is dependent on Direction to know what it is that requires being collected. Processing is dependent on the collected data for its analysis, and dissemination requires analyzed products to feed to the decision-makers (See Figure 1.1).

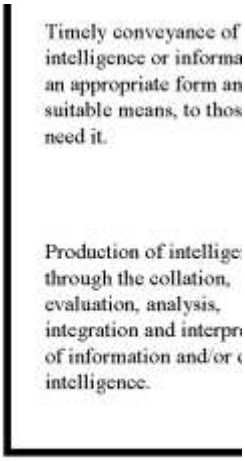

Figure 1.1 – Summary of the Intelligence Cycle
Source: This is a summary of B-GL-357-001//FP-001 *Intelligence*

[18]Hoffman, Intelligence . . ., 509.

[19]B-GL-357-001/FP-001 *Intelligence* . . ., 25. These four phases are consistent with the NATO doctrine on intelligence.

[20]Hoffman, Intelligence . . ., 509.

The intelligence cycle is objective oriented; that is, intelligence production should never be random, but always done to support decision-making or the conduct of military operations. In addition, although the cycle is repetitive, as the need for intelligence is continuous, the four phases of the process take place simultaneously (See Figure 1.2).

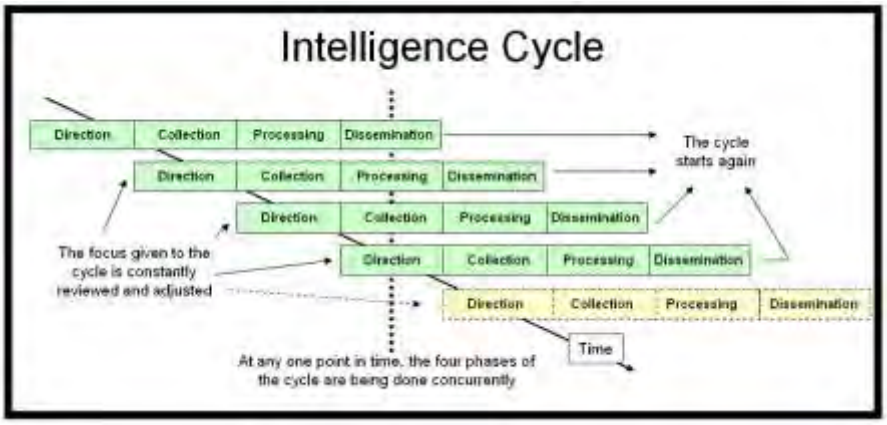

Figure 1.2 – The Repetitive Nature of the Intelligence Cycle
Source: This is based on the author's experience

Direction is the first element of the intelligence cycle, and is arguably the most important step in the process. The raison d'être of intelligence is to support the requirements of the commander and his staff. The importance of the direction phase rests on the basic principal that if the focus given to the intelligence effort is not properly directed, the cycle will not be able to provide the commander with the information he requires. In other words, if you do not ask the right questions, you will not get the specific elements of information that a commander needs.

For the direction phase to be efficient, there are three key elements that must take place, which are known as the intelligence battle procedure.[21] First, the intelligence staff

[21]B-GL-357-001/FP-001 *Intelligence* . . ., 30.

must know the mission of their unit/formation, as well as the intent of their commander and his specific requirements in regard to intelligence (Mission analysis). Second, the intelligence staff must evaluate the adversary, not only to determine its capabilities, but also its intentions and the impact that the adversary can have on the accomplishment of the mission (Intelligence estimate). Finally, the intelligence staff must translate the outputs from the mission analysis and the intelligence estimate into a coordinated information collection effort that is then transmitted to all available sources and agencies (Information collection plan).

Intelligence doctrine indicates that the intelligence estimate can take different format (See Figure 1.3), but at the tactical and operational level, IPB is the methodology of choice, due to its systematic approach and the integration of its graphic products into the operational planning process. IPB should not be confused with the intelligence cycle. IPB is only a subset of the intelligence cycle and takes place in the direction phase. IPB plays two roles. First, during any decision making process, a commander and his staff must take the adversary into consideration when developing the plan they will adopt. IPB provides that information. The second role of IPB is to help focus the information collection effort.

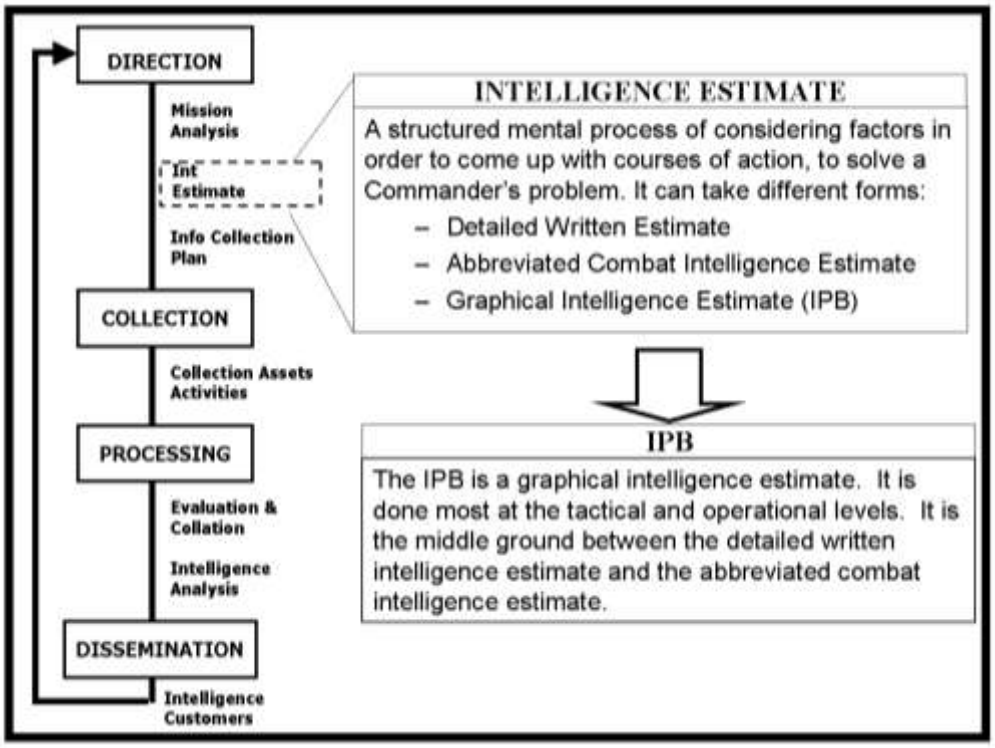

Figure 1.3 – Overview of IPB within the Intelligence Cycle
Source: This is adapted from a lecture on IPB given at CLFCSC by the author in 2004.

In summary, intelligence is "the systematic, planned and objective-oriented (non random) collection, analysis and dissemination of information based on open or denied sources."[22] The intelligence effort must be tailored to meet the specific needs of the commander. During the direction phase of the intelligence cycle, IPB offers a systematic approach to evaluate an adversary and translate that evaluation into relevant outputs to support a commander decision making process. IPB also provides the necessary direction to focus the intelligence collection effort that helps "the commander selectively apply and maximize his combat power at critical points."[23] (See Figure 1.4)

[22]Hoffman, Intelligence . . ., 509.

[23]Department of the Army, Field Manual 34-130 *Intelligence Preparation of the Battlefield* (Washington, D.C.: U.S. Government Printing Office, 1994), 1-1.

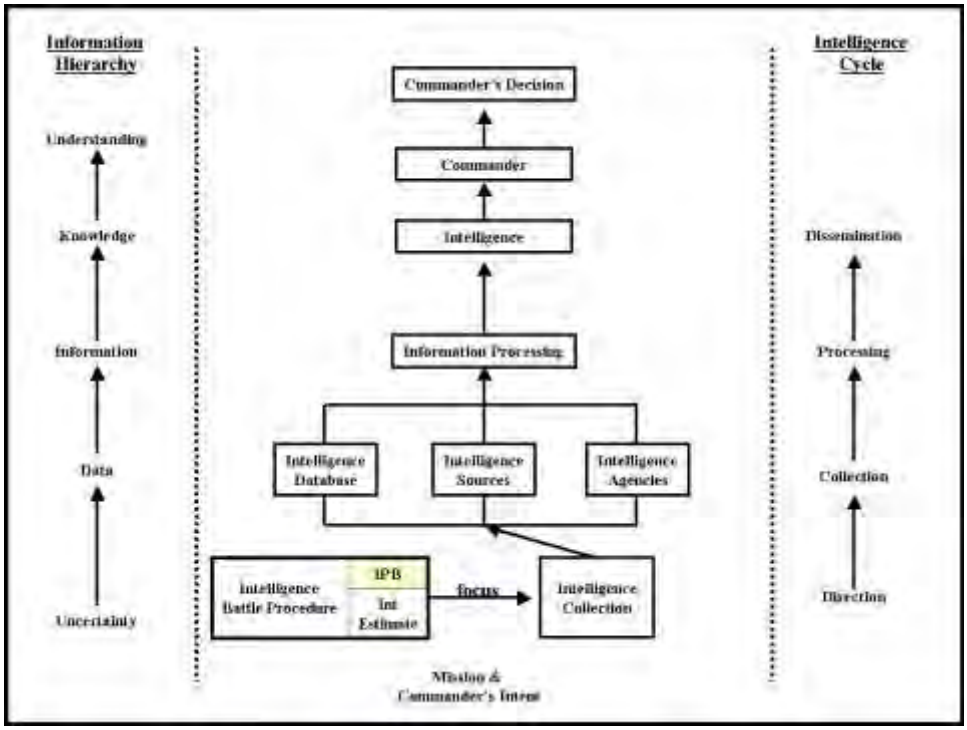

Figure 1.4- Intelligence Development and IPB
Sources: This is adapted from the Marine Corps Warfighting Publication 2-1, Intelligence Operations, 3-3.

ORIGINS OF IPB

The development of the IPB process took place in the aftermath of the Vietnam War, in what has been called a period of "doctrinal renaissance"[24] for the American Army. The failure in Vietnam had left the American military forces badly shaken, with low morale and poor efficiency. "Debate over the reasons for this failure, along with the necessity to rebuild the US Army, eventually prompted a far-reaching series of doctrinal

[24]Richard Swain, "Filling the Void: The Operational Art and the U.S. Army," in McKercher B. and M. Hennessy's, *The Operational Art: Development in the Theory of War* (London, Praeger Publishers, 1996), 148.

and organizational changes that cut to the core of how the Army expected to do business in future war."[25] One of the key measures taken was the creation of the "Army's Training and Doctrinal Command in 1973".[26]

It is within this greater context of doctrinal change that the military intelligence estimate process was also reviewed. For the U.S. Army at the time, this review was necessary, "as the speed, scope, and complexity of tactical operations [had] increased, so [had] the need for a systematic way to approach the intelligence problem prior to the battle."[27] This review eventually resulted in the development of IPB. Two key dimensions were evaluated. First, the American Army looked at options on how to better formalize and simplify the process. In November 1975, the commandant of the U.S. Army Intelligence School at the time, Brigadier General Kelley, directed his development staff to work on "the formalization of a deliberate and systematic process to understand terrain, weather, and the enemy in order to elucidate the enemy's probable course of action."[28] These guidelines were translated a year later by the IPB project officer, Major Gaun, who described his work as an effort to standardize "tactical intelligence analysis through the use of graphics . . . and templates as aids to analysis and a means of

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[25]Bruce Menning, "Operational Art's Origins," *Military Review* LXXVII, No. 5 (September-October 1997): 42.

[26]Richard Swain, Filling the Void . . ., 147.

[27]Russell Thaden, "Intelligence Preparation of the Battlefield and Predictive Intelligence," (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 1986), 1.

[28]Lawrence Brown, "The Enemy We Were Fighting Was Not What We Had Predicted. What Is Wrong With IPB At The Dawn Of The 21st Century?" (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 2004), 2.

disseminating intelligence."[29] The second dimension was that the new intelligence estimate process must not only determine the enemy's capabilities, but also its intentions. The 1976 version of FM 100-5, *Operations*, was very clear in this regard, stating "[…] enemy intentions must be considered along with capabilities and probable actions."[30]

The review of the intelligence estimate process led to the publication of two draft training concept papers, TC-30-27 in 1978 and TC-34-3 in 1981[31] which described a new methodology called Intelligence Preparation of the Battlefield.[32] IPB was first published as army doctrine in 1984, as part of FM-34-1, *Intelligence Electronic Warfare Operations*.[33] Five years later, in 1989, IPB doctrine was re-published under its own Field Manual, FM 34-130, *Intelligence Preparation of the Battlefield*.[34] FM 34-130 was updated in 1994, which remains to date the current American Army doctrinal manual on IPB. IPB was eventually adopted by the other U.S. Armed Forces services, which produced also their own doctrinal manuals.[35]

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[29]Major George Gaun, "Intelligence Preparation of the Battlefield," *Military Intelligence Magazine* (Summer 1976), 30, quoted in Thaden, Russell, "Intelligence Preparation of the Battlefield and Predictive Intelligence," (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 1986), 1.

[30]Department of the Army, Field Manual 100-5 *Operations* (Washington, D.C.: U.S. Government Printing Office, 1976), 7-13.

[31]Thaden, "Intelligence Preparation of the Battlefield and Predictive Intelligence" . . ., 39.

[32]See note 7 above.

[33]Thaden, "Intelligence Preparation of the Battlefield and Predictive Intelligence" . . ., 39.

[34]*Ibid*.

[35]In addition to Field Manual 34-130 *Intelligence Preparation of the Battlefield*;, there are twoother key American publications on IPB: Joint Publication 2-01.3 *Joint Tactics, Techniques, and Procedures for Joint Intelligence Preparation of the Battlespace*; and Air Force Pamphlet 14-118 *Aerospace Intelligence Preparation of the Battlespace*.

There are three elements to take away from the origins of IPB. First, IPB was the result of a systematic and a detailed review of the intelligence process by the American Army. Second, IPB was developed initially as an intelligence tool for tactical formation of division and below. Finally, IPB was developed during the context of the Cold War to support what became known as the 'Air-Land Doctrine', when the focus was placed on the necessity to be ready to fight against a well-developed conventional enemy if required to do so.

IPB: AN OVERVIEW OF THE PROCESS

The basic construct of the IPB process rests on the principle that when faced with complex situations, "humans traditionally try to reduce them into smaller segments . . ., [which] are more easily analyzed and understood. Through understanding the nature of its parts, the problem can be reassembled and understood as a whole."[36] The underlying assumption behind this concept is that the final understanding of a situation equals the sum of each of its parts.

IPB is a bottom-up process that first looks at the details of a situation in order to understand the big picture. IPB divides the *battlespace* into three segments (determining the area to be evaluated, the terrain, and the adversary) that are analyzed separately.

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[36]Robert Mikaloff, "Intelligence Preparation of the Battlefield in Peace Operations: Is it Time for a Change?" (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 1999), 15.

"After analysis these elements are reassembled into a whole which provides the commander a picture of the terrain and enemy that aids in his decision making."[37]

The process is divided into four distinct steps as follow:[38]

1. Define the battlespace environment;
2. Describe the battlespace's effects;
3. Evaluate the threat; and
4. Determine the threat courses of action.

In very simple terms, the first three steps of IBP are designed to gather specific information about the area of operations and the opposing force. This information is then combined during the fourth step to determine enemy's courses of action (COA). The next part will now focus on what doctrinal manuals[39] say about this conceptual framework of analysis. (See Table 1.1 for a summary of the process).

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[37]Mikaloff, "Intelligence Preparation of the Battlefield in Peace Operations . . .", 6.

[38]Field Manual 34-130 *Intelligence Preparation of the Battlefield* . . ., 1-1. Canada's doctrine on IPB is a copy of the American FM 34-130.

[39]This is based on the following:
Canadian publications:
- B-GJ-005-200/FP-000 *Joint Intelligence Doctrine*, and
- B-GL-357-001/FP-001 *Intelligence Field ManuaI*;

American publications:
- Field Manual 34-130 *Intelligence Preparation of the Battlefield;*
- Joint Publication 2-01.3 *Joint Tactics, Techniques, and Procedures for Joint Intelligence Preparation of the Battle Space;* and
- Air Force Pamphlet 14-118 *Aerospace Intelligence Preparation of the Battle Space*,

ABCA Quadrapartite Standardization Agreement (QSTAG)
- 1034 *Intelligence Preparation of the Battlefield and Incompatibilities of Intelligence Doctrine*.

Table 1.1 – Summary of the Intelligence Preparation of the Battlespace Process

IPB Steps	Key Elements	Output
Define the battlespace environment	• Identify the limits of the area of operation • Identify the limits of the area of interest • Identify intelligence gaps and priorities	• Trace that identify the areas of operations and interest • List of Priorities Intelligence Requirements (PIR)
Describe the battlespace's effects	• Conduct terrain analysis • Evaluate the impacts of weather • Determine sun and moon rise/set data	• Various terrain analysis overlay • Impacts of weather • Light table
Evaluate the threat	• Identify the adversary • Determine the adversary current situation • Identify adversary capabilities, including strengths and weaknesses • Update or create adversary models	• Adversary order of battle • Adversary equipment • Adversary tactical/operational templates (Modus operandi)
Determine the threat courses of action	• Identify adversary's likely objectives and end state • Identify the full set of courses of action open to the adversary • Evaluate and prioritize the courses of action • Identify initial collection requirements	• At a minimum identify the adversary's most likely and most dangerous courses of action • Produce the event template and matrix • Produce a high value target list • Produce a draft intelligence collection plan

Source: B-GL-357-001/FP-001 *Intelligence Field Manual*.

During the first step of IPB, the limits of the battlespace environment to be analyzed are determined, which includes the area of operations and the area of interest (See Figure 1.5). The area of operations is doctrinally defined as the "geographical area where the commander is assigned the responsibility and authority to conduct military operations."[40] The area of interest is the "geographical area from which information and intelligence are required to permit planning or successful conduct of the command's

[40] *Ibid*., 2-4.

operations."[41] To analyze those areas, the intelligence staff therefore begins to gather and collect data necessary for its analysis. Some of the information required may already exist in intelligence database, while other will need to be collected. Early in this step of the IPB process, those gaps in the information required by a commander and his staff are identified, which are prioritized and eventually incorporated into an intelligence collection plan. The gaps that are critical to a commander are named Priority Intelligence Requirements (PIR) and special efforts are given to address those requirements in priority. The never-ending effort to search for information in support of the intelligence cycle begins.

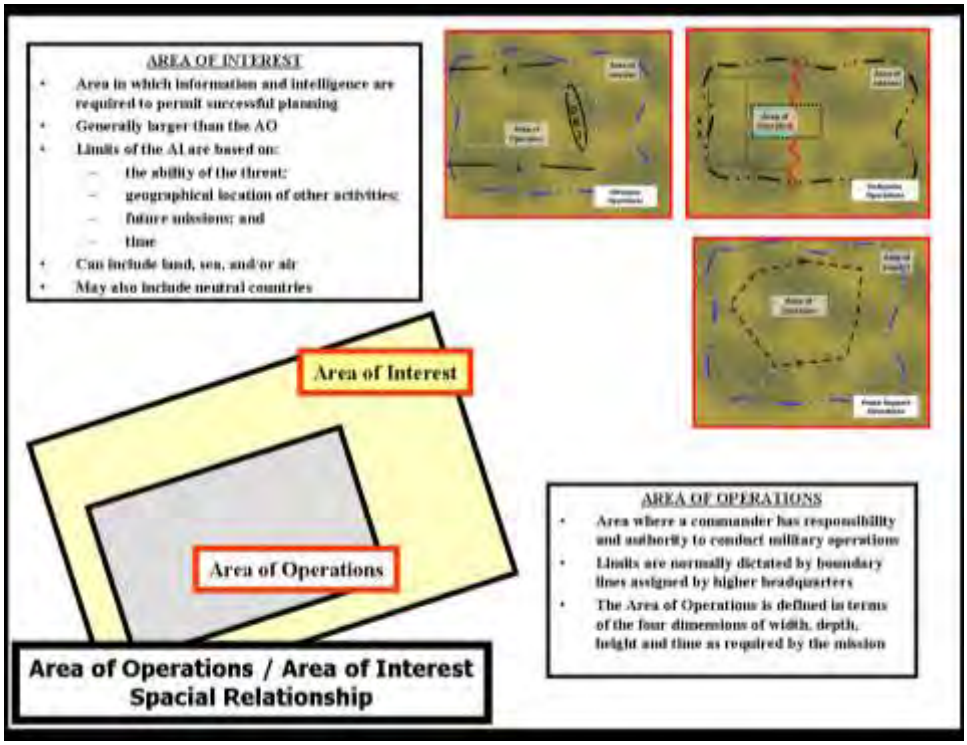

Figure 1.5- Area of Operations / Area of Interest Spatial Relationship
Sources: This is adapted from presentation given at CLFCSC

[41] *Ibid*.

Once the limits of the area of operations and interest are determined, step two can be launched. During this step, the effects of weather, terrain and other characteristics of the battlespace, such as information on sunrise/sunset and moon cycles (know as light table) are analyzed to determine how they can affect both friendly and enemy operations within a given area.[42] Overall, step two "helps paint the picture of what [geographic] conditions the unit could face."[43]

Step three focuses on evaluating the opposing force. The intent of this step is to "develop threat models which accurately portray how threat forces normally execute operations and how they have reacted to similar situations in the past."[44] The purpose is to use all the information that is known about an opposing force, what its capabilities are, without considering (at this time of the process) the specific particularities of the area of operations. Some of the key objectives during this step are to identify the opposing force strengths and vulnerabilities, as well as what capabilities it posses that could become targets of value (if destroyed or neutralized will create the greatest disruption of its overall capabilities). Those targets are known as High Value Targets (HVT).

Finally, step four focuses on determining the courses of action of the adversary. In fact, it "incorporates the first three steps of the process into a picture of how the enemy will use terrain, weather, and its existing assets to achieve its goals."[45] In other words,

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[42]*Ibid*., 2-7.

[43]Medley, Street Smart Intelligence . . ., 19-20.

[44]Field Manual 34-130 *Intelligence Preparation of the Battlefield* . . ., 2-29.

[45]Medley, Street Smart Intelligence . . ., 21.

given the specific effects of the environment in which the operation will occur, the question to be answered is what can the opposing force do? Those are then transposed into courses of action (COA), or "templates depicting predicted enemy behavior throughout the area of operations."[46] The intent of this step is to develop as large a number of options opened to the enemy as feasible. As those courses of action are assumptions and not facts, there is a requirement to develop a methodology to track what the enemy will do. This system aims at determining as early as possible what course of action, or scheme of manoeuvre, the opposing force is undertaking. This then allows a commander to take action and react quickly in order to defeat the adversary. To achieve this, Named Areas of Interest (NAI) are used. NAI is "a point or area along a particular avenue of approach through which enemy activity is expected to occur. Activity or lack of activity within an NAI will help to confirm or deny a particular enemy course of action."[47] The list of NAIs is consolidated into a graphic called the 'Event Template' and a matrix called the 'Event Matrix'. Both the event template and matrix are incorporated into the intelligence collection plan.

The IPB products have a limited shelf life period due to the fluid circumstances upon which they were developed. IPB is therefore a continuous process as there is a need to periodically review the results of the analysis in order to remain current with the changes that have taken place in a situation.

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[46]*Ibid.,* 22.

[47]*Ibid*.

Although the IPB process is used by different services with different requirements, the overall concept remains the same. IPB provides a "framework that helps structure thought, compose appropriate questions, and incorporate information when it becomes available."[48] Up to a certain point, IPB can be adapted to the requirements of each service by shifting the focus given to the process and the level of details achieved. For example, in joint operations, the process is known as the Joint IBP process (JIPB), and the focus is a "macro-analytic approach that seeks to identify an adversary's strategic vulnerabilities and COGs [centers of gravity]."[49] Whereas, when IPB is used by a specific component such as the army, the focus "requires micro-analysis and a finer degree of detail in order to support component command operations."[50]

This is a very broad overview of the IPB process, a graphic summary of which is depicted in Figure 1.6. As it can be expected, the actual practical application of IPB is more complex than illustrated here. What is important to understand however is that "IPB is simply a staff process – a means and not an end"[51]. IPB provides a logical and structured framework for intelligence staff to analyze a given adversary in a given situation. IPB by itself accomplishes nothing, unless those who use it make sound and relevant deductions.

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[48]Jamison Medley and R. Glenn, "Street Smart: Intelligence Preparation of the Battlefield for Urban Operations," (*Rand Corporation*. http://www.rand.org/publications/MR/MR1287; Internet, accessed on 29 October 2004), 11.

[49]Office of the Joint Chiefs of Staff, Joint Publication 2-0 *Doctrine for Intelligence Support to Joint Operations* (Washington, D.C.: U.S. Government Printing Office, 2000), I-3.

[50]*Ibid*.

[51]Major Douglas Campbell, "The Real IPB Doctrine," *Military Review* LXX, No. 10 (October 1990), 85.

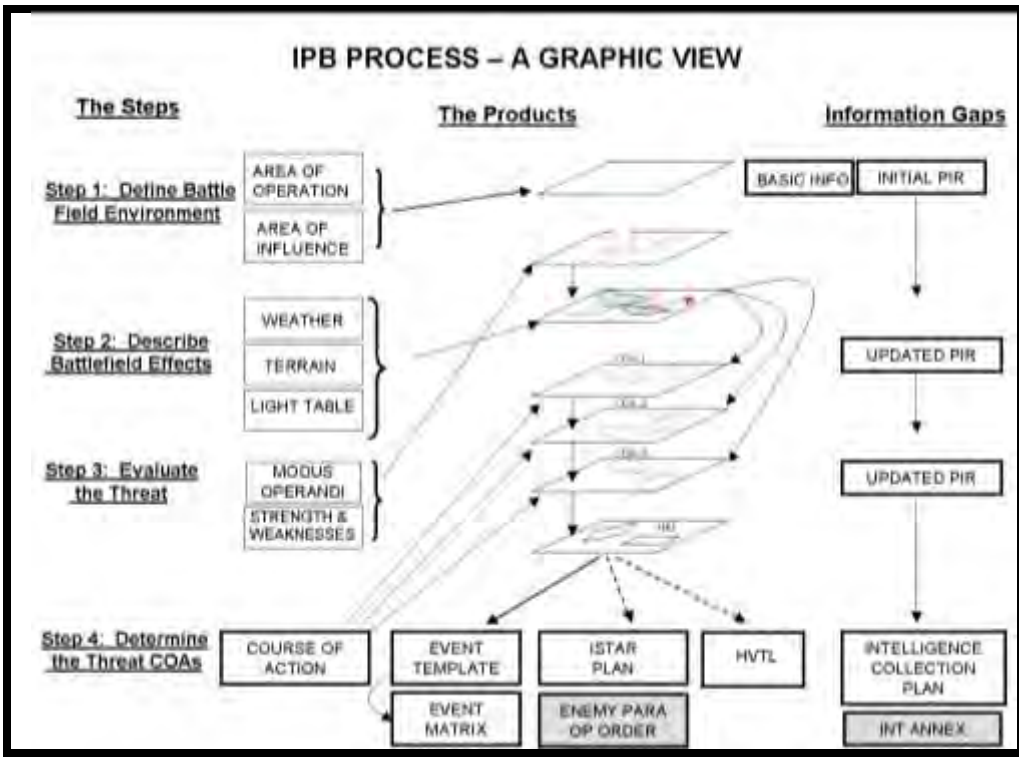

Figure 1.6 – IPB Process – A Graphic View
Source: This is adapted from a Lecture on IPB given at CLFCSC by the author in 2004.
Note: See the section on Abbreviations at the end for Acronyms

IPB AND THE OPERATIONAL PLANNING PROCESS (OPP)

The planning methodology currently used by the Canadian Forces and taught at the various command and staff colleges revolves around the OPP. One of the key advantages of IPB is its integration with the OPP process. The modular approach of the IPB, the graphic nature of the products resulting from its process and its emphasis on providing a wide-range of a potential adversary courses of action made IPB the ideal intelligence methodology to support the OPP process. "Commander drives intelligence

and intelligence drives operations."[52] This American saying summarizes well the relationship between IPB and OPP.

According to the CF Operational Planning Process Manual, OPP is defined as "a coordinated staff process used by a commander to determine the best method of accomplishing assigned tasks and to direct the action necessary to accomplish the mission."[53] At the core, it is an estimate conducted in a collective manner.

Similar to IPB, OPP is a structured process. OPP consists of five steps as follows:[54]

1. Initiation;
2. Orientation;
3. Course of action (COA) Development;
4. Plan Development; and
5. Plan Review.

In very simple terms, the OPP process is initiated with the reception of a directive from a higher headquarters, very often under the form of a 'warning order'. This activates the planning staff into launching the OPP process. The staff must be oriented toward the requirements and the specifics of the new operation. "This is where the commander must place his personal energies to ensure that subsequent activities are focused."[55] Following

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[52]Author's experience. This saying is very common within the American literature on intelligence. One example is the following article: Lady, John F. III, Major. "How the Commander drives Intelligence." *Military Review* LXXVI, No. 3 (May-June 1996) : 82-87.

[53]Department of National Defence, B-GJ-005-500/FP-000 *CF Operational Planning Process* (Ottawa: DND Canada, 2003), G-3.

[54]*Ibid*., 3-1.

[55]*Ibid*., 4-4.

the commander's guidance, the staff then continues the estimate process by developing a "comprehensive range"[56] of options to achieve the mission. Those options are briefed to the commander, who eventually selects the one he believes is the best suited to accomplish his mission. This option is then translated into "a plan or an operations order (OP O), designed to achieve the assigned mission and produce the desired end-state."[57] The final stage of the OPP ensures that the plan is "reviewed regularly to evaluate its viability."[58] Table 1.2 summarizes the key elements of the operational planning process.

Table 1.2 – Summary of the Operational Planning Process[59]

OPP Steps	Key Elements	Output
Initiation	• Receive Planning Tasks • Activate planning group	• Commander's initial planning guidance
Orientation	• Review the situation • Conduct mission analysis • Deliver mission analysis briefing • Issue commander's planning guidance	• Commander's planning guidance • Warning Order
Course of Action Development	• Analyze factors • Develop COA • Information brief • Commander's decision' • Wargame	• Decision brief • Proceed with plan development; or • Develop a concept of operations for approval
Plan Development	• Prepare plan / operation order • Seek approval of concept of operations • Issue plan	• Approved plan / operation order
Plan Review	• Conduct plan review • Revisited decision brief if required	• Updated plan / operation order

Source: B-GJ-005-500/FP-000 *CF Operational Planning Process*, 4A-1.

[56]*Ibid*., 4-8.

[57]*Ibid*., 3-1.

[58]*Ibid*., 4-15.

[59]Adapted from Department of National Defence, B-GJ-005-500/FP-000 *CF Operational Planning Process* (Ottawa: DND Canada, 2003), 4A-1.

There are five elements that are important to understand from the integration of IPB with OPP. First, the purpose of IPB is to support a commander and his staff during the planning process. As such, it is fundamental that a commander provides guidance to his intelligence staff on what he wants intelligence to focus on. This is the 'Commander drives intelligence' part of the American saying introduced at the beginning of this section. Second, for IPB to be relevant to the OPP, it must be front loaded within the overall planning process. It is therefore essential for the intelligence staff to start as early as possible in order to provide the information required by the operations staff on time. (The relationship of IPB in regards to where it fits in time with OPP is illustrated at Figure 1.7).

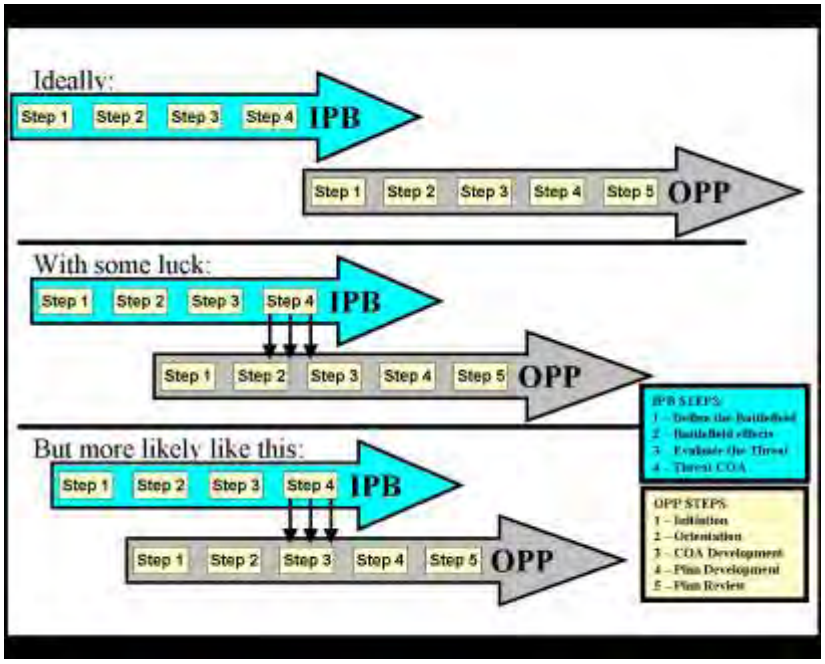

Figure 1.7 – Where IPB fits in time in relations to OPP
Source: This is adapted from a Lecture on IPB given at CFC by Lcol P. Lessard in 2005.

Third, IPB develops a large range of courses of action open to the opposing force, going from the most likely to the most dangerous. This spread of options allows a commander to prepare for the unexpected, even if unlikely. This gives him an edge when faced by that very unlikely option. Fourth, the intelligence staff plays a crucial role during the war game. By looking at a situation from the opposing force point of view, it allows an

honest check on the strength and weaknesses of the various options being considered. Finally, IPB provides important products to help cue the collection effort of information. This allows the intelligence process to focus on the commander critical information requirements, and to provide the key pieces of information necessary to a commander to achieve his mission. This is the 'intelligence drives operations' second part of the saying. Figure 1.8 demonstrates the integration of IPB with the operational planning process.

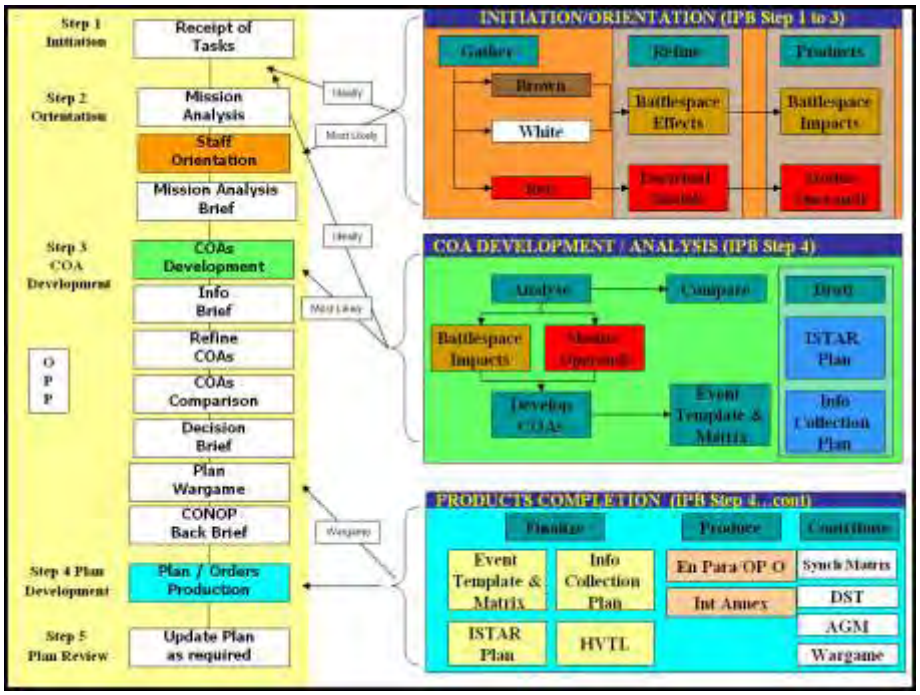

Figure 1.8 – IPB integration into the OPP Process
Source: This is adapted from a Lecture on IPB given at CLFCSC by the author in 2004.

IPB is a key component within the intelligence cycle, as it drives the intelligence collection efforts. It also provides the vital intelligence support to a commander's planning process by analyzing an adversary capabilities and intentions. IPB is therefore fully integrated with the OPP, creating synergy between the intelligence and operations

staff. Developed in the aftermath of the Vietnam War by the American Army, IPB was designed to fight against a well-organized and known enemy. As a product of the Cold War, IPB was specifically developed to expedite the intelligence estimate by focusing on key indicators of a situation to develop an understanding of the overall picture, and through a series of templates and graphics to represent the results of the process. Relying on this basic understanding of what IPB is, the next chapter will explore the impact of the process within the Canadian Forces.

CHAPTER 2

CANADA'S EXPERIENCE WITH IPB

"Nothing is more worthy of the attention of a good general than the endeavour to penetrate the designs of the enemy."

Machiavelli
Discourse, 1517[60]

What has been the effectiveness of IPB within the Canadian Forces? It is the intent of this chapter to examine this issue in order to identify how relevant IPB has been and continues to be.

The integration of IPB within the Canadian Forces will first be reviewed. Then, as the environment under which military forces must operate today has changed significantly since the end of the Cold War; the impacts of this new environment on the conduct of military intelligence will be highlighted. This will include a review of digitalization and the Revolution in Military Affairs. The study will pursue by analyzing the relevance and efficiency of IPB for the Canadian Forces. The chapter will conclude by summarizing the strengths of IPB, as well as its weaknesses in the Canadian context.

[60]This citation is taken from: Office of the Joint Chiefs of Staff, Joint Publication 2-0 *Doctrine for Intelligence Support to Joint Operations* (Washington, D.C.: U.S. Government Printing Office, 2000), I-1.

CANADA ADOPTS IPB

The integration of IPB within the Canadian Forces can arguably be divided into two periods: 1994 to 1999, and 1999 to today.

For the first five years or so, the Canadian military intelligence community struggled with the process. The integration was slow, as it took time to develop the framework of expertise necessary, to not only teach the IPB process, but also to use it efficiently. For example, the Intelligence School did not include IPB as part of its curriculum until late 1996.[61] As IPB had never been taught before, it took an additional two years of teaching to develop a good course package. Furthermore, the first Canadian doctrine manual on military intelligence that integrated the IPB process within its content, B-GL-352-001/FP-001 – *Intelligence Field Manual*, was published only in the summer of 1999. And even then, the content on IPB was only a summary of the ABCA Quadripartite Standardization Agreement (QSTAG) 1034.[62] B-GJ-005-200/FP-000 - *Joint Intelligence Doctrine*, which was published in 2003, also talks about IPB at the Joint level, but the content is again very generic in its description of the process and does not provide any detail or guidance on how to apply it.[63]

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[61]Major M. Beauvais, telephone conversation with author, 01 November 2004. Major Beauvais was the training officer at CFSIS from 1996 to 1998.

[62]B-GL-357-001/FP-001 *Intelligence* . . . The information on IPB is contain in Annex B to Chapter 2. QSTAG 1034 is an ABCA document on *Intelligence Preparation of the Battlefield and Incompatibilities of Intelligence Doctrine*. This QSTAG was adopted in 1997.

[63]B-GJ-005-200/FP-000 *Joint Intelligence Doctrine* . . . The information on IPB is found in chapter 4, but is less than three pages in length and very generic in nature.

Hence, due to delays in its integration, IPB was barely used by intelligence staff during this period, although the Canadian Forces were heavily committed in the Balkans, Haiti and Central African Republic, as well as in major domestic operations within Canada such the Manitoba Floods and the Ice Storm.[64] There are two main reasons for this lack of IPB use. First, the vast majority of the intelligence personnel at the time had not received any training or experienced with IPB and therefore was not comfortable using the process. Second, the absence from the Canadian doctrine on IPB did not encourage the use of the process.

On a more positive note, the intelligence section of the headquarters, 1st Canadian Mechanized Brigade Group located in Calgary, and the 1st Canadian Division Headquarters, located in Kingston started to experiment with the IPB process in 1995 with considerable success. Both organizations were involved in a series of training exercises between 1996 and 1999, which demonstrated that IPB could be an efficient process with proper training and the right staff support.

It is only around 1999/2000 that the Canadian Forces started to become comfortable with the IPB process. By that time, as a critical mass of intelligence personnel had been trained on IPB and had gained experience in using the process, IPB started to become in earnest a recognized and integral part of military intelligence tools and capabilities.

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[64]Author's experience. I served in various positions with Army intelligence from 1993 to 2004 and was therefore able to witness the situation first hand. In addition, I was also deployed to Bosnia in 1995 and Haiti in 1997. This is also based on numerous discussions I had with other intelligence personnel on their experience during their deployment.

Progress continued to be made. The intelligence school continued to teach IPB as a main element of its curriculum, with increased level of expertise and greater efficiency.[65] The traditional image of IPB being an army tool is also changing. For example, air force and naval intelligence started to adapt the IPB process to their specific needs during this period. The use of IPB in support of deployed operations has become more widespread and common. With intelligence staff becoming more experienced with IPB, the use of the process is now the norm, vice the exception. International operations such as Kosovo and Afghanistan, as well as domestic operations such as the Summit of the Americas in Quebec City in 2001 have all demonstrated the potential of the process. In Kosovo for example, IPB was used during the planning for the ground offensive in May / June 1999.[66] But despite a larger use of the process, the current general consensus among intelligence personnel is that the use of IPB in non-traditional war fighting situation, such as domestic operations or peace support operations, remains very difficult and cumbersome.[67]

In fact, the ability for the Canadian military intelligence community to fully integrate the IPB process has been hampered by two factors. The limited number of intelligence specialists and the high demands of the job have left the Intelligence Branch understaffed and over tasked. Only limited improvements to the IPB have been done, as

[65]Major P. Chura, conversation with author on 02 November 2004. Major Chura, captain at the time, was an instructor at CFSMI from 2002 to 2004.

[66]For an interesting insight on the Kosovo Operations, see Dave Travers,. "Brigade ISTAR Operations," *The Army Doctrine & Training Bulletin* 3, No. 4 (Winter 2000 / Spring 2001): 43-49.

[67]Author's experience. This is based on the numerous feedbacks I received on IPB during my research for this study from other intelligence specialists who have used the process over the last five years.

the day-to-day requirements of the Canadian Forces absorb most if not all intelligence resources.[68] Second, the absence of an intelligence lesson learned cell and centre of expertise to analyze the lessons from operations and take measure to address them is also a significant limiting factor. Very often, after action reports by intelligence personnel will clearly point out the deficiencies in intelligence procedures and organizations and potential methods to resolve them, but due to a lack of a centralized point to collect and take action on those deficiencies, the lessons are lost and forgotten.

At the same time as IPB was being integrated into the Canadian Forces, the security environment of the post Cold War period was changing considerably. As IPB was a product of the Cold War, it is relevant to review the impacts that this new security environment has had on military intelligence in general. It will also allow us to understand in turn, its effects on IPB.

THE CHANGING FACE OF MILITARY INTELLIGENCE

During the Cold War period, military intelligence in the Canadian Forces became very focused and specialized on one issue: the Warsaw Pact threat. The life of an intelligence specialist during the Cold War was simple: the enemy he was facing was clearly defined and well known. In other words, how the enemy could react was

[68]For an interest point of view on this issue, see David Charters, "The Future of Military Intelligence Within the Canadian Forces," *Canadian Military Journal* 2, No. 4 (Winter 2001-2002) : 47-52.

predictable.[69] Intelligence organizations, capabilities, and training were all designed to fight that enemy in a high intensity war, with little flexibility to adjust to any other level of conflict or menace. The way IPB was developed is a prime example of this. However, due to the changes that have taken place since the end of the Cold War, a new security environment has emerged, forcing military intelligence to adapt its practices to meet the requirements of today's operating environment.

It is the aim of this section to highlight those changes and their impacts on IPB. Some are related to a commander's working environment and as a result, are also related indirectly to intelligence. Others are related to the fluid concept of the threat encountered in the Post Cold War conflicts. Finally, the distinction and division between the tactical, operational and strategic levels is becoming more and more blurred.

Post Cold War Environment

The world dynamics have been considerably modified since the collapse of the Warsaw Pact. With the removal of the restraints imposed by the power blocks of the Cold War, the world environment evolved under the influence of numerous trends.[70] Global economy and information integrations have increased the free flow of ideas, capital, goods and services. The traditional nation state power base is being eroded with the emergence of non-state centres of power based on religious movements, multinational

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[69]James Cox, "The Transformation of Canadian Defence Intelligence Since The End of The Cold War," (Master's Theses, Royal Military College of Canada, 2004), 19-20.

[70]Department of National Defence, *The Future Security Environment. Land Strategic Concepts report No. 99-2* (Ottawa: DND Canada, 1999), 10-13.

corporations and criminal or terrorist elements. Nationalism and tribalism are now replacing ideology as the leading causes of regional and local disputes. In many parts of the globe, the increase in world population is placing increased pressure on natural resources, supply of potable water and the environment. Due to population overpressure, migration is on the rise and the preferred ultimate destinations for some of those migrants are the prosperous western nations. The proliferation of weapons of mass destruction continues to be a cause of concern, as well as the rise of asymmetric warfare. These have become the norm rather than the exception for fighting against a physically stronger adversary.

As a result of the end of the Cold War and the influence of global trends, the patterns of violent conflicts have also changed.[71] Developing nations, artificially supported by one of the super powers during the Cold War, found themselves abandoned. Faced by insurmountable internal problems (economic crisis is usually the trigger) and very often confronted to arbitrary frontiers established by their former colonial powers, those developing nations were unable to prevent anarchy and internal conflicts from rising. Most conflicts since 1990 have been internal conflict (intra-national), instead of international and have involved numerous non-state actors. Internal conflicts have been characterized[72] by the emergence of a plethora of quasi-military forces (terrorism, war lords, organized criminal elements, rogue military forces and private armies) often-seeking extreme goals such as ethnic cleansing or even genocide. In the struggles that

[71]Ken Eyre and K. Sharapov, *Anthology of Readings in Modern Peacekeeping* (Cornwallis: Canadian Peacekeeping Press, 2001), 4.

[72]*Ibid*., 5.

emerged, civilian populations were frequently targeted, blurring the lines between combatants and non-combatants.

Confronted to difficult crisis, the international community reverted first to peace support operations under the aegis of the United Nations to address them. This launched what is called the second generation of UN peacekeeping missions, which can best be described as being multi-dimensional[73] and complex. Second generation peacekeeping can be defined as "modern peacekeeping [that] covers a wide spectrum of conflict, is performed by several professions or disciplines, involves a host of organizations and is conducted under intense media scrutiny".[74] A partial list of such operations includes Cambodia, Somalia, Yugoslavia, Rwanda, Angola and Haiti. By 1995, it was clear that most if not all of these missions experienced considerable difficulty and some were clearly failures like Somalia and Rwanda. As the UN was not able to bring a resolution to those crises, the international community became more discretionary in its approach to peace support operations. Although the UN still remains in force, for some crisis, nations with similar interests prefer to turn to regional organizations to address the issue. This is best illustrated by the NATO operations in Bosnia, Kosovo and Afghanistan. For some other crises with limited interest to overall global stability, Western nations are either avoiding being involved or considerably limiting their contribution, as it is the case now with Congo and Sierra Leone to a certain extent.

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[73]First generation peacekeeping operations were primarily military, often with a small civilian police contingent focusing on a narrow wedge of the spectrum of conflict – termination. They were one-dimensional.

[74]Eyre and Sharapov, *Anthology of Readings in Modern Peacekeeping* . . ., 6.

The Command Environment

Since the end of the Cold War, the evolution of peace support operations[75] in response to more demanding missions led a number of international operations into which Canada participated to fall into a new category: complex operations.

> Complex operations are composed of military, civilian police and other civilian personnel mandated to help create political institutions and broaden their base, working alongside governments, non-governmental organizations and local citizens' groups to provide emergency relief, demobilize former fighters and reintegrate them into society, clear mines, organize and conduct elections and promote sustainable development practice.[76]

Within this new environment, the typical operation conducted by the Canadian Forces over the last decade has been generally vague and unclear. This should come as no surprise, as United Nations Security Council Resolutions were the basis of most of those missions. As indicated by Ambassador Brahimi, Chairman of the Panel on the United Nations Peace Operations, in his 2000 report:

> [A]s a political body, the Security Council focuses on consensus-building . . . but the compromises required to build consensus can be made at the expense of specificity, and the resulting ambiguity can have serious consequences in the field.[77]

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[75]For the Canadian Forces, the NATO term of "*Peace Support Operation*" has been adopted in the later part of the 1990's as the accepted term for its military terminology and doctrine manual. For the Canadian Forces, "Peace support operations are military operations conducted for the purposes of restoring and, or maintaining peace, other than by the application of force, except under extreme circumstances". B-GL-357-001/FP-001 *Intelligence* . . ., 11.

[76]*Ibid*, 17.

[77]United Nations Secretary-General, *Report of the Panel on United Nations Peacekeeping Operations (The Brahimi Report)* (New York: UN, 2000). Available from www.un.org/peace/reports /peace_operations; Internet, accessed 10 November 2004.

Many officers of the Canadian Forces are not comfortable with the environment created by those missions.

> CF officers who were trained in the context of the Cold War and focused on tactical level operations did not readily grasp the political, strategic and operational dimensions that have transformed how, when, and to what purpose military force is used in the context of conflict resolution.[78]

In a war-fighting scenario, violence is used to influence the enemy and reach the desired objective. In a peace support operation, the use of violence is employed only as the mean of last resort.[79] To reach the desire objectives, a commander must influence the willpower of the actors involved, which requires a good understanding of the situation specific to each one. This is not easy, as an officer interviewed in the *Debrief the Leaders project*, commented:

> You cannot gain the initiative or maintain the momentum essential for the successful pursuit of your mission if you are out of touch with the nuances, the customs, the subliminal messages being passed around you with impunity by the co-belligerents.[80]

For a commander, this new environment creates a challenge. To be able to take a rationale decision, a commander needs a large amount of information on numerous topics, most of them falling outside the scope of the military dimension. This will allow him to develop the level of understanding of a situation needed to influence the willpower of the players involved.

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[78]Charles Lemieux, "Articulating the vision of the Canadian Officer Corps of 2020: Understanding the Leadership and Ethical Challenges," *Canadian Military Journal* 3, No. 1 (Spring 2002), 35.

[79]Department of National Defence, B-GL-300-001/FP-000 *Conduct of Land Operations – Operational level Doctrine for the Canadian Army* (Ottawa: DND Canada, 1998), 116-117 and 221.

[80]Lemieux, "Articulating the vision . . ", 34. 'Debrief the Leaders' project was a component of Officership 2020. The aim was to gather information and views from over 800 officers. The project touched on the full range of operations conducted in the 1990's at home and abroad.

For military intelligence, the impacts are two fold. First, as a commander will need a large amount of information and details on his environment, he will rely on his intelligence staff to provide him with most of that information. Second, the information required covers a large spectrum of interests, from military to cultural, economic to political. This put additional pressure on the intelligence staff using the IPB process, as it struggles to integrate those various elements of information into relevant IPB outputs. One may ask for example: "How do you factor in the strategic and political dimensions of a situation when developing enemy courses of actions?"

The Threat - A shifting Concept

During the Cold War period, the threat, portrayed by the Soviet forces and their Warsaw Pact allies, was a well-defined and identifiable military force. Since then, this traditional concept of the threat is no longer relevant. Today, the threat is more fluid; still potentially involving military forces, but also an increasing number of paramilitary, terrorist and criminal elements. Some elements of the threat can be clearly identifiable with uniform and a hierarchical structure, while most are not. The distinction between combatants and non-combatants is getting very nebulous and often difficult to establish.[81]

The following analogy made by American Lieutenant-General Noonan will help illustrate the situation military forces are now facing:

> We have gone from the Cold War era, where you had two heavyweight sumo wrestlers posturing and going at each other, to this era of globalization, where you have a game of soccer. Both sides switch rapidly

[81]Author's experience. This is taken from the four tours I have done in peace support operation, as well as in the various discussion I had with other colleges who also went on tour.

> between offense and defense; there is action away from the ball that is just as important as things happening near the ball; you have to shift and plan; there are set plays, and at other times there is no set play.[82]

In a conventional scenario, military intelligence focuses on a larger view of the enemy with minimal impact from individuals. In this context, intelligence is interested in where the enemy forces are and what capabilities they have in terms of equipment and strength. In a peace support operation, the impact of individuals is very significant and the intelligence focus revolves around monitoring their activities. The questions now are: who are the players; what are their connections (alliances, organizations, associates) and what do they want to do?[83] Military forces involved in peace support operations are now using what used to be exclusively police analysis techniques such as "association matrix", "link analysis" or "time event chart" on a regular basis.[84]

For military intelligence in general and IPB in particular, the impact of a shifting threat on the use of IPB is significant. As IPB doctrine relies heavily on templating and depicting an adversary actions in relation to the environment where it operates, the process becomes quite difficult when that adversary is very nebulous, and its actions fluid with no discernable pattern. The challenges becomes then: "How do you determine an adversary potential course of action, when you are not sure of who this adversary is and what it can do?"

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[82]Robert Ackerman, "Army Intelligence Deals With Two Transformations". *Signal Magazine* (January 2000). Available at http://www.us net/ signal/Archive/Jan02/army-jan html. Internet; accessed on 02 June 2002. The analogy is from American Lieutenant General Robert Noonan.

[83]Norm Sproll, *OP Palladium Roto 8 After Action Report*. Email sent on Canadian Forces Wide Area Network on 08 September 2001. Capt Sproll was the battalion Intelligence Officer.

[84]Author's experience.

Intelligence as a Single Issue

Since the end of the Cold War, intelligence has become a single integrated issue, from the strategic all the way to the tactical level.[85] The strategic level, "provides direction, crafts strategy, allocates national resources, and imposes conditions and limitations on the military actions to be undertaken."[86] The operational level of war is the bridge between the strategic and the tactical level of conflict. It is defined as that "level at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives."[87] From the strategic direction and related limitations, the operational level translates them into tactical events. The tactical level of conflict is "where subordinate commanders plan and conduct battles and engagements within the operational level campaign effort."[88]

It is not possible today for intelligence personnel to focus exclusively on one level. Strategic political decisions, economic issues, international reactions among others can have as much impact on a deployed unit area of responsibility as the activities of the factions on the ground. In a similar line of thought, a tactical event can have a significant impact for the national leadership at the strategic level. This was the case in May 1995 in Bosnia, when Bosnian Serbs soldiers chained military observers to ammunition depots close to Sarajevo in order to prevent NATO air strikes. This simple tactical event

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[85]For an interesting American point of view on this topic, see Riccadelli, Richard, "The Information and Intelligence Revolution," *Military Review* LXXV, No. 5 (September –October 1995), 82-87.

[86]Department of National Defence, B-GL-300-000/FP-000 *Canada's Army* (Ottawa: DND Canada, 1998), 79.

[87]*Ibid.*

[88]*Ibid*., 80.

effectively stopped NATO from targeting Serb military facilities and prevented NATO from doing it until all threats against UN personnel were removed.[89]

For intelligence personnel, this synergy of levels places additional stress on the IPB process. Intelligence staff must not only consider an adversary military capabilities, but also the impact of additional factors such as political, economic, diplomatic, and ethnic issues among others in evaluating and understanding that adversary. The challenges then are not only in understanding the impacts of those factors, but in integrating them in the development of a potential course of action that the adversary can take.

DIGITALIZATION THE REVOLUTION IN MILITARY AFFAIRS

The conduct and character of war is changing. In the widest sense, the information age is replacing the industrial age. Rapidly integrating technologies (information, sensor, and precision technologies) are creating massive changes in our global society, and thus in how business and the military operate.

[89]Author's experience. I was in Bosnia during the incident and was able to monitor it closely as it unfolds. Due to the fact that UN military personnel were deployed in Bosnian-Serbs control territory, Bosnian-Serbs could use these UN personnel as shield. It was not until all UN personnel were removed from those territories during the summer of 1995 that NATO was able to carry its air operations against the Bosnian-Serbs.

Technological revolutions have always created disruptions throughout history. "From the dawn of the Industrial Age in the late 18th Century, until the mid-20th Century, technological developments were dramatic but fairly measured".[90] Until the arrival of the digitalized computer, changes took two or three generations to have a real impact. However, the development in computer technology is accelerating the pace of change considerably. "While computers have been around in recognizable form for 60 years, and while the Information Age is now thought to date to around 1970, it is only in the last decade that the computer and the chip have truly revolutionized so many aspects of daily life on a personal, national and international level".[91] According to "Moore's Law", the power of computer processing capability doubles every 18-24 months, while at the same time computing costs drops by half.

The successes of integrated battlespace technologies during the Gulf War (i.e., electronic combat, communications, imaging, precision strike weapons, and stealth technology) led many to conclude that a "Revolution in Military Affairs"(RMA) was indeed taking place. One of the first to advocate this revolution was U.S. Admiral William Owens. As vice chairman of the Joint Chiefs of Staff in the mid 1990's, he developed the idea of a "system of systems"[92] that would enable any military user to employ numerous sensors to expeditiously find, fix and finish military targets.

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[90]Alan Campen and D. Dearth, *Cyberwar 2.0: Myths, Mysteries and Reality* (Fairfax Virginia: AFCEA International Press, 1998), 35.

[91]*Ibid*.

[92]Department of National Defence, *Canadian Defence Beyond 2010 The Way Ahead. An RMA Concept Paper.* Publication on-line; available from http://vcds.dwan.dnd.ca /dgsp /dda /rma /wayahead /intro_e.asp; Intranet; accessed on 16 November 2004.

A Revolution in Military Affairs is

> "marked by a fundamental transformation in military affairs that results from changes in weapon technology and equipment, operational concepts and military organizational methods. RMAs usually take place over a few decades and profoundly affect, and often replace, existing war fighting practices."[93]

Technology alone does not bring about a Revolution in Military Affairs. It is only when various elements of technologies are welded together, with organizational restructures and new operational concepts that a RMA occurs.

In each of these elements, there have been significant advances in recent years.[94] The emergence of information technology and information systems holds out the prospect of dramatically altering command and control of armed forces. Coupled with major advances in precision, lethality, and miniaturization, to name but three, this will significantly alter the way armed forces operate across the spectrum of conflict. Doctrinal and organizational changes currently under consideration seek to capitalize on the technological advances to effectively change the way armed forces would apply force. Although the United States are leading the development and application of the RMA, Canada, as well as its allies such as the United Kingdom, France, Germany and Australia, is also actively pursuing RMA developments.

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[93]Department of National Defence, *The Revolution in Military Affairs (RMA) – A Primer*. Publication on-line, available from http://vcds.dwan.dnd.ca/dgsp/dda/rma/primer_e.asp; Intranet, accessed on 16 November 2004.

[94]*Ibid*.

This is also dramatically affecting the way military intelligence is operating. "This revolution is characterized by an unprecedented capability to collect, process, manage and disseminate vast amounts of data and information in real or near-real time, leading to comprehensive and continued awareness of events and situations".[95] Digitization is defined as "the near-real time transfer of battlefield information between diverse fighting elements to permit shared awareness of the battlefield situation".[96]

IPB is currently taught and used in an analogue environment. The process uses paper maps and talc. All the products are done by hand, using computer to support the process, not to lead it. The Canadian Forces Army is currently fielding its first version of the Land Forces Command and Control Information System (LFC2IS) that will digitalize the command and control of the army. To remain compatible with the Canadian Forces, the IPB methodology will also need to be digitalized. The process will need to be done electronically from beginning to end, using digital maps and producing digital products. But there is no initiative at the moment to do this.[97] Unless IPB adapts to this new digital environment, it will potentially become obsolete.

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[95]Department of National Defence, B-GL-300-000/FP-000 *Canada's Army* (Ottawa: DND Canada, 1998), 113.

[96]*Ibid*.

[97]Major L. Leblanc, email correspondence with the author, 27 January 2005. Maj Leblanc is the G2 with 2nd Mechanized Brigade Group Headquarters in Petawawa, which is responsible for the initial testing and experiment of the new digitalized command and control information system.

THE CF EXPERIENCE WITH IPB

What has been the impact of IPB within the Canadian Forces? To examine this issue, a practical approach will be used as the framework to assess IPB relevancy and usefulness. IPB will be viewed in the context of a teaching tool; in support of training exercises; in the conduct of day-to-day activities within the CF; and in support of CF operations, both domestic and international.

IPB as a Teaching Tool

The nature of IPB, with its step-by-step process and clearly identified deliverables, makes it a very good teaching and training tool. As a result, the impact of IPB in this category has been significant, as demonstrated by its inclusion in the curriculum of not only the School of Military Intelligence in Kingston[98], but also at the Army Command and Staff College in Kingston and the Canadian Forces College in Toronto. Currently however, the Air Force and the Navy are still lagging behind. IPB is not part of the curriculum of the Advanced Aerospace Operations Course given by the CF School of Aerospace Studies located in Winnipeg. But, with the imminent creation of the Air Warfare Center, the content of the course is to be reviewed and modified shortly, in order to better reflect the requirements of today's Air Force. It is expected that IPB will

[98]Until 1999, the responsibility to train intelligence specialists within the Canadian Forces was given to the Canadian Forces School of Intelligence and Security (CFSIS) located in Borden, Ontario. CFSIS was responsible for training of both military police and military intelligence personnel. In 1999, a split of CFSIS took place, with the part of the school responsible for military intelligence moving to Kingston and renamed the Canadian Forces School of Military Intelligence (CFSMI). CFSMI is responsible only for military intelligence.

be part of the new curriculum.[99] For the Navy, the Operations Room Officer Course, given at the Canadian Forces Naval Operations School in Halifax, does not include IPB as part of its curriculum. This course is design to teach naval officer operational planning skills. There are no indications at this moment that IPB will be included in the course in the near future.[100]

At the School of Military Intelligence in Kingston, IPB is a key element in the training curriculum of intelligence specialists, for both officers and non-commissioned members (NCM). But, there were numerous difficulties encountered. Prior to the adoption of IPB by the Canadian Forces, the training of intelligence specialists was concentrated mainly on the analysis and dissemination of information. The intelligence estimate was taught in a piecemeal fashion, with little emphasis given to it. As a result, the validation exercises required students to demonstrate a solid understanding and application of the dissemination skills, with negligible importance given to the intelligence estimate.[101] The arrival of IPB changed the situation for the better and resulted in a more balanced approach in the training of intelligence specialists. The teaching of the intelligence estimate, a key element in the direction phase of the intelligence cycle, now focuses almost exclusively on the IPB process. As a consequence, all validation exercises at the school now require intelligence personnel to

[99]Lieutenant-colonel M. Foucreault, email to the author, 27 January 2005. Lcol Foucreault is the A2 at Winnipeg. Major B. MacLean, email to the author, 23 March 2005. Maj MacLean is part of the staff at the School of Aerospace Studies.

[100]Commander C. Donovan, discussion with the author, 05 April 2005.

[101]Author's experience.

demonstrate a solid understanding of IPB, along with the more traditional skills of analysis and dissemination. [102]

The Canadian Land Forces Command and Staff College (CLFCSC) in Kingston, responsible for teaching staff procedures to army captains, started to include IPB in its curriculum as early as 1995.[103] But, the responsibility to teach IPB was given as a secondary duty to one of the directing staff, which was not trained in intelligence. Until 2002, the college did not formally teach IPB. The students were exposed to the process and provided with reference material. They were, however, left to themselves to learn how to apply it.[104] The college is now teaching the IPB process, using intelligence specialists to deliver the training.[105] For CLFCSC, IPB is considered as an integral part of the operational planning process. The Canadian Forces College (CFC) in Toronto was even slower in integrating IPB within its curriculum. The college, responsible to teach staff procedures to the future senior leadership of the Canadian Forces, did not include any lecture or period on IPB until Command and Staff Course 029 (2002/2003).[106] Similar to CLFCSC, CFC also considers IPB as an integral and essential part of the OPP process.

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[102]Major P. Chura, conversation with author on 02 November 2004. Major Chura, captain at the time, was an instructor at CFSMI from 2002 to 2004.

[103]Author's experience. CLFCSC started to include IPB as part of its curriculum in 1995.

[104]Author's experience. I attended the Canadian Staff Course in 1998 and the Canadian Command and Staff Course in 1999 and this was the method used by CLFCSC to teach IPB to the students.

[105]Author's experience. I was an instructor with CLFCSC from 2003 to 2004. One of my main responsibility as an intelligence officer was to teach IPB.

[106]Lieutenant-colonel A. Scheidl, conversation with author on 07 January 2005. Lcol Schiedl was a member of CFC directing staff from 2002 to 2005.

The results of using the IPB process as a teaching tool for the intelligence contribution to the OPP in Canadian Forces command and staff colleges havebeen to date good and bad. On a positive side, significant improvements have been done and continue to take place in the effort and the quality placed on teaching IPB. The inter-connection between IPB and OPP has resulted in the intelligence and operations staff working in a more integrated manner during any planning exercise. OPP cannot be completed successfully without the support of IPB. Students of command and staff colleges are therefore not only lectured on the concept of IPB, but are also required to implement and use it. During the various planning exercises, the IPB dimension is played alongside the OPP process. As there are generally not enough intelligence-trained officers on those courses to fill all the J2 related positions, non-intelligence trained officers must be employed during the exercises. As a result, any officer who graduated recently from a command and staff college has a very good understanding and appreciation of IPB.

On a less positive note, the teaching of IPB still suffers from amateurism. For the longest time, the absence of dedicated intelligence officers as part of the teaching staff in command and staff colleges has hampered the teaching of IPB in an efficient manner. But this situation is slowly changing. In the summer of 2003, the Canadian Land Forces Command and Staff College in Kingston included an intelligence officer as part of its directing staff.[107] The Canadian Forces College in Toronto is using an experienced intelligence officer as a guest lecturer to present the IPB lecture. This is a good approach

[107]Author's experience. I had the privileged of being the first officer of the Intelligence Branch to fill in this position.

as the guest lecturer provides a good overview of the process. However, this method still leaves a gap in teaching the actual how-to required in implementing the IPB. The responsibility of monitoring how the process is conducted during the exercises remains mostly with non-intelligence personnel. The end result therefore varies considerably depending on the level of experience that those instructors have with IPB.

The major difficulty with IPB as a teaching tool is that the methodology used to teach it relies heavily on a well-defined enemy that still reflects a Cold War influence. That approach works well within a teaching establishment, but does not reflect the reality faced by intelligence staff deployed on operations. The adversary encountered in those international operations is now very fluid and the full implementation of IPB is considerably more difficult when facing such an adversary. The second difficulty is the absence of detailed reference material on how to use IPB adapted to Canadian military reality. The only alternative at this moment is to use American publications on IPB[108], which provide good information, but are not specifically tailored to meet Canadian needs.

Support to Training Exercises

The mandate of the CF "is to train for and conduct military operations on behalf of the Government of Canada."[109] To achieve the level of readiness and proficiency required to support Canadian national policy, it is vital for the CF to have a

[108]There are three key American publications on IPB. Joint Publication 2-01.3 *Joint Tactics, Techniques, and Procedures for Joint Intelligence Preparation of the Battlespace*; Field Manual 34-130 *Intelligence Preparation of the Battlefield*; and Air Force Pamphlet 14-118 *Aerospace Intelligence Preparation of the Battlespace*.

[109]Department of National Defence, B-GG-005-004/AP-000 *Canadian Forces Operations* (Ottawa: DND Canada, 2000), 13-2.

comprehensive training and exercise program.[110] Training is conducted either on an individual or a collective basis. Collective training is "the mechanism by which a commander takes a full complement of qualified soldiers and, with time, resources and applied doctrine and standards, produces cohesive combat-capable tactical groupings."[111] Collective training is normally achieved by using exercises, which can take many forms, ranging from major field training exercises to command post exercises.[112]

It is in support of command post exercises (CPX) that IPB made its most positive impact. CPX involves "the commander, his staff and communications within and between headquarters but in which the forces are simulated."[113] A CPX generally aims at exercising headquarters staff at various levels in the employment of the OPP, and therefore involves a significant amount of planning activities being practiced. As previously mentioned, OPP cannot be effective without proper IPB support. In addition, CPX normally involves war fighting scenario and large-scale deployment, with appropriate time allocated for both the IPB and the OPP to be fully implemented. Within this context, all the IPB capabilities can be fully exercised. This is not surprising as IPB operates best against a well-developed adversary in a conventional war-fighting situation.

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[110]*Ibid*., 6-1.

[111]Department of National Defence, B-GL-300-008/FP-001 *Training Canada's Army* (Ottawa: DND Canada, 2001), 58.

[112]B-GG-005-004/AP-000 *Canadian Forces Operations, . . .*, 6-1- 6-2.

[113]B-GL-300-008/FP-001 *Training Canada's Army*, *. . .,* 139.

A good example of the effectiveness of IPB in support of training exercises is illustrated by the experience of the former 1st Canadian Division Headquarters, located in Kingston, which participated into a series of CPX under the ABCA umbrella between 1996 and 1999.[114]

The impact of using the IPB process as an integral part of training exercises involving OPP has forced the intelligence and operations staffs to work closer and to better coordinate their efforts throughout the entire planning process. This may seem obvious, but prior to using IPB, the coordination between intelligence and operations staff members was not as rigorous as it is now. Both staff members were more or less working in isolation of each other, to the detriment of achieving a better synergy during any planning activities.

Day-to-Day Activities

Routine, day-to-day activities are "those operations for which a given Capability Component (CC), such as the Army or the Air Force, has been specifically tasked, organized and equipped."[115] In the conduct of routine operations, there is no requirement to change the force structure and to generate a specific grouping.

The employment of the IPB process in the day-to-day routine activities of the CF is minimal and very limited. There are two major reasons for this. First, the nature of

[114]Lieutenant-colonel F. Messier, conversation with the author on 15 September 2004. Lcol Messier, major at the time, was the Commanding Officer of 1st Intelligence Company from 1995 to 1997.

[115]B-GG-005-004/AP-000 *Canadian Forces Operations* . . ., 1-7.

day-to-day activities in the CF takes place generally in a benign environment. That environment does not usually require intelligence staff, at any level, to prepare detailed analysis of potential adversaries' courses of action. That requirement exists only during the preparation and conduct of CF contingency operations. Second, IPB is a planning tool, and unless there are planning activities taking place for an operation, IPB will be of very limited to no use.

In day-to-day activities, the main responsibilities of military intelligence are to monitor the situation in order to provide indicators & warnings (I&W)[116] of potential areas of concerns for the CF and to provide information related to the force protection of CF personnel, equipment and facilities.[117] To accomplish these responsibilities, IPB is not the appropriate intelligence methodology.

Domestic Operations

A CF Operation is "the employment of an element of elements of the CF to perform a specific mission."[118] In other words, if an operation "does not clearly fall into the routine category, then it is a contingency operation, and a grouping, tailored to the operations is generated."[119] Contingency operations can be conducted either in Canada (domestic operations) or outside of Canada (international operations).

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[116]Department of National Defence, B-GJ-005-200/FP-000 *Joint Intelligence Doctrine* (Ottawa: DND Canada, 2003), 1-4

[117]*Ibid*., 1-5.

[118]B-GG-005-004/AP-000 *Canadian Forces Operations . . .*, 1-7.

[119]*Ibid*.

Domestic operations "are conducted to provide assistance during civil emergencies, support national development goals or support and/or restore the maintenance of public order and security."[120] Domestic operations can take many forms, ranging over a large spectrum of activities, "from the simple provision of military equipment and personnel . . ., to the commitment of combat capable land forces to deal with major ACP [Aid to the Civil Power] missions."[121] (See Table 2.1)

Table 2.1 – Categories of Domestic Operations

	Categories	Type of Assistance
1	Domestic Emergency	An abnormal situation that requires prompt action, beyond normal procedures, in order to limit damage to persons, property or the environment. Some emergencies may also be, or become, crises; if, for example, it is perceived that the government has no control over a situation.
2	Aid of the Civil Power (ACP)	Armed assistance by the Canadian Forces provided to provincial authorities following an appropriate request in any case in which a riot or disturbance of the peace is beyond the powers of civil authorities to suppress, prevent or deal with.
3	Assistance to Law Enforcement Agencies (Federal)	The CF does not have a standing mandate to enforce the laws of Canada. There are, however, several legal instruments and inter-departmental Memorandum of Understanding through which the CF may be authorized to assist law enforcement agencies (LEA) in the execution of their mandate.
4	Assistance to Law Enforcement Agencies (Provincial Act)	Same as above, but related to municipal/provincial LEA.
5	Humanitarian Assistance	Humanitarian assistance is defined as any action taken to save lives, prevent human suffering and/or mitigate property damage. There are three categories of domestic humanitarian assistance operations: • Emergency civil assistance (see 1 above) • Search for missing persons on land • Other humanitarian assistance
6	Provision of Services	There are occasions when it is consistent with Government policy to provide a service in response to a request from a non-defense agency. CF units at all levels are frequently solicited to provide support for community-based activities, such as the short-term loan of items such as tents, mobile cooking facilities or other temporary infrastructure..

Source: Adapted from DDDO, Annex A.

[120] *Ibid*., 13-1.

[121] *Ibid*., 1-8.

Land Forces Atlantic Area Domestic Operations Handbook provides a good historical overview of the impact of domestic operations on the Canadian Forces:

> Historical statistics demonstrate that about two dozen domestic operations occur across Canada in any given year, of which three to five are considered major operations. In addition, a large-scale domestic operation has occurred every second year since 1996. The question concerning domestic operations is not if there will be another emergency, but when.[122]

Table 2.2 provides some additional statistics on the number of disasters that took place in the twentieth century across Canada.

Domestic operations therefore have been and will continue to be a reality for the CF, which must always be prepared to provide assistance when requested to do so. The recently published DCDS Direction for Domestics Operations or DDDO divides domestic operations into two categories: "routine or contingency in nature".[123] Routine domestic operations are those that do not require the CF to change its day-to-day posture and for which a capability component commander (such as a Land Forces Area Commander) has been specifically tasked to do so in the Defense Planning Guidance.[124]

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[122]Land Forces Atlantic Area, "Domestic Operations Handbook," http://www.army.dnd.ca/LFAA_HQ/Dom_ops/dom_ops_handbook.htm; Internet, accessed 15 March 2005, 6-7.

[123]Department of National Defence, *DCDS Direction for Domestic Operations (DDDO)*, (Ottawa: DND Canada, 2005), Preface.

[124]*Ibid*.

On the other hand, contingency operations are initiated in response to a request for CF assistance.[125]

Table 2.2 – Disasters in Canada 1900-2000

Number of Disasters by Province 1900-2000												
Province	YT	BC	AB	NT	SK	MB	ON	QC	NB	NS	PE	NL
Disasters	14	102	117	18	86	105	167	118	48	60	21	65

Number of Disasters According to Types 1900-2000			
Accidents – Mining	13	Fire	20
Accidents – Other	7	Flood	145
Accidents – Transportation	69	Hazardous Chemicals	60
Avalanche	12	Hurricane	18
Civil Unrest	42	Heat Wave	5
Cold Wave	9	Landslide	31
Drought	55	Other	3
Epidemic	3	Storms	98
Earthquake	22	Tornado	23
Forest Fire	24	Tsunami	3

Source: Land Forces Atlantic Area "Domestic Operations Handbook.," 6-7.

"All domestic operations are planned, mounted, deployed and commanded using the standard CF doctrine"[126]. However, it is also understood that the planning process can be adapted to meet the specific needs of domestic operations, due to the fact that the Canadian Forces are in support of another federal or provincial/municipal authority and the legal limitations placed on the use of military forces within Canada. This applies particularly to the use of military intelligence.

[125] *Ibid*.

[126] *Ibid.*, Chapter 4.

In the context of domestic operations, the role played by military intelligence is a sensitive issue. "Domestic operations are governed by the Criminal Code of Canada; consequently not all approved military doctrine and procedures for the gathering of intelligence . . . can be applied."[127] The DDDO further amplifies the use of intelligence in domestic operations:

> Within Canada, the collection of information and production of intelligence is primarily the responsibility of civilian law enforcement and security agencies that have specific legislated mandates for the conduct of their activities. The activities of the CF are subject to the Laws of Canada and there exist specific restrictions concerning the gathering and holding of information, particularly when it concerns Canadian citizens or Canadian residents (its persons and entities located within its borders). In essence, the CF will not collect information from or keep records on Canadian residents as a primary source unless the law authorizes such collection.[128]

In these circumstances, what has been the impact of IPB in support of domestic operations? Although military intelligence has a role to play in domestic operations, the use of IPB has been very limited.[129] The vast majority of domestic operations fall under the category of routine operations, especially in the provision of services. Those types of operations do not required intelligence support as they take place in a benign environment, with limited Canadian Forces involvement. For those domestic operations that are contingency in nature, most of them take place with little or no warning. This is mostly the case with natural disasters, such as the Manitoba Floods in 1996, the Ice

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[127]B-GG-005-004/AP-000 *Canadian Forces Operations . . .*, 13-7.

[128]*DCDS Direction for Domestic Operations (DDDO)*, chapter 5.

[129]Author's experience. I worked within a Land Force Area Headquarters, both in Montreal and in Halifax for 10 years. Providing intelligence support for domestic operations to the area Commander was one of the key tasks of the G2 section.

Strom in Eastern Canada in 1998, Hurricane Juan in Nova Scotia in 2003, and the British Columbia Forest Fire in 2003 to name but only a few of the recent major operations. In those circumstances, the ability to use IPB is very limited as the military role is reactive in nature, planning is limited and there are no adversaries. Military intelligence still plays a role, but it is more in providing threat assessments for force protection, general situational awareness and provisions of basic intelligence support such as geomatic products and weather information.[130]

There are still circumstances within the realm of domestic operations where IPB can play a role. It is either in Aid to the Civil Power situation, such as the OKA Crisis of 1990 (the likelihood of which is very low), or more likely in preparations for a large-scale event that is know in advance, such as the Year 2000 (Y2K) millennium rollover, the Summit of America in 2001, the G8 summit of 2002 or the Winter Olympics of 2010. Extensive military planning and preparation takes place prior to those events, due in part to the high risk of disturbances associated with them. In preparing for such operations, the IPB process has been employed, but with limited and disappointing success.

During the Y2K rollover preparations for example, it is reported by the intelligence staff of the 1st Division Headquarters in Kingston that only parts of the IPB process were used. At no time during the planning process that extended over a year, was

[130]Major S. Desjardins, email to the author, 28 January 2005. Major Desjardins is the Land Force Quebec Area G2. This is also in line with the author's experience.

the IPB process executed from beginning to end.[131] This situation is not surprising as the Y2K issue was very unusual. "The most important characteristic of this threat [was] unpredictability. Unlike a traditional threat, Y2000 [had] no established doctrine or tactic against which one can train. Even worse, history [could not] provide a guide since there [had] been no previous manifestations of this type of phenomenon."[132] A similar situation is reported for the Summit of Americas in 2001. The intelligence staff of Land Forces Quebec Area reported that IPB was used during the planning for the event. But the process was modified considerably to adjust to the specific requirements of a threat that was very fluid and non-conventional (demonstrators and anti-globalization groups).[133]

IPB has been used and will continue to be used to support planning for domestic operations. However, all those involved with the process agree that IPB plays a limited role. It is very difficult, when using IPB during a domestic operation, to maximize its efficiency due to the volatile and/or imprecise nature of the threat encountered in such operations.[134]

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[131]Lieutenant-colonel H. Ferguson, email to the author, 13 February 2005. LCol Ferguson was part of the 1st Division intelligence staff during the planning for Operation ABACUS, the CF preparations in response to the Y2K millennium rollover.

[132]Daniel Villeneuve, "The Operation ABACUS Planning Process: A Study," *The Army Doctrine & Training Bulletin* 5, No. 1 (Spring 2002), 50.

[133]Major S. Desjardins, email to the author, 28 January 2005. Major Desjardins was the Land Force Quebec Area intelligence operations officer during the planning for the Summit of the Americas in Quebec City in 2001.

[134]Author's experience.

International Operations

The overarching aim of Canada's defence policy is to ensure security for Canadians and providing for the defence of the nation.[135] The defence policy supports Canada's desire of promoting progressive development of the political, economic and social well being of all Canadians. This, however, can only be achieved in an environment of peace and security and it is therefore Canada's interest to contribute to global stability.[136] Canada's contribution takes many forms, from economic development to financial support, from diplomatic efforts to deployment of military forces.

Canada's support of the world community's efforts to promote global stability "has included contributing elements of the Canadian Forces to virtually every peacekeeping operation the UN has sanctioned or undertaken."[137] Since the end of the Cold War, Canada has deployed military forces to the First Gulf War, the Middle-East, Cyprus, Bosnia, Croatia, Somalia, Haiti, Central African Republic, Kosovo, East Timor, Ethiopia/Eritrea, the Persian Gulf and Afghanistan, as well as providing military observers to a large number of other missions.[138] The size of those contributions has

[135]Department of National Defence, *1994 Defence White Paper* (Ottawa: Canada Communications Group, 1994). This information is extracted from the Highlights.

[136]Department of National Defence, B-GL-300-000/FP-000 *Canada's Army* (Ottawa: National Defence Headquarters, 1998), 56.

[137]*Ibid*., 59.

[138]National Defense, "Past Operations", http://www forces.gc.ca/site/operations/past_ops_e.asp; Internet; accessed 15 March 2005.

varied, but on average, Canada has maintained the equivalent of two battalion-size forces deployed at any one time in support of international operations.

Within the complex environment that represents international operations, military intelligence plays an important role. The era of traditional peacekeeping when military forces deployed on operations with the consent of the fighting factions on the ground is long gone. As seen in the previous section, the new security environment is more volatile, which not only creates additional problems in achieving the mission, but also in maintaining an adequate level of force protection. Over the last ten years, the requirements for intelligence in support of deployed operations have increased steadily. This situation is well-summarized in the report produced by the Defense Intelligence Review, which was conducted in 2002/2003:

> The deployment of dedicated intelligence staff to lower-command levels is most indicative of the increasing demand at tactical levels; Army Battle-Groups, even companies, Navy Frigates and Air Force wings have all recently deployed with dedicated intelligence staff, even though they are not organic to their units.[139]

Within this context, the support provided by IPB to international operations took place in two of the five phases normally associated with a deployment: the preparation phase and the employment phase.[140] But contrary to what one may think, the value provided by IPB has been minimal.

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[139]Department of National Defense, "Defense Intelligence Review," (Ottawa: DND Canada, 2003), 11.

[140]Department of National Defence, *DCDS Direction for International Operations (DDIO)* (Ottawa: DND Canada, 2002), i/iii. International Operations are divided into five phases as follow: warning, preparation, deployment, employment and redeployment.

The preparation phase normally begins with the decision by the Canadian Government to commit forces in support of an operation. The initial planning efforts are done at the National Defence Headquarters (NDHQ) in Ottawa. The intelligence staff at NQHQ, working at the strategic level, does not use the IPB process to support the planning required to prepare for a deployment.[141] The intelligence staff effort focuses on two distinct but important roles. The first role is to provide situational awareness, threat assessment and basic information on the region where the deployment will take place. The second role is to determine the intelligence architecture required to support the deploying troops. The construct of the IPB process was not designed to support these requirements and it is therefore not surprising to see that the IPB methodology is not used.

In parallel to the planning efforts done at NDHQ, the deploying troops, normally organized under a Task Force (TF)[142], are also getting ready for their mission. During this preparation phase, the use of IPB by intelligence staff has been minimal, limited mostly to the validation exercises. During those exercises, the Task Force is confronted to various situations that it could expect to face once deployed, to ensure that it is ready to accomplish its mission. It was reported to the author for example, that the employment of IPB during the pre-deployment training exercises for the first two deployments in

[141]Major M. Beauvais, telephone conversation with the author, 01 November 2004. Major Beauvais is part of the J2 Plans section at NDHQ since 2003.

[142]A Task Force is any grouping created for a contingency operation, regardless of size. B-GG-005-004/AF-000, *Canadian Forces Operations* . . ., 1-7.

Afghanistan under Operations ATHENA, had been very limited. [143] The main reason for this was that the training scenario reflected the fluid threat of Afghanistan, which was not well suited for a rigid employment of the IPB process. By consequence, the use of IPB by the intelligence staff was limited.

During the deployment of a Task Force, in what is referred to as the employment phase of international operations, the use of IPB as also been minimal at best. This limited use of IPB is reported for all recent international deployments of the Canadian Forces, either in Bosnia, Haiti, Kosovo, East Timor, Eritrea/Ethiopia or Afghanistan. [144] There are four main reasons for this situation. A first reason concerns the size of deployed units. A Canadian Task Force is normally composed of a battalion-size unit. A Battalion size organization does not generally use the OPP process as its planning methodology. [145] As a result, without the impetus to support the OPP process, the use of IPB is not as relevant. A second reason that explains the limited use of IPB is the large amount of work required to develop a full set of IPB products, as dictated by the doctrine.

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[143]Captain C. Sherman, email to the author, 02 February 2005. Capt Sherman deployed to Afghanistan as part of OP ATHENA, roto 0. He was the intelligence officer with the 3rd Battalion, Royal Canadian Regiment. Captain D. Goulet, email to the author, 27 January 2005. Capt Goulet deployed to Afghanistan in 2004 as part of OP ATHENA, roto 1. He was the intelligence officer with the 3ième Battalion, Royal 22ième Régiment.

[144]This is based on the author's experience, but also to various discussions with other intelligence personnel who deployed on those operations.

- Bosnia – Warran Office Pugh, Captain Martyn, Major Neveu and Major Leblanc
- Haiti – The author
- Kosovo - Captain Martyn and the author
- Eritrea/Ethiopia – Warrant-officer Tracey
- East Timor – Chief Warrant Officer Chartrand
- Afghanistan – Captain Sherman, Captain Goulet, Captain Olegario, Major Leblanc

[145]Major S. Neveu, email to the author, 28 January 2005. Major Neveu deployed in Bosnia under Roto 10 in 2002. This is also confirmed by Major L. de Sousa, conversation with the author, 9 March 2005. Maj de Sousa was an operation officer with the 3ième Battalion, Royal 22ième Régiment, from 1997 to 1999.

This causes difficulties within Canada's small intelligence staff deployed with a Task Force. The intelligence section is normally composed of only 5 to 8 persons, depending on the specifics requirements of the mission. This size does not allow for any intelligence staff personnel to be responsible only for the IPB process. IPB becomes one more task to do, and thus particularly demanding when time is short.[146] A third reason concerns the nature of peace support operations. These types of operations are limited mostly to day-to-day routine activities to monitor the situation in order to maintain a stable and peaceful environment.[147] IPB was designed for war fighting. In a peace support environment, the products resulting from a doctrinal application of the IPB process do not provide much value to support the mission. As reported in the Post Operation Report for OP ATHENA Roto 1: "In a complex, asymmetrical environment faced with a terrorist / criminal threat, conventional templating of courses of actions and time/phase lines are next to obsolete."[148] As a consequence, only part of the IPB process is normally used. In fact, to the author's knowledge, never has the entire IPB process been applied during a recent peace support operations. A fourth reason is the continuously changing nature of the environment faced during a deployment. As expressed in the Army Force Employment Concept: "Conflict will become increasingly complex due to the asymmetric nature of the threat, the use of complex terrain and the expansion of areas of operation."[149] The use of IPB in a complex scenario is very

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[146]Author's experience.

[147]Cody Sherman, "Battalion Group Intelligence Section," *The Bulletin* 10, No. 4 (September 2004), 6-7.

[148]D. Goulet, *Operation ATHENA - CA BG INT Section Post Operation Report (POR)*, (3ième Battalion Royal 22ième Régiment : Post Operation Report, July 2004), 12.

[149]Department of National Defence, *The Force Employment Concept for the Army*, (Ottawa: DND Canada, 2004), 4

difficult at best. It is not an easy task to determine an adversary's course of action, when the nature of that adversary is not very clear. Very often, the only method left to intelligence staff is to develop their own database on the adversaries they are facing. This takes time and requires intensive efforts.[150] This is further complicated by military operations taking place in complex terrain, such as an urban environment like Kabul. Complex terrain adds another level of difficulties that makes employing the IPB process even more challenging:

> Urban terrain will increasingly become the setting for conflict. Operations will often be characterized by what has become known as the "three block war" where forces can expect to be providing humanitarian assistance in one part of a city, conducting peace support operations in another, and be fighting a lethal battle in yet a third. Moreover, the requirement to transition from one type of activity to the next could be measured in minutes.[151]

As demonstrated in the Rand Publication *Street Smart: Intelligence Preparation of the Battlefield for Urban Operations*, the current IPB doctrine is ill equipped to work in an urban environment. "Current IPB doctrine, . . ., is based on Cold War mindsets that assume most engagements the Army will encounter are combat operations unfolding against a known enemy on open terrain. Urban characteristics do not easily fit into this Cold War paradigm."[152]

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[150]David Charters, "Out of the Closet: Intelligence Support for Post-Modernist Peacekeeping," *The Pearson Papers. No. 4* (Cornwallis: Canadian Peacekeeping Press, 1999), 57. See also, Daniel Villeneuve, "Intelligence and the United Nations: Lessons from Bosnia – A Canadian Experience," *Military Intelligence* 22, No. 4 (October-December 1996), 22-25.

[151]Department of National Defence, *The Force Employment Concept for the Army*, 4.

[152]Medley, Street Smart Intelligence . . ., 36.

Similar to domestic operations, IPB has been used and will continue to be used to support international operations. However, all those experienced in using intelligence in overseas deployment also agree that IPB plays a limited role. There are many reasons for this situation, but at the bottom of it, IPB is ill-designed to operate in the complex environment that characterised current peace support operations.

THE PROS AND CONS OF IPB

In the 1990s, as both the ABCA and NATO community were adopting IPB as their military intelligence estimate methodology, it was important and logical for Canada to do the same. As illustrated in the previous section, the IPB process has provided benefits to the Canadian forces, but it also contains negative aspects that limit its employment. The aim of this section is to summarize the strengths and weaknesses of IPB.

On the positive side, the initial reason that led Canada to adopt IPB was the interoperability dimension it brought with its closest military allies. In this aspect, IPB has served Canadian Forces well. It is part of Canada's assumptions that when its military forces are deployed in international operations, they are part of a coalition. "The Army [for example] will contribute forces to the land component of a coalition, as well as filling staff and command appointments throughout the coalition architecture."[153] In

[153]Department of National Defence, *The Force Employment Concept for the Army*, 8.

addition, Canada relies heavily on its Allies for access to intelligence material. "The 4-eyes arrangement (Australia, Canada, United Kingdom, and the United States AUS/CAN/UK/US) is the most critical, in particular our relationship with the U.S. where more than 90% of our intelligence originates."[154] In this context, it made perfect sense then to adopt the same intelligence estimate methodology as the Americans.

A second positive aspect of IPB is the step-by-step approach of the process, with clearly identified deliverable products, which provides an easy to understand intelligence estimate methodology. This resulted in significant improvement at the School of Military Intelligence in teaching intelligence estimate process to intelligence specialists, relying on the IPB methodology. IPB is also well integrated with the OPP process, which resulted in intelligence and operations staff working closer together. The IPB process helps to focus the intelligence collection effort and provides essential support during the war gaming. Another positive result of IPB being closely linked with OPP is the inclusion of IPB as part of the teaching curriculum of Canadian Forces command and staff colleges, which helps greatly in educating future commanders and staff officers on intelligence.

On a negative side, IPB has failed where it should count the most, to support adequately Canadian Forces operations, both domestic and international. The deficiencies of IPB rest in two major areas: timeliness and usefulness of the process.

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[154]Department of National Defense, "Defense Intelligence Review," 30.

One of the major drawbacks of IPB is the timeliness of its support during an operation. "Time is the enemy of every commander and staff officer. There is never enough of it."[155] As time is an essential element in providing valuable information, it creates a significant challenge to the intelligence staff using the IPB process in operations. As already detailed at length, the threat encountered in recent operations is generally nebulous. In addition, the environment where those operations take place, such as an urban area, is complex. It is difficult and time-consuming then to develop a good understanding of an adversary in this type of context as intelligence personnel must generally built a comprehensive picture of who the threat is and what it can do from scratch.[156] Unless you have a good understanding of the threat, it is impossible to determine with accuracy what that threat could do. At best, you can only speculate. This difficulty is compounded by the small size of intelligence staff available with a Task Force. Using the IPB process requires a considerable amount of efforts to display the information in a user-friendly format that can be easily absorbed by the planning staff. When time is short, a limited staff just adds one more hurdle to the efficiency of the process. The six months duration of an overseas deployment also creates difficulties. This six month duration approach for a deployment has for result that most of the experience and knowledge gained during a tour are lost with each rotation of units.

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[155]Guillermo Rodriguez, "Intelligence Preparation of the Battlefield: Is it Worth the Effort?" (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 1991), 27.

[156]For an interesting view on this, look at Les Leblanc, "Intelligence: OP ATHENA Roto 0," *The Bulletin* 10, No. 4 (September 2004).

The second major drawback with IPB is the usefulness of the products resulting from the process as it is currently designed. The requirements for information on the adversaries are as important in warfighting as in peace-support operations. However, the focus of the information required is quite different. In this aspect, IPB suffers from its basic design based on a Cold War scenario. For example, the usefulness of the High Value Target List is quite high for conventional warfighting, but does not bring much to a peace-support operation. As IPB is currently taught to intelligence personnel using this Cold War construct, they are not well-prepared when they are confronted with a situation that does not reflect such a construct.[157] Experience demonstrates that it takes time for an intelligence officer to develop a level of expertise with IPB that allows him to maximize the use of the process in non-warfighting scenarios. The author would postulate that based on his experience, all intelligence personnel currently serving in the Canadian Forces are knowledgeable on IPB. But only a limited number are comfortable using the process, and very few capable of adjusting it to meet the specific requirements of each operations.

Deficiencies still remain in fully implementing the IPB process within the Canadian Forces. At the present time, there is no recognized center of excellence for IPB within the Canadian Forces. Although the intelligence school is responsible for teaching IPB and would be the logical organization to assume that role, it does not have the depth to be a center of excellence at this time. In, addition, the way IPB is taught still relies on

[157]Major S. Desjarding, teleconference with the author, 02 November 2004. Maj Desjardins, G2 at Land Force Area Headquarters, indicated that his experience with intelligence personnel who have recently graduated from the School of Military Intelligence was that they had a difficult time trying to apply the IPB process outside of a Cold War scenario.

a well-defined conventional enemy. This may be acceptable in a training environment, but does not reflect the reality encountered by the Canadian Forces in its operational deployments over the last ten years. In order for IPB to remain relevant with the upcoming digitalized command and control systems being currently fielded in the Canadian Forces, the process will also need to be adapted to the digital world. Failure to do so could result in the IPB process becoming simply obsolete. The previously referred to intelligence dimension of force protection is not being supported at all by the current IPB process. Force protection plays a critical role in current Canadian Forces doctrine, as indicated in the Army Force Employment Concept: "Force protection remains a fundamental concern . . . [Canada's] soldiers must be able to survive, both physically and mentally, in any environment or circumstance."[158] It would therefore be to the benefit of deployed force in operations if intelligence could provide a commander with better support by linking force protection and IPB processes together. Finally, it must be concluded that IPB remains today exactly the same as it was 10 years ago when Canada adopted the process. Except for some localized initiatives, there has not been any major and coordinated effort to review the process in order to adapt it to the Canadian Forces' realities and specific needs. The next chapter will identify and explore potential venues to make IPB more relevant and responsive for the Canadian Forces.

[158]Department of National Defence, *The Force Employment Concept for the Army*, 28.

CHAPTER 3

NEW VENUES FOR IPB

"You are never there. You are always getting there."

Boyd[159]

"The Canadian Army, like its allied counter-parts throughout the world, must evolve doctrinally, organizationally and technologically if it is to remain a relevant institution."[160] This is applicable to the Canadian Army in general, but it is also applicable to its components, such as IPB. It is the intent of this chapter to explore and propose new venues for IPB, within the Canadian context, in order to make it a more relevant and responsive process.

RETHINKING THE IPB CONCEPT

The first question that comes to mind when analyzing IPB is: what is wrong with the process? The answer to that question is "nothing". IPB is doing what it was designed to do: operate against a well-developed conventional enemy fighting in open terrain. Thus, IPB has done and continues to do well. What is the difficulty with IPB then is that

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[159]John Boyd, "Lecture," *US Naval Institute Seminar*, Washington DC (September 1996), quoted in Begert, Matt and D. Lindsay, "Intelligence Preparation for Operations," *Small Wars & Insurgencies* 13, No. 2 (Summer 2002), 139.

[160]Bernd Horn and R.G. Reshke, Chapter 8 — "Defying Definition: The Future Battlespace", *Towards the Brave New World: Canada's Army in the 21st Century* (Kingston, ON: Directorate of Land Strategic Concepts, 2003), 87.

the process has not been adjusted to the new reality of today's operations. In other words, it has not kept pace with the evolving military environment that has emerged since the end of the Cold War.

IPB was designed from a 'bottom-up' approach. By focusing first on analyzing and identifying the details of a situation, it was then expected that the big picture would quickly emerge. IPB was developed as part of the American Air Land Battle doctrine which required "rapid intelligence analysis to identify quickly the enemy main effort as far away as possible to give U.S. Army maneuver units time to shift laterally from across the front in mass."[161] IPB was therefore "[o]riginally designed to identify large enemy organizations from its parts, and the enemy intentions from a study of stable doctrine, long-term unit positioning, common equipment capability, and terrain limitations."[162]

To operate efficiently, the current IPB doctrine rests on four assumptions.[163] The first is that the analysis of the process needs to focus only on the terrain and the enemy. The second is that the adversary is an organized force conducting combat operations. The third is that extensive intelligence database on that adversary already exists. The last assumption is that the final analysis, supported by the use of templates, will predict the enemy's potential courses of action. (See Figure 3.1)

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[161]Lawrence Brown, "The Enemy We Were Fighting Was Not What We Had Predicted. What Is Wrong With IPB At The Dawn Of The 21st Century?" (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 2004), 13.

[162]*Ibid*., 5.

[163]Lauri Snider, "An Assessment of Intelligence Preparation of the Battlefield Doctrine for Humanitarian Assistance Operations," (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 1996), 33-36.

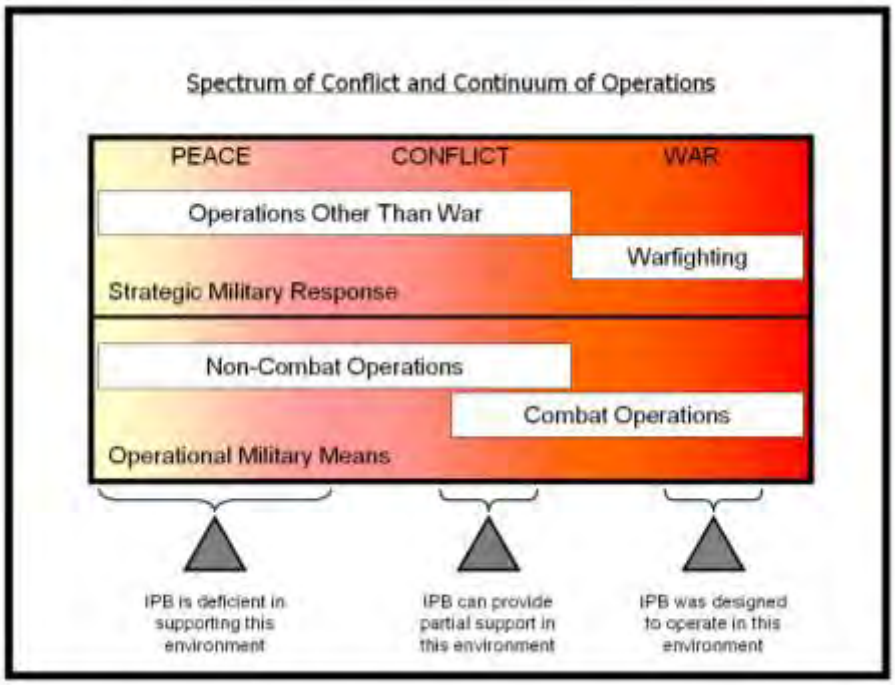

Figure 3.1 – IPB and the Continuum of Operations
Sources: This is adapted from the B-GL-300-000 Canada's Army, page 73.

Futhermore, the current IPB doctrine operates also on a traditional view of the battlespace framework, which is based on a linear and contiguous operation. However, as illustrated in figure 3.2, that traditional view is only one of four possible constructs that the area of operations may adopt. In fact, the traditional linear battlespace is becoming less and less common. Recent operations, like Bosnia and Afghanistan for example, are contiguous, but nonlinear.

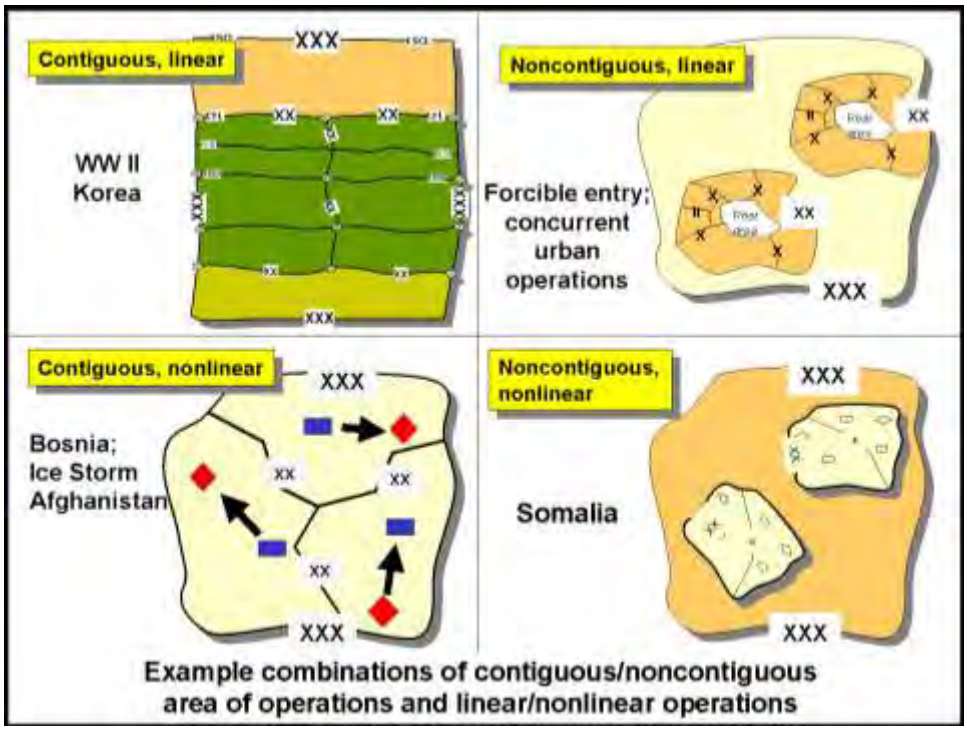

Figure 3.2 – Battlespace Construct
Source: This is taken from a presentation given at CLFCSC in 2003

In addition, the most difficult part of the IPB process to get right, and by consequence the most ineffective, is to determine the adversary's potential courses of actions. The current IPB doctrine relies on the analysis of two elements to develop the course of action: terrain analysis and evaluation of the adversary doctrine. "The theory [behind terrain analysis] is that an enemy concerned with making a rapid advance will tend to choose terrain that will facilitate rather than hinder that advance."[164] But, as history can prove, this is not always the case. Complex terrain also creates a whole new dimension, in particular urban environment, which considerably complicates any terrain analysis. It is also essential to understand the adversary's doctrine and its application, but

[164]Thaden, "Intelligence Preparation of the Battlefield and Predictive Intelligence" . . ., 29.

this could also be very misleading. "There are too many other variables that influence the enemy decision. The personality and style of the commander often have a greater influence on the course of action than the enemy doctrine."[165] If it was already challenging to develop courses of action for an enemy that was well known as the Soviets were, it becomes then even more challenging to do it for an adversary that is nebulous, with no standard organization and that is not-well known.

Those assumptions and basic construct on which the current IPB process rest may have been acceptable when facing the Soviets forces, but it fails to meet the requirements of today environment. (See figure 3.3).

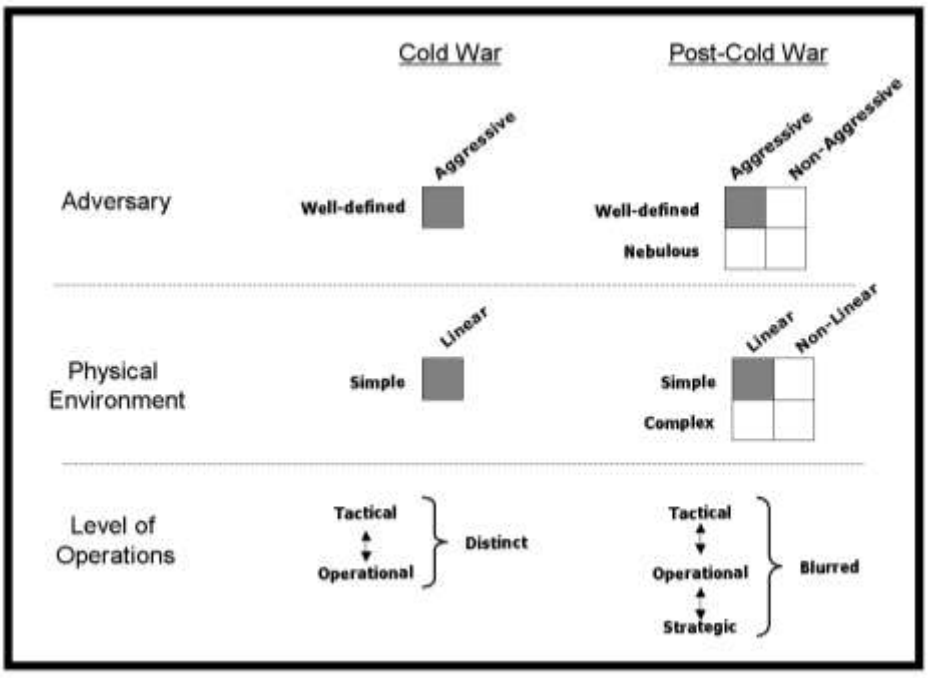

Figure 3.3 – The Evolving IPB Environment
Source: This is based on the author's experience

[165] *Ibid*.

The issue to rise then at this point then is to wonder if IPB is the best intelligence estimate methodology that the Canadian Forces should continue to employ, or is it time to move to something else that would provide better support ? The simple answer to these questions is that there is no other intelligence estimate methodology available at the moment other than to revert back to the traditional written intelligence estimate. That detailed estimate process has proven to be cumbersome to produce and difficult to assimilate by the non-intelligence personnel.[166] During the research conducted for this study, every intelligence specialist that was approached to share their impressions and experience about IPB more or less all said the same thing: IPB is an overall good process, but more flexibility is required to meet today's requirement[167]. Not everything about IPB is at fault, and there are therefore still values in keeping the IPB process. What is required then is an adapted methodology that is more responsive and better suited for today's environment. In short, a new improved IPB process.

To be more effective, IPB needs to adopt a flexible 'top-down' approach. To understand the details of the complex situations encountered today, one needs to understand the big picture first. IPB must move away from its very structured framework of the Cold War to a more modular approach that can be adapted to the different types of adversaries, operating in different types of terrain, that are part of today's environment. In addition, IPB must be able to support the needs of today's commanders operating in complex situations. There are two major avenues of improvements for IPB. The first is

[166]Author's experience.

[167]See bibliography for the list of personnel consulted.

to link the force protection dimension to the process. The second is to add more flexibility to the methodology in order to make it more adaptable.

THE MISSING DIMENSION: FORCE PROTECTION

"Military operations are inherently complex, dynamic, dangerous and, by nature, involve the acceptance of risk." [168] A risk is caused by a threat. "A threat is a person or thing likely to cause harm. A risk is the chance and nature of the harm likely to be suffered as a result of a threat."[169] The acceptance of risk does not mean that measures cannot be taken to manage and reduce its impact. In any military operations, a "commander has the dilemma of weighing mission requirements and force protection measures."[170] That dimension is known as force protection.

The importance given to force protection has increased significantly over the last ten years.

> On purely moral grounds, the value of human life demands that modern armies employ all available measures to prevent or mitigate the impact of foreseeable threats. In general, Western democratic societies have a relatively low tolerance for casualties or collateral damage.[171]

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[168]Department of National Defence, B-GJ-005-502/FP-000 *Risk Management for CF Operation*, (Ottawa: DND Canada, 2002), 1-2.

[169]Department of National Defence. B-GJ-005-200/FP-000 *Joint Intelligence Doctrine*, 3-8.

[170]B-GJ-005-502/FP-000 *Risk Management for CF Operation*, 2-4

[171]Department of National Defence, *The Force Employment Concept for the Army*, 28.

Within the Canadian Forces, many procedures and mechanisms exist in identifying, evaluating and taking measures to reduce risk. Figure 3.4 illustrates the risk management process for the Canadian Forces.

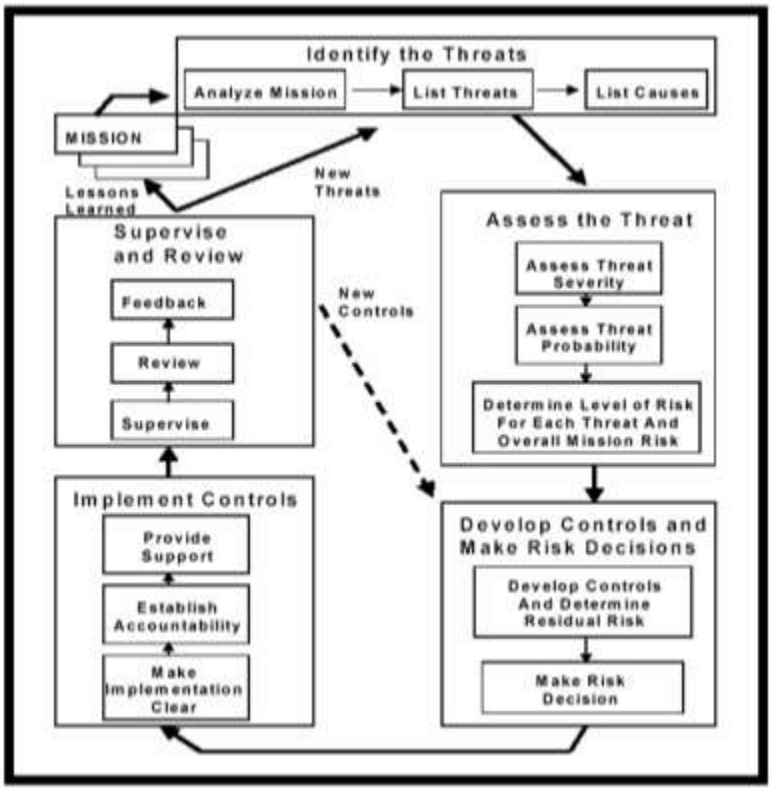

Figure 3.4 – Risk Management Process
Sources: B-GJ-005-502/FP-000 *Risk Management for CF Operations*, 2-4

"The basic foundation for effective force protection measures rests with the accurate assessment of conventional, asymmetric, environmental, health and hygiene, and accidental threats."[172] The role of intelligence in that process is critical. Intelligence is responsible for identifying and assessing what is the threat associated with a given situation:

[172]Department of National Defence. B-GJ-005-200/FP-000 *Joint Intelligence Doctrine*, 1-5.

> Force protection planning and execution are rooted in accurate intelligence and realistic threat risk assessments. Timely and accurate intelligence and counter-intelligence is needed to assess the threat to our operations, personnel and facilities and to identify and assess critical vulnerabilities, to allow commanders to plans effective force protection measures.[173]

The result of the intelligence analysis in support of force protection is normally provided under the form of a threat assessment. The production of threat assessments has become one of the key responsibilities of any intelligence section, either in Canada or deployed in international operations.[174]

The current doctrine on intelligence and IPB is disconnected with the concepts of risk and force protection. In the joint publication *Risk Management for CF Operations*, the concept of risk, as can be expected, is very well defined, as well as the importance and the role played by intelligence in the risk management process. It also clearly indicates that IPB is the intelligence process that will identify "threat actualities (weather and terrain), capabilities (doctrine and ORBAT) and intentions."[175] But the publication does not indicate how IPB is expected to accomplish this task. It is also indicated however that intelligence is responsible to develop current threat assessments, but not how.[176] The publication on *Joint Intelligence Doctrine* describes the concept of threat

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[173]Department of National Defense, "Defense Intelligence Review," 30.

[174]Author's experience. As a Land Force Area G2 in Halifax (1999-2004), the production of threat assessment was one of the key deliverables that was produced by the intelligence branch to support any activities within the area, in particular domestic operations. As well, as the J2 of the National Command Element for OP APOLLO deployed at McDill Air Force Base (2003-2004), threat assessment was key in supporting the requirements of the operation. Threat assessments were produced daily by the intelligence section.

[175] B-GJ-005-502/FP-000 *Risk Management for CF Operations*, 3-7.

[176]*Ibid.*, 4-4.

and risk assessments in generic terms, as well as providing more details on the production of threat assessments, but fails to link directly threat assessments to the IPB process. The third publication of interest, *Field Manual Intelligence*, does not cover the concepts of risk and force protection. That publication contains the most details explanation on IPB, but makes no reference that links the IPB process to support force protection.

There is a serious shortfall in the current intelligence doctrine with regards to threat assessment and force protection. The generic concepts are there, but nothing related to providing guidance in the development and production of threat assessments is included. In addition, this doctrinal deficiency is further compounded by the intelligence school in Kingston, which does not teach threat assessment methodology as part of its curriculum.[177] As illustrated in Figure 3.5, the relative importance of force protection, depending on the type of operation, is as important if not more than the intelligence needed to support the accomplishment of the mission. There is therefore a definite requirement to address this shortfall. Linking the production of threat assessments, necessary for force protection, to the IPB process is one avenue to do this.

The advantages of making the force protection development methodology an integral part of the IPB process is threefold. First, it will address the doctrinal gap that currently exists with the production of threat assessments. By using a methodology that is already familiar to intelligence personnel, it would avoid the pitfall of creating another

[177]Captain S. MacAulay, email to Army Intelligence personnel, fall of 2003. Capt MacAulay is the Deputy Commanding Officer of the Canadian Forces School of Military Intelligence since 2003. The email was in reply to a specific question on what the Intelligence School was teaching in regard to the production of threat assessment.

separate process. Second, the information required by intelligence personnel for the preparation of threat assessments is almost the same as the one required to support the decision-making relative to the accomplishment of the mission. The difference resides in the interpretation that is made of the information. By using the same process to cover both aspects, the use of the information gained during the estimate could then be optimized. It would reduce duplication of efforts. Finally, the IPB process is designed to support a commander and his staff during the planning of an operation. It is during that period that information relative to force protection is also required, as a commander needs to balance risk with the accomplishment of the mission. It therefore makes perfect sense to use the IPB process as the backbone for force protection development.

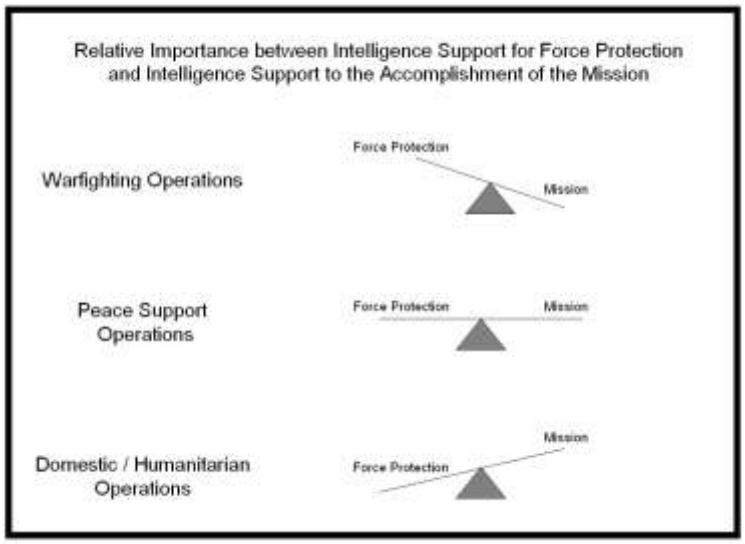

Figure 3.5 – Force Protection vs Accomplishment of the Mission
Sources: Based on author's experience

ADDING FLEXIBILITY TO THE PROCESS

It is difficult, in today's complex environment, to develop a process such as IPB that will cater to every possibility that could be faced by an intelligence staff. It is nevertheless possible to identify areas where the current IPB methodology could be improved in order to make it more relevant and responsive. It is the intent of this section to highlight those areas.

Step 1 needs to be expanded from just identifying the area of operations and interest, to an overall view of the situation. During this first step, the complexity of today's situation requires the intelligence staff to first have a larger and better understanding of the global picture of the friendly forces. To better support a commander and his staff, intelligence needs to fully understand the mission, intent and vision, tasks, deployment posture, limitations, and end state of the friendly forces. This will help intelligence to better focus the IPB process. Intelligence staff must adopt a similar approach during this step as the one taken during the mission analysis process done during the orientation step of the OPP.

The current operating environment is very similar to what the operational level of operations used to look like during the Cold War.[178] It has become clear during this study that the IPB process needs to expand its analysis of factors to more than just terrain

[178]For additional information on this concept, look at Thomas Purcell, "Operational Level Intelligence: Intelligence Preparation of the Battlefield," (Monograph, United States Army War College, Carlisle Barracks, PA, 1989), Chapter II.

and the enemy. The complexity of today's operations requires considering also other factors, such as historical, political, diplomatic, economic, ethnic and ideological, as they all have a potential impact on a situation.

Terrain analysis of step 2 remains an important dimension of any IPB process, as no assessment of an adversary capability and intentions can be done without considering the impacts of the environment. But that analysis must be able to consider complex terrain, in particular urban environment. The study done by the Rand Organization on IPB in urban environment, *Street Smart: Intelligence Preparation of the Battlefield for Urban Operations,*[179] provides good recommendations on how to improve the methods and techniques of the process.

The analysis of the enemy in step 3 must move away from evaluating only the adversary doctrine in order to develop doctrinal templates to a more global understanding of that adversary. It is now the exception to face an adversary who has well-developed doctrinal procedures. In fact, the challenge today is often to identify who those adversaries are, and what their intentions and capabilities are. To understand the adversaries, a global understanding of his overall situation, with special attention paid to the political, economic, ethnic and ideological dimensions are now required. The bottom line of this step is to determine the adversary 'modus operandi'[180].

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[179]Jamison Medley and R. Glenn., "Street Smart: Intelligence Preparation of the Battlefield for Urban Operations," *Rand Corporation*. http://www rand.org/publications/MR/MR1287; Internet, accessed on 29 October 2004.

[180]From latin meaning 'way of operating'. It is defined as "habitual method of procedure". http://www.wordwebonline.com/en/MODUSOPERANDI; Internet, accessed 21 March 2005.

One methodology that could be better suited for this fluid environment is the CG-CC-CR-CV approach.[181] This approach stands for identifying the adversary center of gravity (CG), of which comes out critical capabilities (CC), or the 'critical enablers 'of the center of gravity. "Centers of gravity are those characteristics, capabilities, or sources of power from which a military force derives its freedom of action, physical strength, or will to fight."[182] Figure 3.6 provides a view of the characteristics of an adversary's CG.

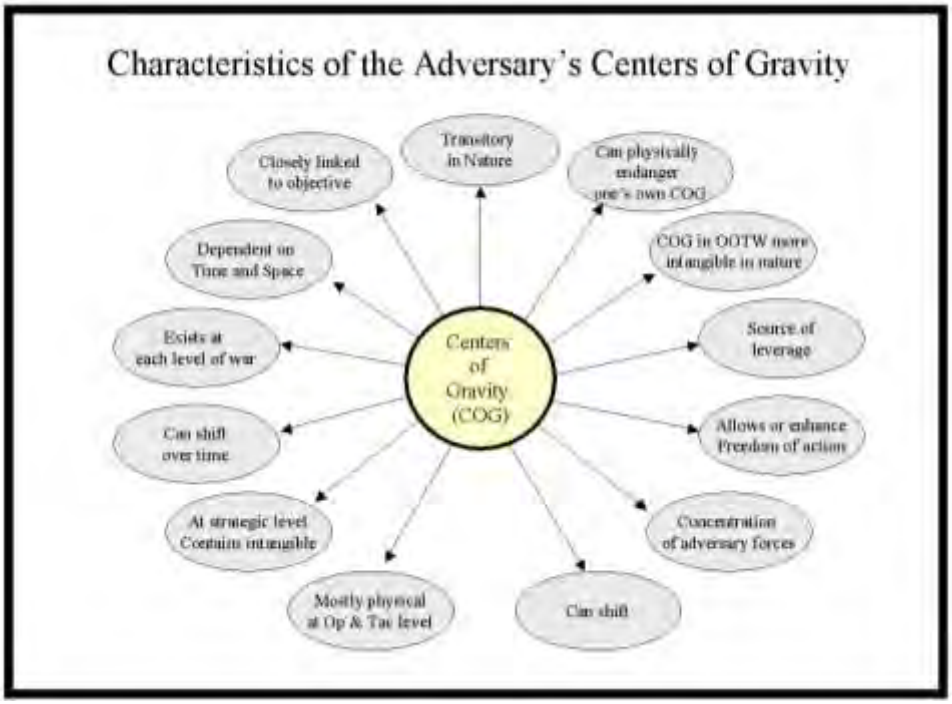

Figure 3.6 – Characteristics of the Adversary's Centers of Gravity
Source: US Publication 5-00.1 *Joint Doctrine for Campaign Planning*, II-7.

The critical requirements (CR) and critical vulnerabilities (CV) of those critical capabilities are then identified (See Figure 3.7). This technique can provide better help in

[181]Joe Strange and R. Iron, "Understanding Centers of Gravity and Critical Vulnerabilities," http://www.au.af mil/au/awc/awcgate/usmc/cog2.doc; Internet; accessed 21 March 2005.

[182]Office of the Joint Chiefs of Staff, Joint Publication 5-00.1 *Joint Doctrine for Campaign Planning*, (Washington, D.C.: U.S. Government Printing Office, 2002), II-7.

determining key factors that if acted upon could be used to shape the adversary will to fight, capabilities and freedom of action.

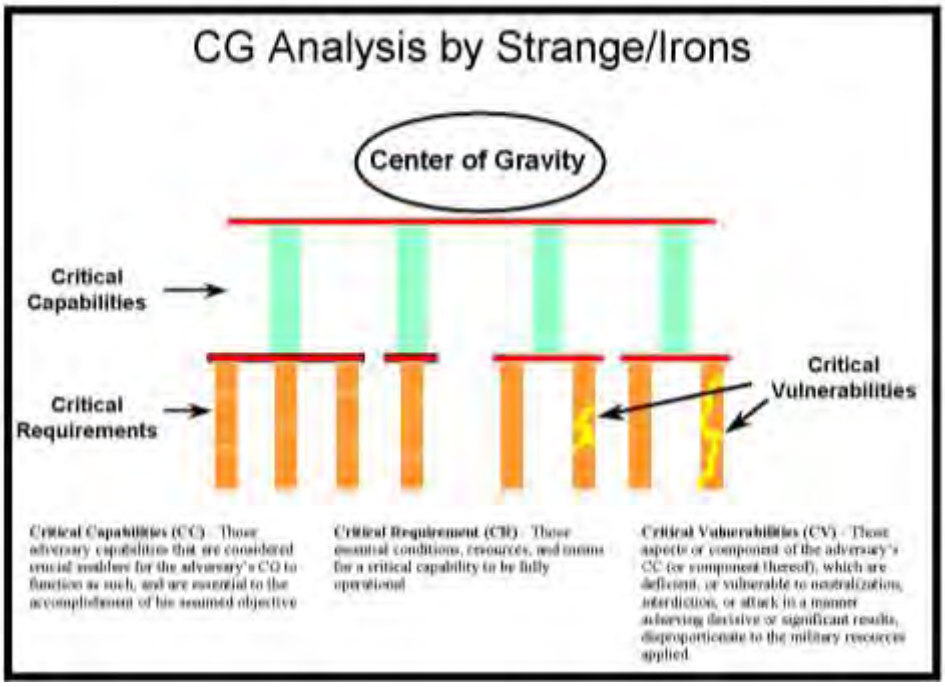

Figure 3.7 – Strange/Iron Centers of Gravity Concept
Source: This is based on lecture given at CFC

As already identified, step 4 is the most difficult part of the process. The courses of action are based on the comprehension of the situation established during the initial part of the IPB process. It is therefore only as good as the information available and the skills of the intelligence staff analysing it. There is no easy way to determine what the adversary could do and looking for methods to make this part of the process more effective is challenging.

In his study of the IPB process, *The enemy we were fighting was not what we had predicted*, Maj Brown of the US Army proposes using the concept of hypothesis instead

of assumptions on what the adversary could do. An assumption is "something that you accept as true without question or proof."[183] While a hypothesis is "an idea or explanation for something that is based on known facts but has not yet been proved."[184] "Forming hypothesis about the enemy still lets commanders plan against and anticipate enemy course of actions. A hypothesis by definition is not an end unto itself; it is an explanation under investigation."[185] The difference may be subtle, but important to convey the right message about the courses of action open to the adversary. Those are what the intelligence staff thinks it can do. As those courses of action are not facts, intelligence therefore needs to develop key indicators that will help determine what the adversary will do.

The IPB doctrine focuses on identifying key locations in the area of operations (Named Area of Interest) that will provide the indicators necessary to identify which courses of action the adversary will take. This is an acceptable methodology in tactical scenario, but may not always be adequate. The Rand document, *Street Smart: Intelligence Preparation of the Battlefield for Urban Operations*, suggests using an alternative methodology that may provide better support for complex situations. The method is called 'Analysis of Competing Hypothesis' or ACH. "This technique is used to refute [courses of action] COA as they are developed, thus limiting the amount of time

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[183]Cambridge Online Dictionary, "Assumption, " http://dictionary.cambridge.org/define.asp?key=4466&dict=CALD; Internet, accessed 23 March 2005.

[184]Cambridge Online Dictionary, "Hypothesis," http://dictionary.cambridge.org/define.asp?key=38764&dict=CALD; Internet, accessed 23 March 2005.

[185]Brown, "The Enemy We Were Fighting . . ., 31.

spent on unfeasible alternatives."[186] The ACH is an eight-step approach[187] for evaluating multiple hypotheses as depicted in table 3.1.

Table 3.1 – Analysis of Competing Hypotheses

Analysis of Competing Hypotheses	
1	Identify the possible hypotheses [COA] to be considered. Use a group of analysts with different perspectives to brainstorm feasible COA.
2	Make a list of significant evidence and arguments for and against each hypothesis.
3	Prepare a matrix with hypotheses across the top and evidence down the side. Analyze which items are most helpful in judging the relative likelihood of the hypotheses.
4	Refine the matrix. Reconsider the hypotheses and delete evidence and arguments that have no diagnostic value.
5	Draw tentative conclusions about the relative likelihood of each hypothesis. Proceed by trying to disprove the hypotheses rather than prove them.
6	Analyze how sensitive your conclusion is to a few critical items of evidence. Consider the consequences for your analysis if the evidence were wrong, misleading, or subject to a different interpretation.
7	Report conclusions. Discuss the relative likelihood of all the hypotheses, not just the most likely one.
8	Identify milestones for future observation that may indicate events are taking a different course than expected.

Source: *Psychology of Intelligence Analysis*, 102

The element that can be concluded from this study is that the Canadian Forces could be involved into different types of operations. Those can arguably be divided into four categories, as illustrated in Figure 3.8. Each one of these categories has specific intelligence requirements, relying on different intelligence products to support its planning process.

[186]Medley "Street Smart . . ., 126.

[187]Richards Heuer, *The Psychology of Intelligence Analysis*, (Washington, D.C.: Center for the Study of Intelligence, Central Intelligence Agency, 1999), 102.

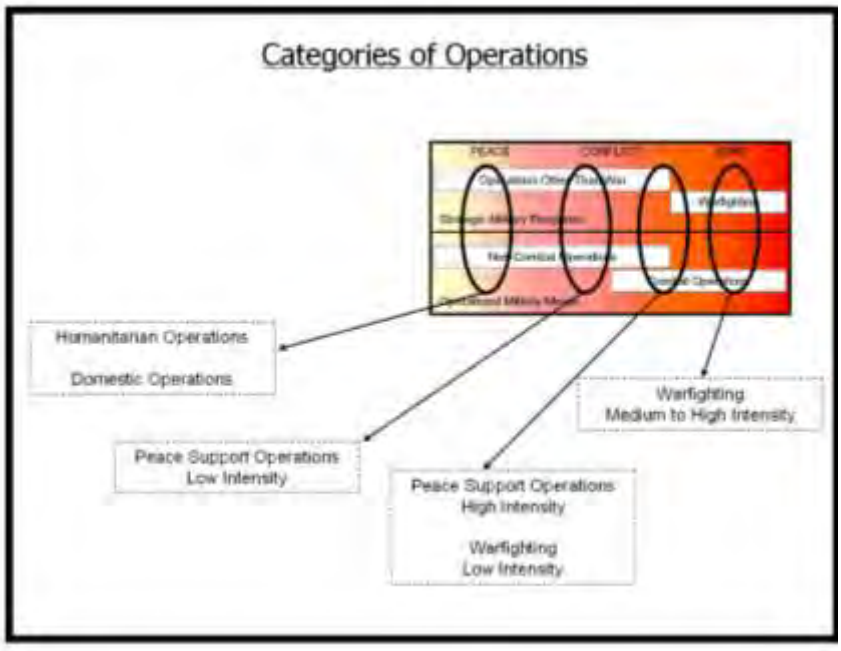

Figure 3.8 – Categories of Operations and IPB
Source: Author's experience

Warfighting operations are what the current IPB process has been designed to face. They are also however, the least likely type of operations that would see the Canadian Forces being committed to. In medium to high intensity warfighting operations, the military forces are normally confronted to a conventional adversary, easily identifiable with well-established doctrinal procedures. In those types of operations the tempo is generally fast, with clearly identifiable objectives to achieve (capture city X for example). For intelligence, this type of operations is very intensive, but also relatively easier to address. Intelligence efforts are focus on identifying and locating the adversary units/formations. With the presence of key signature equipment and a relatively constant doctrine, it becomes possible to develop enemy courses of action and keep track of the adversary activities.

Low intensity warfighting operations however, falls into the same category as high intensity peace support operations. The characteristics of these operations are the presence of an active adversary, but one that relies on asymmetric warfare to gain the upper hand. The nature of the adversary in those types of operations is not as clear-cut. The adversary could be an armed guerrilla group, insurgents from the local population, or terrorists. The issue of force protection for a commander takes an increases level of importance. The end state is less tangible (establish and maintain a secure environment for example), and as a result, the conduct of military operations is more decentralized and fluid. The tempo is slower and the operations could last for months, if not years. The challenges for the intelligence staff are to identify who are the adversaries, their intentions and capabilities. The intelligence efforts focus mostly on individuals or small groups, each with their own particularities. In this type of environment, determining adversary courses of actions becomes much more difficult.

Low intensity peace support operations take place in a different environment. There is generally no direct military threat to the military forces deployed, despite the presence of opposing factions. The nature and presence of the adversary becomes even more fluid and nebulous, involving military types forces, as well as criminal elements and extremists groups. The tempo is slow, with routine day-to-day patrolling and monitoring activities taking place. The end state is again less tangible (establish a free and democratic society for example) and could take years to achieve. Once again, the challenges for the intelligence staff are to identify who the adversaries are, their intent and capabilities. The intelligence focus is mostly on monitoring the activities of

individuals, which requires techniques that are closer to what Law Enforcement Agencies uses than traditional military intelligence procedures. In this situation, determining adversaries' courses of action is almost impossible. It is more useful for the intelligence staff to identify leverage points on those adversaries, such as strengths and weaknesses, and center of gravity, which could be used to influence them. In addition, the issue of force protection is generally a higher priority for the commander.

The last category of operations is humanitarian or domestic operations. Those operations are in response to an emergency situation and generally take place with little or no warning. The duration of the operations is relatively short, lasting only days to a few weeks at most. In this category, the operations generally take place in benign environment, and therefore, there is no adversary. But, the presence of threats still remains, with military intelligence efforts focused almost exclusively on the force protection dimension. Threats could be from the effects of the weather, medical and sanitation conditions, or the attitude and support of the local population. The tools of IPB are not well suited to support these types of operations. There is a requirement to identify the threats and their potential impacts on the mission, but there is no need to formulate adversary courses of actions.

In summary, it would serve the Canadian Forces well to adopt the IPB process to the new reality of today's operational environment. There is therefore a requirement to take a close look at IPB in order to review the process and to make it more flexible. It may not be unrealistic to conclude then, that due to those four different

categories of operations, four different versions of the IPB process may be required. Each version adapted to meet the intelligence needs of one of those different types of operations. Instead of trying to have one process that can cover every option, it may be simpler to maintain the generic IPB construct, but to have four adapted versions of the process.

CONCLUSION

Intelligence is for commanders. Intelligence is not an academic exercise nor is it an end in itself. The prime purpose of intelligence is to help the commander make a decision, and thereby to proceed more accurately and more confidently with the accomplishment of his mission.

Intelligence is for Commander
1948 [188]

Canada's decision to adopt the IPB process as its military intelligence estimate methodology in 1994 was a pragmatic one. It was based on Canadian Forces' desire to remain interoperable with its closest ABCA allies of Australia, United Kingdom and the United States.

The integration of IPB has been a long and tedious process. For the first five to six years, the integration was very slow, with little progress being made. By the turn of the century however, the integration process accelerated, but even today, military intelligence personnel are just starting to get comfortable with the IPB process.

The inclusion of the IPB process within the Canadian Forces has resulted in positive improvements. The step-by-step methodology of the process, with clearly identified deliverable graphic products, has resulted in IPB being closely linked with the OPP. This has brought the intelligence and operations staff working closer during the planning of future operations. The OPP cannot be completed successfully without the

[188]Robert Glass and P. Davidson, *Intelligence is for Commander* (Harrisburg: Military Service Publishing, 1948): ix, quoted in Collin Agee, "Intelligence Preparation of the Battlefield: One Size Fits All?" (Monograph, United States Command and General Staff College, Fort Leavenworth, Kansas, 1992), 8.

support provided by the products resulting from the IPB process. IPB also made the teaching of military intelligence estimate more efficient. IPB is considered today as one of the key learning skills required of intelligence personnel going through the School of Military Intelligence in Kingston. IPB is also part of the curriculum of the army staff college at Kingston and Canadian Forces College in Toronto. This has resulted in upcoming seniors officers throughout the Canadian Forces being exposed to the IPB process, which give them a good appreciation of the support that can be expected from intelligence during planning.

But IPB has failed the Canadian Forces where it should count the most, to provide valuable and relevant support during the conduct of both international and domestic operations. All intelligence staff deployed on operations has consistently reported difficulty in using the IPB process. At best, only part of the process was used, but for most operations, IPB was not used at all. The difficulties in using IPB in the current environment should come as no surprise, as the process was originally developed during the Cold War to operate against a well-defined adversary, fighting in a conventional war.

The American Army started to develop IPB after the Vietnam War in support of what became know as the Air-Land Doctrine. It was specifically tailored to fight the Warsaw Pact forces, in a linear open terrain. The basic construct of IPB rested on a bottom-up tactical analytical approach to determine the adversary intention by focusing on identifying its key components. But those circumstances have changed considerably since the end of the Cold War. The environment under which operations are now taking

place is more complex, with an adversary that is fluid, fighting by using an asymmetric approach. Under those circumstances, in a situation where gaining a good understanding of the adversary is more intricately difficult, using IPB is more challenging. This makes the process less responsive.

The difficulties with IPB reside in its timeliness and the relevance of the products resulting from the process. When confronted to a complex situation where the adversary is not well defined, it takes time for the intelligence staff to develop a good understanding of who the adversary is, its capabilities and potential intentions. This makes the IPB process not as responsive as it should be. In addition, the products are tailored to support warfighting operations, and therefore not all of them are suitable to support peace support or humanitarian operations. In short, IPB has failed to keep pace with the evolving environment that has emerged in the last decade.

There are two possible venues to make IPB more efficient and relevant. The first is to link the force protection / threat assessment dimension to the process. The importance of force protection has increased significantly over the last years, with intelligence staff playing a key role in the form of developing threat assessment. But the concept of threat assessment is not well defined with the current Canadian intelligence doctrine. By linking it to the IPB process, it would provide a framework on which the development of threat assessment can be anchored. It would also make the IPB process more complete by providing not only intelligence support to the mission, but also to the other essential dimension of force protection.

The other venue to make the IPB more responsive and relevant is to make it more flexible. The Canadian Forces can be involved in different types of operations, which can arguably be divided into four categories. As each category has its own specific requirements, it could be realistic then to conceptualize the development of four different variants of the IPB process, each to support a specific category of operations.

There is no questioning the value of the IPB process. When implemented under the circumstances for which it was designed to operate, the process provides the intelligence staff with an efficient step-by-step methodology that allows it to successfully support a commander's decision-making process. But the environment under which IPB was designed to function has changed considerably since the end of the Cold War. It is now time for the Canadian Forces to take the next step and to adjust the IPB process in order to better support its intelligence requirements.

ABBREVIATIONS

ABCA	America, Britain, Canada and Australia Coalition
ACH	Analysis of Competing Hypothesis
ACP	Aid to the Civil Power
AI	Area of Influence
AO	Area of Operations
CC	Critical Capability
CF	Canadian Forces
CFC	Canadian Forces College (Toronto)
CFSIS	Canadian Forces Security and Intelligence School
CLFCSC	Canadian Land Force Command and Staff College (Kingston)
COA	Course of Action
CG	Center of Gravity
CPX	Command Post Exercice
CR	Critical Requirements
CV	Critical Vulnerabilities
FLOCARK	Canadian Methodology for Terrain Analysis
FM	Field Manual
HVT	High Value Target
HVTL	High Value Target List
I&W	Indicators and Warnings
INT	Intelligence
IPB	Intelligence Preparation of the Battlespace
ISTAR	Intelligence, Surveillance, Target Acquisition, and Reconnaissance
MCWP	Marines Corps Warfighting Publication
NAI	Named Area of Interest
NCM	Non-Commissioned Members
NDHQ	National Defence Headquarters
OP O	Operations Order
OPP	Operational Planning Process
PIR	Priority Intelligence Requirement
RMA	Revolution in Military Affairs
TF	Task Force
UN	United Nations

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