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CF Procedures and Practices Involving Information Aggregation

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Abstract

The operational effectiveness of the Canadian Forces (CF) depends on being able to make timely and appropriate decisions. Decision making can benefit from full knowledge of all variables involved in the decision. However in a practical setting, especially under time constraints, an individual rarely has access to all relevant information or may find it difficult to judge the reliability of all the information. To manage the information demands that arise out of complex situations, expertise is often divided among several people who are knowledgeable in their field, and therefore can contribute only what they know about a situation. Hence, information must be combined from several sources to compose the big picture before an appropriate decision can be reached. Good aggregation methods allow each expert to express their opinions and appropriately weigh each option to produce the final aggregated decision.

The Canadian Forces (CF) actively engages in information aggregation related activities. In situations of peace, conflict and war, the CF carries out a series of sub activities performed by experts, automated systems, and groups representing a variety of disciplines. Successful mission accomplishment is dependent on aggregating the outcomes of these sub activities and executing accordingly to achieve strategic goals.

Although CF operations exhibit information aggregation related activities, there is a lack of information regarding the aggregation methods currently used by the CF. In order to bridge gaps in knowledge, this report examines information aggregation and its related activities from two CF perspectives: the Intelligence Cycle (IC) and the Operational Planning Process (OPP). Accordingly, a doctrinal review and Subject Matter Expert (SME) interviews were conducted. The purpose of the doctrinal review was to identify CF procedures that were rich in information aggregation related activities and to describe those activities. The purpose of the SME interviews was to develop an understanding about how information aggregation practices are carried out in actuality.

Overall, it was concluded that doctrine reflects a rational approach to the process of aggregating information while the SME interviews indicated a more intuitive approach. This difference in approach suggests that information aggregation is a hybrid of both intuitive and rational processes that relies on hypothesis testing. Hypothesis testing involves the Commander communicating to his Staff a set of queries and targets that will either verify, refute or modify his vision of the operation. Consequently, the Staff begin collecting required information as set out by the Commander, as well as other relevant or interesting information. Collected information is then rationally or intuitively integrated with the individual's knowledge base to form a picture of the situation. Individuals are given the opportunity to share and compare individual pictures in group meetings. The separate pieces of information that emerge from the group meeting are centralized, grouped and synchronized to inform the coherent big picture. From this, new queries and targets are identified to deal with conflicting or sparse information. Information aggregation is therefore iteratively performed by both the Commander and Staff to inform the big picture and subsequent decision making.

Résume

L’efficacité opérationnelle des Forces canadiennes (FC) est tributaire de leur capacité de prendre des décisions opportunes et éclairées. La connaissance de toutes les variables à tenir compte dans la décision peut améliorer la démarche décisionnelle, mais, dans la pratique, et particulièrement en présence de contraintes de temps, le décideur a rarement accès à tous les renseignements pertinents ou peut avoir de la difficulté à juger de la fiabilité de toutes les informations. L’expertise permettant de gérer les besoins d’information propres à des situations complexes est souvent partagée entre plusieurs personnes, dont chacune connaît très bien son domaine mais ne peut apporter à la démarche que ce qu’elle sait de la situation. Il faut donc combiner des renseignements de sources diverses pour former une image d’ensemble et prendre une décision éclairée. Le recours à de bonnes méthodes d’agrégation permet à chacun des experts d’exprimer son opinion et de donner un poids approprié à chaque option pour en venir à produire la décision agrégée finale.

Les FC s’adonnent à des activités liées à l’agrégation d’informations. En temps de paix, de conflit et de guerre, elles exercent une série de sous-activités qu’elles confient à des experts, à des systèmes automatisés et à des groupes représentant une gamme de disciplines. La réalisation fructueuse des missions dépend de l’agrégation des résultats de ces sous-activités et de l’exécution, en conséquence, d’activités permettant de réaliser les buts stratégiques établis.

Bien que les opérations des FC englobent des activités liées à l’agrégation d’informations, il subsiste un manque d’information sur les méthodes d’agrégation actuellement employées par elles. Pour combler les lacunes de cette connaissance, le présent rapport étudie l’agrégation d’informations et ses activités connexes depuis deux des points de vue des FC : le cycle du renseignement (CR) et le processus de planification opérationnelle (PPO). Une étude de la doctrine et des entrevues avec des experts en la matière (EM) a été menée dans ce but. L’étude de la doctrine visait à faire ressortir les procédures des FC riches d’activités liées à l’agrégation de l’information et à décrire ces activités. Les entrevues avec les EM visaient à élaborer une compréhension de la façon dont sont réellement utilisées les pratiques d’agrégation de l’information.

On en est venu à la conclusion, dans l’ensemble, que la doctrine reflète une approche rationnelle de la démarche d’agrégation de l’information, tandis que les entrevues avec les EM ont mis en évidence une approche plus intuitive. Cette différence d’approche permet de croire que l’agrégation d’informations est une forme hybride de processus intuitifs et rationnels qui repose sur la vérification des hypothèses. Cette vérification se déroule ainsi : le commandant communique à son état-major un ensemble de demandes d’information et de cibles et l’état-major confirme, réfute ou modifie la vision qu’a le commandant de l’opération. L’état-major, partant de là, entreprend la collecte de l’information voulue, telle qu’établie par le commandant, ainsi que d’autres renseignements intéressants ou pertinents. L’information recueillie est alors intégrée, rationnellement ou intuitivement, à la base de connaissances de l’intéressé afin qu’il se fasse une image de la situation. Les intervenants ont la possibilité de partager et de comparer leurs images lors de réunions. Les divers éléments d’information qui émergent de ces réunions sont centralisés, regroupés et synchronisés afin de donner une assise d’information à une image d’ensemble cohérente. Partant, de nouvelles demandes de renseignements et de nouvelles cibles sont identifiées afin de résoudre les instances d’information conflictuelle ou rare. L’agrégation d’informations est donc exécutée par itérations par le commandant et par l’état-major afin de donner une assise

d’information à l’image d’ensemble et au processus décisionnel faisant suite à la formation de cette image.

Executive Summary

The operational effectiveness of the Canadian Forces (CF) depends on being able to make timely and appropriate decisions. Decision making can benefit from full knowledge of all variables involved in the decision. However in a practical setting, especially under time constraints, an individual rarely has access to all relevant information or may find it difficult to judge the reliability of all the information. To manage the information demands that arise out of complex situations, expertise is often divided among several people who are knowledgeable in their field, and therefore can contribute only what they know about a situation. Hence, information must be combined from several sources to compose the big picture before an appropriate decision can be reached. Good aggregation methods allow each expert to express their opinions and appropriately weigh each option to produce the final aggregated decision.

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Although CF operations exhibit information aggregation related activities, there is a lack of information regarding the aggregation methods currently used by the CF. In order to bridge gaps in knowledge, this report examines information aggregation and its related activities from two CF perspectives: the Intelligence Cycle (IC) and the Operational Planning Process (OPP). Consequently, a doctrinal review and Subject Matter Expert (SME) interviews were conducted.

The purpose of the doctrinal review was to identify CF procedures that are rich in information aggregation. A total of nine streams of doctrine were examined: Operational Planning, Joint Intelligence, Risk Management, Psychological Operations, Non-Combatant Evacuations, Civil Military Cooperation, CF Operations, CF Information Operations, and Peace Support Operations. The results indicate that the different doctrinal disciplines indirectly address information aggregation to varying levels of detail. Further, no consistent method was identified in the doctrine for aggregating information. However, the majority of reviewed doctrine had a similar approach to recording information via standardized formal documents and databases. These formal documents and databases contain vast amounts of information that can be reviewed by the Commander or used by his Staff, in supplementing gathered information, to develop the big picture and inform decision making.

The purpose of the SME interviews was to develop an understanding of actual information aggregation practices. A total of five SMEs were interviewed: two Intelligence SMEs from All Source Intelligence Center (ASIC), J3 and J5 personnel from Canadian Expeditionary Force Command (CEFCOM), and a retired CJ3 from the International Security Assistance Force (ISAF) HQs. These interviews suggest that the big picture is formed when individuals specializing in different areas of expertise come together in meetings and present pertinent information. During these meetings information tends to be presented visually and supplemented orally.

These findings suggest that doctrine reflects a rational approach to the process of aggregating information while the SME interviews indicated a more intuitive approach. This difference in approach suggests that information aggregation is a hybrid of both intuitive and rational processes that relies on hypothesis testing. Hypothesis testing involves the Commander communicating to

his Staff a set of queries and targets that will either verify, refute or modify his vision of the operation. Consequently, the Staff begin collecting required information as set out by the Commander, as well as other relevant or interesting information. Collected information is then rationally or intuitively integrated with the individual's knowledge base to form a picture of the situation. Individual are given the opportunity to share and compare individual pictures in group meetings. The separate pieces of information that emerged form group meetings are centralized, grouped and synchronized to inform the coherent big picture. From this, new queries and targets are identified to deal with conflicting or sparse information. Information aggregation is therefore iteratively performed by both the Commander and Staff to inform the big picture and subsequent decision making.

This work was performed under contract W7711-047911//001/TOR, call up number 7911-06. The Scientific Authority (SA) for this work is Dr. David Smith.

Sommaire

L’efficacité opérationnelle des Forces canadiennes (FC) est tributaire de leur capacité de prendre des décisions opportunes et éclairées. La connaissance de toutes les variables desquelles tenir compte dans la décision peut améliorer la démarche décisionnelle, mais, dans la pratique, et particulièrement en présence de contraintes de temps, le décideur a rarement accès à tous les renseignements pertinents ou peut avoir de la difficulté à juger de la fiabilité de toute l’information. L’expertise permettant de gérer les besoins d’information propres à des situations complexes est souvent partagée entre plusieurs personnes, dont chacune connaît très bien son domaine mais ne peut apporter à la démarche que ce qu’elle sait de la situation. Il faut donc combiner des renseignements de sources diverses pour former une image d’ensemble et prendre une décision éclairée. Le recours à de bonnes méthodes d’agrégation permet à chacun des experts d’exprimer son opinion et de donner un poids approprié à chaque option pour en venir à produire la décision agrégée finale.

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Bien que les opérations des FC englobent des activités liées à l’agrégation d’informations, il subsiste un manque d’information sur les méthodes d’agrégation actuellement employées par elles. Pour combler les lacunes de cette connaissance, le présent rapport étudie l’agrégation d’informations et ses activités connexes depuis deux des points de vue des FC : le cycle du renseignement (CR) et le processus de planification opérationnelle (PPO). Une étude de la doctrine et des entrevues avec des experts en la matière (EM) a été menée dans ce but.

L’étude de la doctrine visait à faire ressortir les procédures des FC riches d’activités liées à l’agrégation de l’information. Au total, neuf courants de doctrine ont été étudiés : la planification opérationnelle, le renseignement interarmées, la gestion des risques, les opérations psychologiques, l’évacuation de non-combattants, la coopération civilomilitaire, les opérations des FC, les opérations d’information des FC et les opérations de soutien de la paix. Les résultats obtenus indiquent que les diverses disciplines doctrinales portent indirectement sur l’agrégation d’informations à différents degrés de détail. Qui plus est, aucune méthode uniforme n’a été reconnue, dans la doctrine, pour l’agrégation d’informations. La majorité, toutefois, des doctrines étudiées avait une approche similaire de la consignation de renseignements au moyen de documents et de bases de données officiels normalisés. Ces documents et bases de données officiels contiennent de vastes quantités d’information que peut consulter le commandant ou que peut utiliser son état-major, en plus des renseignements recueillis, pour élaborer l’image d’ensemble et donner une assise d’information au processus décisionnel subséquent.

Les entrevues avec les EM visaient, pour leur part, l’élaboration d’une compréhension des pratiques réelles d’agrégation de l’information. Au total, cinq EM ont été vus : deux EM du renseignement du Centre du renseignement de toutes sources (CRTS), des membres du personnel du J3 et du J5 du Commandement de la Force expéditionnaire du Canada (COMFEC) et un CJ3 à la retraite ayant appartenu aux QG de la Force internationale d’assistance à la sécurité (FIAS). Ces

entrevues permettent de croire que l'image d'ensemble se forme quand des personnes qui se spécialisent dans divers domaines d'expertise se rassemblent dans le cadre de réunions et présentent des renseignements pertinents. Au cours de ces réunions, il est de coutume de présenter l'information visuellement et de l'enrichir oralement.

On en est venu à la conclusion, dans l'ensemble, que la doctrine reflète une approche rationnelle de la démarche d'agrégation de l'information, tandis que les entrevues avec les EM ont mis en évidence une approche plus intuitive. Cette différence d'approche permet de croire que l'agrégation d'informations est une forme hybride de processus intuitifs et rationnels qui repose sur la vérification des hypothèses. Cette vérification se déroule ainsi : le commandant communique à son état-major un ensemble de demandes d'information et de cibles et l'état-major confirme, réfute ou modifie la vision qu'a le commandant de l'opération. L'état-major, partant de là, entreprend la collecte de l'information voulue, telle qu'établie par le commandant, ainsi que d'autres renseignements intéressants ou pertinents. L'information recueillie est alors intégrée, rationnellement ou intuitivement, à la base de connaissances de l'intéressé afin qu'il se fasse une image de la situation. Les intervenants ont la possibilité de partager et de comparer leurs images lors de réunions. Les divers éléments d'information qui émergent de ces réunions sont centralisés, regroupés et synchronisés afin de donner une assise d'information à une image d'ensemble cohérente. Partant, de nouvelles demandes de renseignements et de nouvelles cibles sont identifiées afin de résoudre les instances d'information conflictuelle ou rare. L'agrégation d'informations est donc exécutée par itérations par le commandant et par l'état-major afin de donner une assise d'information à l'image d'ensemble et au processus décisionnel faisant suite à la formation de cette image.

Le présent travail a été exécuté en vertu du marché W7711-047911//001/TOR, numéro de commande subséquente à une offre à commandes 7911-06. Le responsable scientifique (RS) du présent travail est le D^{r} David Smith.

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1. Introduction

As described in the Statement of Work (SOW) for call up 7911-06, standing offer contract number W7711-047911, the Judgment and Decision-Making section within Command Effectiveness Behavior (CEB) of DRDC Toronto, is currently reviewing literature on combining/aggregating information. The purpose of this report is to identify and review Canadian Forces (CF) procedures and practices where information aggregation is significant, focusing on the activities of operational planning and intelligence analysis. The Scientific Authority (SA) for this report is Dr. David Smith of the CEB group at DRDC Toronto.

1.1 Background

The practice of aggregating information has become increasingly relevant in recent years. Much of this can be attributed to larger amounts of available information as a result of advances in technology. Therefore a shift in focus is necessary, the challenge no longer lies in accumulating knowledge but managing available information. When managing information it is important to note that not all information is of equal value. Some bits of knowledge may prove central while other bits of knowledge may be purposely deceptive; therefore it is important to differentiate between good knowledge, mediocre knowledge and bad knowledge. In the context of this report, we are interested in information aggregation that occurs throughout the CF as a result of combining separate pieces of information, regardless of format or location, in order to produce a comprehensive picture. Ideally, this comprehensive picture will be formed on the basis of good knowledge and will subsequently inform decision making.

The success of the CF and other military organizations depends on gaining decisive advantage over an adversary (broadly defined to include time, environment. etc.) and information aggregation is extremely important to achieve this goal. However, the structure of the CF is such that complex operations are divided along disciplines and expertise whereby no single individual or system has sufficient information to form the big picture accurately. Therefore, before aggregation occurs, relevant pieces of information are partially formed, and scattered throughout people, systems and disciplines. In this report we address questions such as what are the abstract participating systems within the CF, how is information centralized, and who is responsible for aggregation.

1.2 Objectives

The overall objective of this report was to review literature on CF perspectives and practices relevant to information aggregation. The SA specified an interest in operational planning and intelligence analysis, and situations such as aggregating expert advice, using advice from automated systems, and group decision making. These overall objectives were met by breaking down the subject into manageable elements and goals. The following sub-goals were used to frame our understanding of information aggregation:

- Gain an appreciation for current information aggregation methods used by the CF.
- Capture the processes involved in information aggregation.
- Breakdown the information aggregation processes into manageable sub processes such that future supporting tools and analytic models can be developed and integrated.

- Understand how to ‘connect the dots’ within large sets of data, noting patterns, trends and changes over time.
- Understand how to integrate the results from raw data and multiple analyses from different disciplines, given that different disciplines have their own vocabulary, experts and analysis methods.
- Integrate results form the doctrinal review and SME interviews to gain a broad understanding about information aggregation.

1.3 Tasks

As described in the SOW, the following tasks were performed for this project:

- Develop a plan to identify CF activities that require information aggregation where humans play a large or decisive role, outlining that the research should be pan-CF.
- Identify and obtain relevant literature.
- Review CF procedures (Standard Operating Procedures (SOPs) for aggregating information.
- Prepare and submit a final report discussing issues relating to the effectiveness of these procedures by noting problems or benefits to the practical application of the procedures.

The SOW tasks were supplemented by interviews with CF officers involved in intelligence and operational planning.

2. Method

This project began with a start-up meeting with the SA. At this meeting a common understanding of the objectives and focus of the project was established. It was determined that, in order to document information aggregation as it exists from the CF perspective, a review of both doctrine or SOPs, and interviews with Subject Matter Experts (SMEs), were necessary. A plan was presented to the SA in the early stages of the project, outlining the approach that would be taken with SMEs and doctrine.

2.1 Assumptions

In pursuing this stream of work, it became evident to HSI® researchers that certain characteristics of the CF heavily shaped our understanding of information aggregation. To ensure that it is clear to the reader which qualities can be attributed to information aggregation generally and which qualities are the result of information aggregation within the context of the CF, the following assumptions are outlined.

- Information aggregation is a simultaneous and constructive process that is continuously being refined. Therefore, the results presented in this report represent a snapshot of information aggregation and does not capture the process in its entirety.
- Information aggregation in the context of the CF is part of a greater process and cannot stand on its own. Information aggregation is not the greater goal but a contributor to decision making.
- Information aggregation occurs at all levels of the CF from tactical to strategic endeavours, but for the purposes of this report, we are interested in planning and intelligence analysis at the operational level.
- The CF is currently working towards a Joint, Interagency, Multinational and Public (JIMP) environment. As a result, information aggregation is examined from a Joint Task Force (JTF) perspective so that the results of this report are consistent with greater CF goals. Also, new command and control structures of the CF, such as Canada Command (CanadaCOM) and Canadian Expeditionary Force Command (CEFCOM), have been incorporated into this report.
- The CF, as a military organization, is hierarchical in nature and responsibility for decisions ultimately resides with appropriate Commanders. As such, Staffs are structured and designed to provide a Commander with the information necessary for that individual to make a decision, not for the Staff to participate in a truly collaborative decision making process. For the purpose of this report, we are interested in how the Staff aggregate information for upward communication and what the components of the big picture are.

Two streams of work were pursued: a doctrinal review and SME interviews. The doctrinal review served as a starting point for identifying CF activities that exhibit information aggregation related activities, and understanding what the practice of information aggregation should entail. Previous experience with doctrine tells us that methods and activities are often conceptualized in doctrine but are not necessarily treated as prescriptive. Therefore, SME interviews would bridge the gap between theory and practice by acknowledging the actual experiences of experts with information

aggregation. It was assumed that such a balanced approach would provide an accurate representation of information aggregation within the context of the CF.

2.2 Doctrinal Review

The doctrinal review began by consulting SMEs on this contract to identify CF Joint Doctrine that may be pertinent to information aggregation. The following publications were accessed through the public J7 Doctrine web site (http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc_doclist_e.asp):

- B-GJ-005-500/FP-000, *CF Operational Planning Process*;
- B-GJ-005-200/FP-000, *Joint Intelligence Doctrine*;
- B-GJ-005-300/FP-000, *Canadian Forces Operations*;
- B-GJ-005-307/FP-030, *Peace Support Operations*;
- B-GJ-005-307/FP-050, *Non-Combatant Evacuation Operations*;
- B-GG-005-004/AF-010, *CF Information Operations*;
- B-GJ-005-313/FP-001, *Psychological Operations*;
- B-GJ-005-502/FP-000, *Risk Management for CF Operations*, and,
- B-GG-005-004/AF-023, *Civil Military Cooperation in Peace, Emergencies, Crisis, and War*.

Some references contained less information about information aggregation than others.

2.2.1 Individual doctrine

Each piece of doctrine was carefully reviewed so that information aggregation related activities could be extracted. The Intelligence Cycle (IC) and the Operational Planning Process (OPP) were identified as the key CF information aggregation activities in this report. Of all reviewed doctrine, these two disciplines exhibited the highest number of information aggregation related activities. Further, the IC and the OPP were also identified by the SA as specific areas of interest to information aggregation. Therefore, function flow diagrams were created for the IC and the OPP. Function flow diagrams document the sequence and interrelationships between functions and between sub-functions of a system. A limitation of the function flow diagram is that it does not show how to implement the functions and sub-functions, and therefore an additional method of analysis, tabular task analysis, was employed.

For each of the nine pieces of doctrine reviewed, information relevant to the subject of information aggregation was organized in separate tabular task analyses. Tabular Task Analyses were decided upon because its structure allows the systematic documentation of information pertaining to complex tasks. The left hand column of the table lists the functions and sub-functions of any given process. Each function and sub-function is further described along the lines of trigger/stimulus, goal(s), information requirements, key decisions, key outputs or products, responsible Staff, presence of automation, and general comments. When interpreting the tabular task analysis, any data (i.e. trigger/stimulus, goals, information requirements, etc.) listed for higher level functions holds true for the sub-functions as well. An example of a tabular task analysis is presented in Table 1 below.

Table 1: Example of Tabular Task Analysis

Function	Trigger / stimulus	Goal(s)	Info requirements	Key decisions	Key Outputs or Products	Responsible Staff	Automation	Comments
1.0 Function								
1.1 Sub-Function								

2.2.2 Comparison of doctrine

Once activities relating to information aggregation from the different doctrinal disciplines were documented in a tabular task analysis, the HSI® team was interested in finding out if information aggregation was systematic and standardized across doctrine. As noted above, nine pieces of doctrine were reviewed to describe information aggregation practices. Since all doctrine are factored into the decision-making cycle, we expect to find some degree of similarity across doctrine to facilitate the process of combining expertise from different disciplines.

To test this hypothesis, a coding scheme was devised where five types of relationships or links could exist between the functions and sub-functions identified in the tabular task analyses:

- 1, which means *contributes to* (general relationship);
- 2, which means *receives from* (general relationship);
- >, which means *includes* (direct relationship);
- <, which means *is part of* (direct relationship), and,
- =, which means *the same as*.

Table 2: Example of Comparison Table

OPP/IC	IC/OPP		RM		CFOPS		CFIOPS		PSYOPS		CIMIC		NCE	
Function	Link	Function	Link	Function	Link	Function	Link	Function	Link	Function	Link	Function	Link	Function
1.0 Function														
1.1 Sub-Function														

Of the reviewed doctrine, the activities that exhibited the highest number of information aggregation activities, OPP and IC, were used as the 'spine; for this part of the analysis. That is, because they exhibited the most information aggregation activities, they were assumed to be the most representative of CF information aggregation processes, and thus all other doctrine was compared to them. Operational Planning (CF Operational Planning Process, 2002) was compared to the other eight pieces of doctrine using the coding scheme described above, and conversely, the Intelligence Cycle (Joint Intelligence Doctrine, 2003) was compared to the other eight pieces of

doctrine using the same coding scheme. An example of the comparison table is presented in Table 2 above. Two HSI® consultants conducted this analysis. They initially met to confirm a common understanding of the coding scheme, and met regularly throughout the analysis to discuss issues arising on an ad hoc basis.

2.3 Subject Matter Expert (SME) Interviews

SMEs on this contract identified possible Department of National Defence (DND) contacts. This served as a starting point for securing SMEs with the knowledge, experience and background to illuminate the subject of information aggregation. The SMEs on this contract further recommended providing a scenario to all interviewees so that experts from different disciplines would have a common baseline from which to discuss information aggregation. SMEs on this contract therefore modified force planning scenarios (publicly available at http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/scen/intro_e.asp) to create a customized scenario for the purpose of this project. The scenario is a Canadian led international coalition to extract civilians from a troubled Caribbean island following an election. This international contingency operation scenario can be found in Annex A.

Interviews on the subject of information aggregation were conducted during September and October 2006 in Ottawa. A total of five SMEs were interviewed, three SMEs had an operational planning background and the other two SMEs were experienced in intelligence analysis. The intelligence personnel (J2) from the All Source Intelligence Centre (ASIC) were interviewed together, and the three operational planning interviews (J3, J5 and a retired CJ3) were conducted separately to accommodate schedules. All interviews were audio recorded with the consent of SMEs.

SMEs were briefed on the project goals through a series of emails and telephone conversations, and asked to review the international contingency scenario beforehand. The semi-structured interviews consisted of open-ended questions where interviewees were encouraged to share their experiences and knowledge about aggregating information. The following questions were developed ahead of time to focus interview proceedings and ensure that a broad understanding developed:

- What activities involve information aggregation?
- What methods are used to aggregate information?
- Who are the key personnel involved in information aggregation?
- What sources of information are aggregated?
- Who are the key recipients of the information?
- How do you collect information, select what is relevant, and construct the big picture?
- How is information transmitted?
- Are there tools that facilitate collaboration?
- What difficulties are encountered in information aggregating?

This question list is by no means exhaustive as the interviewer asked questions specific to operational planning or intelligence analysis, and further asked detailed questions to build on the ideas presented.

3. Doctrinal Review Results

3.1 Individual Doctrine

A total of nine pieces of doctrine identified by SMEs on this contract were reviewed:

- CF Operational Planning Process (B-GJ-005-500/FP-000, 2002),
- Joint Intelligence Doctrine (B-GJ-005-200/FP-000, 2003),
- Canadian Forces Operations (B-GJ-005-300/FP-000, 2005),
- Peace Support Operations, (B-GJ-005-307/038, 2002)
- Non-Combatant Evacuation Operations (B-GJ-005-307/FP-050, 2003),
- CF Information Operations (B-GJ-005-300/FP, 2005),
- Psychological Operations (B-GJ-005-313/FP-010, 2004),
- Risk Management for CF Operations, (B-GJ-005-502/FP-000, 2002) and,
- Civil Military Cooperation in Peace, Emergencies, Crisis, and War (B-GJ-005-900/FP-000, 1999).

Each doctrinal reference was examined in order to extract information aggregation related activities, and the resulting information was organized in tabular task analyses. Function flow diagrams were also created for the two doctrines exhibiting the most information aggregation related activities (OPP and IC).

3.1.1 CF Operational Planning Process (B-GJ-005-500/FP-000)

The Operational Planning Process (OPP) is a five step process that is used by the CF to plan missions. The OPP begins with *Initiation* whereby personnel are informed of events and directed to begin planning. The second step is *Orientation* which focuses Staff efforts and provides general situational awareness. The third step, *Course of Action (COA) Development*, is where different options are developed in order to accomplish the mission, and where the Commander selects the option or COA he would like the Staff to further develop. The fourth step, *Plan Development*, is where Staff develop the COA selected by the Commander into a plan. In *Plan Review*, the final step of the OPP, the plan is continuously reviewed to ensure its viability. This five step process is graphically depicted in Figure 1 below. The function flow diagrams for the OPP can be found in Appendix B.1 and the detailed tabular task analysis can be found in Appendix B.2.

Figure 1: Five steps of the OPP

Each of the five steps were carefully reviewed to identify information aggregation activities. In the *Initiation* stage, two information aggregation activities were identified:

- 'Gathering planning tools', and

- ‘Commander issuing guidance to the Staff’.

‘Gathering planning tools’ consists of collecting the higher Commander’s plan, maps and charts, SOPs, and other relevant documents and publications. These ‘planning tools’ are likely presented in different formats: the higher Commander’s plan may be verbal or written accompanied by graphics, maps and charts are likely graphical, and SOPs are text. Doctrine does not specify how these different ‘tools’, presented in different forms should be combined. However, we can assume that the information contained within these ‘tools’ will be aggregated at some point in order to form the big picture.

When a ‘Commander issues guidance to Staff’, he provides guidance on how to abbreviate the planning process (if need be), initial time allocation, liaisons, reconnaissance, authorized movement, and additional tasks. Since one person, the Commander, provides this guidance, it is likely that these bits of information are presented in the same format (i.e. verbal or written), with similar groupings and organization.

The second stage of the OPP, *Orientation*, has a large number of information aggregation activities. It is in this stage that information about different subject areas is identified and filtered through to create a coherent picture. Unfortunately, doctrine provides little insight on how to aggregate the information, rather it identifies pieces of information that must be combined. When orienting oneself to the mission (i.e. building situational awareness), the Staff ‘reviews the situation’ and ‘reviews higher level information’.

‘Reviewing the situation’ includes an assessment of the environment, political factors, geographical factors, enemy situation, own forces, administrative factors, logistic factors, and command and control factors. Here, doctrine identifies the components of ‘reviewing the situation’ but does not suggest a process for combining information from the different subject areas.

In ‘reviewing higher level information’, the Staff is concerned with higher critical facts and assumptions, constraints and restraints, strengths and weaknesses, centers of gravity, tasks, objectives, end states, and criteria for success. Again, doctrine lists the components of the big picture but does not shed led on how the coherent picture is produced.

Knowledge accumulated from ‘review of the situation’ and ‘review of higher level information’ is used by Staff to ‘develop own information based on higher level information’. At this point the Staff is given the opportunity to take the picture as understood by the higher level and further develop it according to more detailed information. This newly modified picture is then presented in a mission analysis briefing so that Staff members have a shared vision of the requirements for the operation.

The third stage of the OPP, *COA Development*, also exhibits a high number of information aggregation activities. In this stage, the Staff is responsible for developing options or COAs that may be pursued by the enemy, and those options or COAs that would lead to successful mission accomplishment.

In determining enemy and own COAs, the Staff ‘analyze factors and deductions’ which consists of analyzing the area of operations, opposing force capabilities, political considerations, own force capabilities, time and space, command and control, logistics and movement, rules of engagement, conflict termination, risk, and assigned and implied tasks. This information is synthesized to determine enemy COAs and own COAs. Thereafter, resulting COAs are compared, wargamed and validated. Similar to the previous stages of the OPP, the process of information aggregation is not detailed in *COA Development*, rather bits of information that inform the big picture are identified.

COA Development also demonstrates a situation where the Commander aggregates expert advice. In this stage, Staff present the results of the COA comparison and recommend one COA over the others to the Commander. The Commander takes this recommendation into account, considers other factors, and selects a COA to be translated into a plan. The Commander is ultimately responsible for deciding which COA should be pursued, however, he is offered advice from his Staff.

In the fourth stage of the OPP, *Plan Development*, doctrine is vague in describing information aggregation related activities. However, activities could include developing the plan to synchronize time and space issues, further wargaming to fine-tune strengths and account for weakness, and the identification of branches and sequels. The last stage of the OPP, *Plan Review*, confirms the relevance of the plan and updates changes accordingly. If the COA no longer applies, then the OPP can be reinitiated or modified as required. We assumed that information aggregation is less explicitly described in *Plan Development* and *Plan Review* because the big picture should have been formed by the end of *COA Development*. Therefore information aggregation activities are at a minimum in the last two stages of the OPP assuming that the plan remains valid.

3.1.2 Joint Intelligence Doctrine (B-GJ-005-200/FP-000)

Intelligence is information (fact or a series of facts) that has been considered in light of other information or past experience upon which deductions have been made. Intelligence is produced as a result of aggregating data or information captured by automated systems and humans to produce intelligence that can be used in the planning and conduct of operations. There are seven types of intelligence disciplines, each with different primary collection means or systems.

- Acoustic Intelligence (ACINT) is intelligence derived mainly from sound and acoustics.
- Human Intelligence (HUMINT) is data and information collected by humans, whether they are friendly, neutral or adversary.
- Imagery Intelligence (IMINT) is intelligence derived from image(s).
- Measurement and Signature Intelligence (MASINT) is information obtained from the qualitative and quantitative analysis of technical sensors.
- Open Source Intelligence (OSINT) is based on information collected from newspapers, television, radio, internet and so on.
- Radar Intelligence (RADINT) is intelligence derived from radar.
- Lastly, Signals Intelligence (SIGINT) is composed of communication and electronic intelligence.

The practice of producing intelligence exhibits a high number of information aggregation activities. Doctrine outlines a framework for producing intelligence through a four stage process called the Intelligence Cycle (IC), which culminates in the distribution of the finished intelligence product. The IC begins with *Direction*, whereby the Commander formulates questions that he would like answered by the intelligence Staff. The second stage, *Collection*, is where the Staff collect information by exploiting sources and forward the information to the appropriate processing units. The third stage, *Processing*, is where information and raw data collected in the previous stages is converted and transformed into intelligence. The final stage of the IC is *Dissemination*, whereby the processed intelligence is the delivered to the appropriate people in a timely manner. This four

stage process is graphically depicted in Figure 2 below. The function flow diagrams for the IC can be found in Appendix C.1 and the detailed tabular task analysis can be found in Appendix C.2.

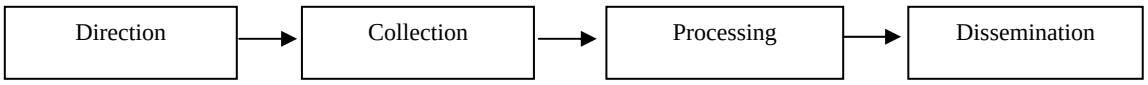

Figure 2: Four steps of the Intelligence Cycle

Each of the four stages was carefully reviewed to identify information aggregation activities. In the *Direction* stage, the Commander is communicating his requirements to the intelligence Staff, and subsequently, the intelligence Staff is communicating components of the requirements to sources, agencies and personnel equipped to collect the information. This step begins with the Commander producing the Commander's Critical Information Requirements (CCIRs), which are questions that the Commander would like answered. The CCIRs are then broken down into Priority Intelligence Requirements (PIRs) which is identifying those questions, produced in the CCIR, which cannot be answered by simple fact. Once the PIRs are identified, they are broken down into individual items called Information Requirements (IRs). These IRs are tasked through Requests for Information (RFIs) whereby existing databases are searched to ensure that the information of interest doesn't already exist. If the RFI is not satisfied by searching existing databases, then the RFI is passed down through the intelligence chain of command. In the *Direction* stage it seems as though information is not aggregated but conversely, it is dissected. Direction provided by the Commander, which dictates the components of the big picture, is broken down several times into smaller components so that accurate and relevant information can be collected.

The second stage of the IC, *Collection*, is the actual collection of information as set out in the IRs. Therefore this stage is less involved in information aggregating activities, however, the information collected during this stage will serve as the basis for aggregating information in later stages. In other words, without *Collection*, there would be no information to aggregate. *Collection* must be seen as a continuous process in that information and intelligence requirements will continuously arise throughout the progress of the operation. In some cases, re-tasking may be a result of changes in the situation, and in other cases, new questions will result from the information and intelligence derived from the original tasking. Therefore this stage of the IC is active throughout an operation.

The third stage of the IC, *Processing*, exhibits a high number of information aggregation activities as this is where information is transformed into intelligence. It is here that doctrine provides insight on how a picture is built on the basis of information aggregation. According to doctrine, *Processing* is a structured series of actions that, although set out sequentially, can occur concurrently. It is also important to note that information resulting from the *Collection* stage that is undergoing *Processing* can come from the various intelligence disciplines (e.g. ACINT, HUMINT, etc.) in different formats, and therefore information aggregation may be a complicated process.

Within the *Processing* stage of the IC, there are six sub-functions that are important to information aggregation: 'collation', 'evaluation', 'analysis', 'integration', 'interpretation', and 'confirmation'. These steps are graphically depicted in Figure 3 below.

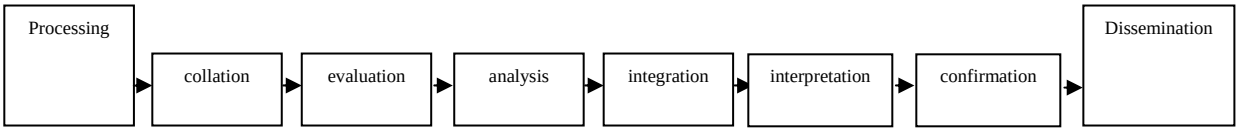

Figure 3: Six steps of Processing (IC)

The purpose of 'collation' is twofold: to group related items together through standardization, common subject themes, headings, and sub-headings, and to provide a record of information and events. When information is received it is registered and allocated a number. Information is then grouped according to, for example, the CCIR categories. Lastly, information is recorded through logging, marks on a map or chart, filing or card indexing, or entry into an electronic database. It is interesting to note that doctrine emphasizes, as a basic principle, that graphical displays of information and intelligence should be used whenever possible.

'Evaluation' is an assessment of the reliability of the source and the credibility of the source. Each piece of information or intelligence is assigned an alphanumeric rating. Doctrine emphasizes evaluating the reliability of the source independent of the credibility of the information to fairly assess the value of the information. The rating scheme applied to each piece of information is shown in Table 3 below.

Table 3: Reliability Ratings Used in Evaluation
(Source: Joint Intelligence Doctrine, 1995, p. 2-10)

Reliability of the Source		Credibility of the Information	
A	Completely reliable	1	Confirmed by other sources
B	Usually reliable	2	Probably true
C	Fairly reliable	3	Possibly true
D	Not usually reliable	4	Doubtful
E	Unreliable	5	Improbable
F	Reliability cannot be judged	6	Trust cannot be judged

'Analysis' occurs after information has been 'collated' and 'evaluated'. In this step significant data is identified for subsequent evaluation, not unlike the practice of selecting PIRs. It involves scanning for significant data, relating to other known data, and deducing from comparison. 'Analysis' is attributed to the analyst's skills and past experience.

'Integration' occurs when analyzed information is selected and combined into a pattern, producing further intelligence. Doctrine notes that this aspect of *Processing* is almost completely cerebral and it is the critical point in the IC where there is, as yet, no substitute for the experience and judgment of the analyst. 'Integration' activities include drawing together deductions, identifying patterns of intelligence, sequences of events or a picture of an individual.

'Interpretation' occurs when new information is compared with, or added to, that which is already known, giving rise to fresh intelligence. In other words, the significance of information or intelligence is judged in relation to the current body of knowledge. Therefore, we can assume that at this point the coherent picture is being formed since an individual piece of information is

connected to the larger body of knowledge. Furthermore, in this sub-step the analyst ensures that each piece of information has been wrung dry of all current possible deductions.

The last stage of *Processing* is 'confirmation' where the analyst is given the opportunity to confirm or refute any of the deductions or conclusions made in previous steps.

The fourth and final stage of the IC is *Dissemination*. *Dissemination* involves conveying intelligence to the appropriate people in a timely manner. Information or intelligence can be disseminated in a variety of formats including verbally, in writing, graphically or as electronic data. No matter the dissemination format, doctrine emphasizes that it should be clearly communicated whether or not the specific piece of information is fact or interpretation.

The IC provides key insights into how information is aggregated. Doctrine mandates the use of techniques such as logging bits of information, grouping of similar items, and gauging the value of information through a standardized process to differentiate between good, bad and mediocre knowledge. In *Direction* and *Collection*, a procedural approach is taken to aggregating information. Subsequently, in *Processing*, the approach shifts to a more intuitive process that is dependent on the experience and skill level of the analyst to recognize emerging patterns and form a big picture. Therefore, the IC as described here takes a procedural as well as an intuitive approach to aggregating information.

In addition to the IC, Joint Intelligence doctrine identifies other information aggregation related activities. Information, deductions and conclusions are presented in formal documents termed 'annexes'. These annexes are a method of communicating large amounts of data on the basis of pre-defined formats. The Joint Intelligence doctrine identified two sets of annexes: the 'Intelligence Estimate' and the 'Intelligence Annex' which lists information about the situation, enemy COAs, PIRs etc. The Format for the Intelligence Estimate can be found in Appendix C.3 and the Intelligence Annex Format can be found in Annex C.4 A benefit of recording information in this manner is that information is organized in a consistent manner and therefore an individual knows where to find knowledge about a certain aspect of the operation. On the other hand, a consequence of using predetermined formats is that a lot of information is presented that may not necessarily be critical to the specific operation. Therefore, rather than highlighting the important aspects, the annexes present a dense amount of information whereby the critical points may be overlooked.

3.1.3 Canadian Forces Operations (B-GJ-005-300/FP-000)

The Canadian Forces Operations doctrine provides guidance on CF operations, outlines the types of operations in which the CF may be involved, and identifies elements of an operation that should be conducted in order to carryout a successful mission. The Canadian Forces Operations doctrine was carefully examined to extract information aggregation related activities. Information aggregation was identified as a central activity in the following areas: Campaign Planning (OPP), Lessons Learned Process, Intelligence, and Command & Control, Communications, Computing, Intelligence, Surveillance and Reconnaissance (C4ISR). Since the OPP and Intelligence have already been discussed in the previous sections, the focus here will be to understand information aggregation in the context of Lessons Learned and C4ISR. The detailed tabular task analysis for Campaign Planning (OPP) can be found in Appendix D.1, the detailed tabular task analysis for the Lessons Learned Process can be found in Appendix D.2, the detailed tabular task analysis for Intelligence can be found in Appendix D.3, and the detailed tabular task analysis C4ISR can be found in Appendix D.4.

3.1.3.1 Lessons Learned Process

The purpose of the Lessons Learned process is to improve the CF's ability to plan and conduct operations by reflecting on lessons learned. The Lessons Learned process is largely undertaken by personnel responsible for training (J7). This process is divided into five steps: *Data Collection*, *Analysis*, *Validation*, *Follow-on Action*, and *Lesson Learned*, which is graphically depicted in Figure 4 below.

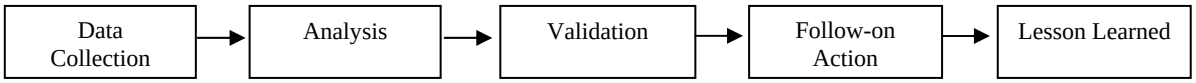

Figure 4: Five Steps of the Lessons Learned Process

In *Data Collection*, data regarding past operations is collected from various sources focusing on issues such as military-strategic planning, mounting, deployment, employment, redeployment, etc. Appropriate sources may include a task force Commander's report, Staff and Commander questionnaires, Situation Reports (SRs), meetings, briefings and so on. Doctrine states that the primary method of collecting data is via questionnaires.

The next step of the Lessons Learned Process is *Analysis* whereby data is grouped according to key issues. These key issues are further researched and solutions are proposed for each key issue. Doctrine does not go into further detail about this step of the Lessons Learned process. However, we can assume that this is where the bulk of information aggregation activities occur because separate pieces of collected data must be aggregated to understand errors and identify areas of improvement.

The third step of the Lessons Learned Process, *Validation*, is where personnel review and validate the content of proposed solutions. In other words, this step is verifying that the picture formed in the previous step accurately represents the relationship between separate pieces of information. The outcome of validation is used to prepare a Lessons Learned Staff Action Directive which is comprised of an action plan that lists the validated solutions.

The fourth step of the Lessons Learned Process, *Follow-on Action*, monitors the progress of the action plan through quarterly reports. These quarterly progress reports are composed of a clear and concise statement about the issue(s), description of each issue, source(s) of the information, essential action items, and the status of implementation. The final step, *Lesson Learned*, occurs when *Follow-on Action* is completed, and doctrine, procedures and equipment are changed to reflect the new insights.

3.1.3.2 C4ISR

C4ISR is about how people, processes and equipment are integrated to deliver effective and synergistic support to command. In other words, C4ISR is a system of systems that integrates and synchronizes the collection and synthesis of information from sensors, information handling, processes and databases, to support collaborative planning efforts. Unfortunately, the CF Operations doctrine does not further specify how information aggregation activities, such as synthesis of information, is performed.

3.1.4 Peace Support Operations (B-GJ-005-307/FP-030)

All doctrine recommended by SMEs on this contract were carefully examined to identify CF practices that require information aggregation as a core activity. The Peace Support Operations doctrine, however did not describe any information aggregation activity. This was the only reviewed doctrine that could not be linked to information aggregation and therefore no tabular task analysis was produced for Peace Support Operations.

3.1.5 Non-Combatant Evacuation Operations (B-GJ-005-307/FP-050)

Non-Combatant Evacuation Operations is the evacuation of Canadians abroad and falls under the responsibility of the Department of Foreign Affairs and International Trade (DFAIT). The role of the CF is to provide assistance in security so that DFAIT can conduct safe evacuations. Non-Combatant Evacuation Operations are fundamentally defensive in nature. They are conducted to minimize the risk to Canadian citizens at during the evacuation process.

There are three basic evacuee management functions: Processing, Handling and Movement. The latter two functions are integral to the execution of the operation while the Processing function is highly relevant to planning and information aggregation. Therefore *Processing* will be discussed further. *Processing* is a two-part process that involves 'screening' and 'detailed processing'. The end product of *Processing* is an *Evacuation Plan*. This process is graphically depicted in Figure 5 below. The detailed tabular task analysis for Non-Combatant Evacuation Operations can be found in Appendix E.1.

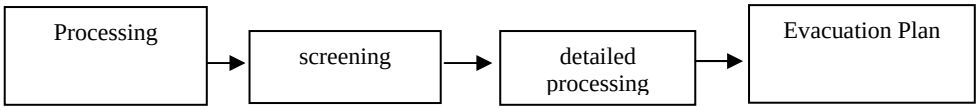

Figure 5: Non-Combatant Evacuation Operations

Processing involves the processing, collection, collation and dissemination of information in a timely and efficient manner. In 'screening' potential evacuees are identified and their eligibility for evacuation is assessed. Further, security and health issues are screened for, to identify individuals who may pose a threat to other evacuees (i.e. criminal record) or who have a threatening medical condition. The next sub-step, 'detailed processing' occurs for those individuals that have undergone 'screening' and been admitted to the evacuation chain. In 'detailed processing' more specific information is collected on health, handling (i.e. individuals with limited mobility, limited eyesight), welfare (i.e. family situation in Canada, property in host nation), and the host nation. Information on the host nation is collected by interviewing all or selected evacuees to identify the last known whereabouts of unaccounted evacuees, conditions in the area, and perspectives on the general situation. Unfortunately, doctrine does not identify a sample form (with headings and sub-headings) that parallels this collection effort.

Information resulting from *Processing* is aggregated and used to form the *Evacuation Plan*. The *Evacuation Plan* provides information such as the estimated number of evacuees, time available to effect evacuation, manning and skill levels of the processing organization, risk of infiltration into the evacuation chain of ineligible participants, and threat levels and consequent degree of urgency in removing evacuees. In other words, the *Evacuation Plan* is information relating to the custody, status, condition, location and expected movements of evacuees.

The Non-Combatant Evacuation Operation doctrine identifies separate pieces of information that require aggregation (i.e. security, health, handling etc.) as well as how the aggregated information is leveraged (i.e. *Evacuation Plan*). Unfortunately, doctrine does not provide insight into the actual information aggregation process. However, the Non-Combatant Evacuation Operation doctrine does identify two 'annexes' or standardized lists where large amounts of information is arranged. Information is aggregated when separate pieces of information are centrally recorded according to headings, sub-headings, and guiding question that show appropriate locations for different types of information. The Canadian Standard Question List can be found in Appendix E.2 and the Sample Diplomatic Mission Task Force Link-Up Checklist can be found in Appendix E.3.

3.1.6 CF Information Operations (B-GG-005-004/AF-010)

CF Information Operations is a six step process that supports political and military objectives to influence decision makers by affecting other's information while exploiting and protecting one's own information. Information Operations (IO) as an approach integrates all available resources to influence the decision maker. IO begins with, *Create Tasking* whereby information requirements needed for mission planning are identified. The second step is *Develop/Issue IO Planning Guidance*, which is the development of planning guidance to support overall operational planning guidance. The third step, *Course of Action (COA) Development*, supports the development of intelligence, operations and communication Staff estimates. The fourth step, *Decision*, is where the Commander decides on a COA. The fifth step, *Plan Development*, includes development, coordination and subsequent approval of the plan. In *Plan Review*, the final step of IO, the plan is reviewed and evaluated. It is interesting to note the overlap between the Operational Planning Process and the Information Operations doctrine. Both doctrine include *Course of Action Development*, *Plan Development*, and *Plan Review* as high level functions. This could be because essentially they are both planning processes. The six step CF Information Operations process is graphically depicted in Figure 6 below. The detailed tabular task analysis for the IO can be found in Annex F.

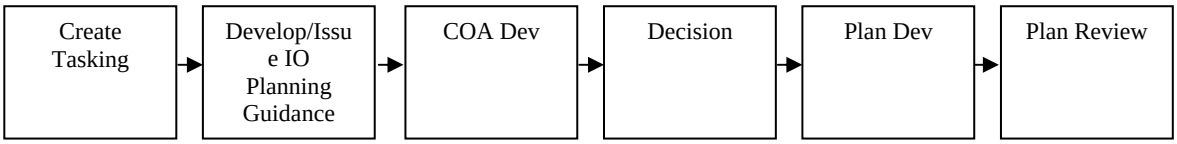

Figure 6: Six Steps of CF Information Operations (IO)

Each of the six steps were carefully reviewed to identify information aggregation activities. In the *Create Tasking* stage, the planning task is received from higher up and the Information Operations Coordination Cell (IOCC) decides which personnel will be involved in the task, and what information is required to plan the mission. This step can be thought of as the trigger for subsequent information aggregation activities.

The second step of IO, *Develop/Issue IO Planning Guidance*, involves conducting 'mission analysis', 'developing offensive IO guidance', and 'developing defensive IO guidance'. Doctrine does not specify how information is aggregated during 'mission analysis', however, doctrine describes a templating approach to planning. To synchronize and integrate different groups or types of information, a layering technique is used whereby each layer informs a different piece of the puzzle. As information is superimposed on other pieces of information, patterns and possible plans emerge. The picture that is formed as a result of templating is then used to 'develop

offensive and defensive IO guidance'. This templating method is captured in Figure 7 below, and provides insights into information aggregation techniques.

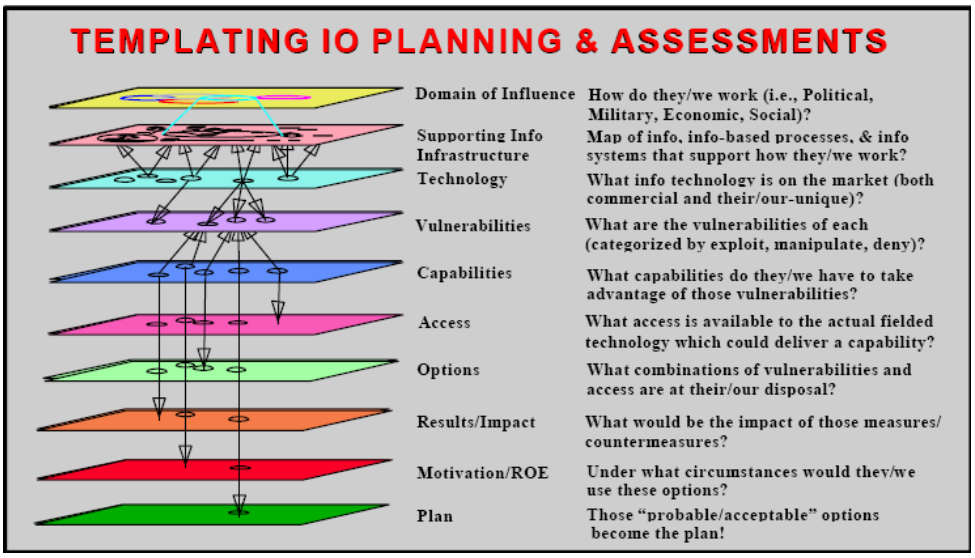

Figure 7: Templating IO Planning & Assessments (Source: CF Information Operations Doctrine, p 5-3)

The third step of IO, *COA Development*, involves the development of staff estimates such as the Intelligence Staff Estimate, the Operations Staff Estimate, and the Communications Staff Estimate. Synthesized information is used to create enemy and own COAs, but the process of synthesizing information in this context is vague. In this stage, Staff are also instructed to analyze factors and attend briefings.

In the fourth step of IO, *Decision*, the Commander uses his vision of the coherent picture to select an appropriate decision or COA. The Staff provides their expert advice by recommending one COA over the others. The Staff then support the Commander in tweaking the COAs and visualizing the execution of IO from beginning to end.

The fifth stage of IO, *Plan Development*, is developing the plan so that it can be implemented by other formations. The final stage of IO, *Plan Review*, is concerned with evaluating the plan, and modifying and refining as necessary. Similar to the final two stages of the OPP, *Plan Development* and *Plan Review* do not involve a large number of information aggregation activities, perhaps because the coherent picture should be formed prior to the *Decision* stage.

3.1.7 Psychological Operations (B-GJ-005-313/FP-001)

Psychological Operations (PSYOPS) are planned psychological activities that influence perceptions, attitudes and behaviour, and affect the achievement of political and military objectives. To focus the Commander and Staff, doctrine outlines a disciplined decision making process called the PSYOPS analysis process. This process is a cyclical process of analysis and evaluation that integrates data on area characteristics. This procedure builds on and is a modified version of the Intelligence Preparation of the Battlespace (IPB) process. The difference between the IPB and the PSYOPS process is that PSYOPS is people oriented and IPB is terrain oriented. The PSYOPS analysis process is described according to the following five steps: *Climate and*

Weather Analysis, Demographic and Target Audience Evaluation, Operational Area Evaluation (OAE), Geographic Analysis, and *Database Integration*. This five step process is graphically depicted in Figure 8 below. The detailed tabular task analysis for PSYPOPS can be found in Appendix G.1.

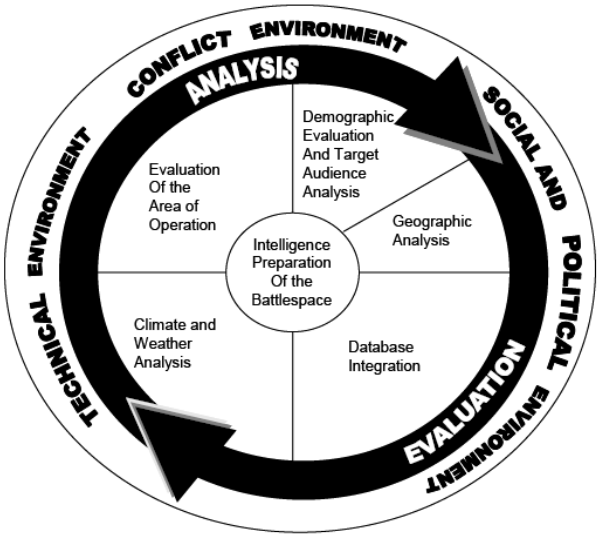

Figure 8: Five Steps of the PSYOPS Analysis Process (Source: PSYOPS Doctrine, p 5-2)

Climate and Weather Analysis is an analysis of the weather's effect on PSYOPS media and dissemination. Factors such as wind direction and speed, and seasonal changes may effect PSYOPS planning. *Demographic and Target Audience Evaluation* is conducted by analyzing demographics, social, cultural, economic, political, religious and historical factors to understand the target audience. *Operational Area Evaluation (OAE)* is the study of the area of operations in the context of possible target groups, credible leaders and preferred media. *Geographic Analysis* considers how an area's geography affects the culture, population density and product dissemination. The final aspect of the PSYOPS analysis process is *Database Integration* which involves the integration of all studies and analyzed information into a central database. It is in this stage that information is aggregated to produce the coherent picture. Doctrine, however does not go into further detail about how *Database Integration* should be carried out.

A series of annexes are described in the PSYOPS doctrine. These annexes or formal documents organize a large amount of information relevant to the situation, mission, objectives, execution, and so on, according to pre-defined headings and sub-headings. Doctrine identifies three different PSYOPS annexes: the PSYOPS estimate, the PSYOPS annex, and the PSYOPS Supporting Plan (SUPLAN). The PSYOPS Estimate can be found in Appendix G.2, the PSYOPS Annex can be found in Appendix G.3, and the PSYOPS Supporting Plan (SUPLAN) can be found in Appendix G.4.

3.1.8 Risk Management for CF Operations (B-GJ-005-502/FP-000)

After a plan has been devised, a risk assessment is carried out to identify and mitigate possible risks. Risk Management (RM) is a process that identifies how to reduce or offset risk so that a

decision maker can make an informed decisions that weighs risk against mission benefits. The RM process is divided into five steps: *Identify Threats*, *Assess the Threat*, *Develop Controls and Make Risk Decisions*, *Implement Controls*, and *Supervise and Review*. This five step process is graphically depicted in Figure 9 below. The detailed tabular task analysis for RM can be found in Annex H.

Figure 9: Five Steps of the Risk Management Process

Each of the five steps were carefully examined to identify information aggregation related activities. The RM process begins with *Identify Threats*. This step involves the identification of real and potential threats to prevent mission degradation, personal injury or death, and property damage. *Identify Threats* is further divided into three sub-steps:

- 'analyze mission',
- 'list threats', and,
- 'list causes'.

Information aggregation activities include constructing a chart or list depicting the major phases of the operation in a time sequence, and breaking the operation into "bite-size" chunks. Once the major phases have been identified the big picture threats for each phase can be listed. These threats can be tracked on paper or in a computer spreadsheet/database system. Based on the threats, a list of causes is created. It is important to note that although a threat may have multiple causes it is important to identify the root cause(s), as risk controls may be more effective when applied to root causes. This step differs from the other information aggregation activities identified in doctrine in that RM emphasizes filtering through masses of information to identify the most significant bits, rather than producing exhaustive lists. Therefore, we can assume that RM involves a more intuitive approach to information aggregation while previously reviewed doctrine emphasize a rational approach to aggregating information.

The second step of the RM process is *Assess the Threat*. This involves assessing each threat along two dimensions: 'severity' and 'probability'. 'Threat severity' is the expected consequence of the threat and 'threat probability' is the likelihood that the threat will occur. Severity and probability assessments are combined to form a complete risk assessment as depicted in

Table **4** below. This method of aggregating information is effective in that a four level risk hierarchy results: E (extremely high risk), H (high risk), M (moderate risk), and L (low risk).

Table 4: Risk Assessment Matrix
(Source: Risk Management for CF Operations, 2002, p. A-1)

		Probability				
Severity		Frequent A	Likely B	Occasional C	Seldom D	Unlikely E
Catastrophic	I	E	E	H	H	M
Critical	II	E	H	H	M	L
Marginal	III	H	M	M	L	L
Negligible	IV	M	L	L	L	L

The third step of RM, *Develop Controls & Make Risk Decisions* is the development of controls to either eliminate the threat or reduce the risk associated with it. The effectiveness of controls are evaluated along the following criteria:

- suitability (removes or mitigates threat),
- feasibility (able to implement control),
- acceptability (cost-benefit),
- explicitness (who, what, where, when, why and how),
- support (resources),
- standards (guidelines and procedures),
- training (knowledge and skills),
- leadership (effective leaders), and,
- individual (self-disciplined individuals).

In this step, the Commander is also prompted to make risk decisions about whether or not the controls are sufficient and acceptable. *Develop Controls & Make Risk Decisions* involves the Commander aggregating expert advice he receives from his Staff and making the final decisions.

The fourth step of RM is *Implementing Controls*. This involves freeing up assets and resources to implement controls. However for controls to be effectively implemented, a road-map describing the details of implementation must be created as well as assignment of responsibility. Successful implementation of controls depends on clearly communicating the aggregated picture.

The final stage of RM, *Supervise & Review*, involves monitoring the effectiveness of controls, determining needs for further assessment and capturing lessons learned. A feedback mechanism is integral to this step to ensure that corrective or preventative action was effective, and that any newly discovered threats are analyzed and corrected for. This step involves information aggregation activities when new information resulting from the implementation of controls must be integrated into the existing big picture. Doctrine emphasizes documenting the risk decision process on paper, so that revisions can be made since risk analysis is seldom perfect the first time.

3.1.9 Civil Military Cooperation in Peace, Emergencies, Crisis, and War (B-GG-005-004/AF-023)

The objective of Civil-Military Cooperation (CIMIC) is to achieve necessary cooperation between civil authorities and the CF to improve the probability of success for CF operations. CIMIC requires that military Commanders, all levels of government and the civilian population work together and mutually support one another in peace, emergencies, crisis and war.

The CIMIC doctrine did not highlight a process in which information aggregation is a central activity. However, doctrine did identify a number of annexes that detail large amounts of information in formal documents. The CIMIC doctrine identifies four sets of annexes (CIMIC Supporting Plan, Periodic CIMIC report, Civil-Military Cooperation Operations Estimate, and CIMIC Area Study and Assessment Format). The CIMIC Supporting Plan can be found in Appendix I.1, the Periodic CIMIC Report can be found in Appendix I.2, the Civil-Military Cooperation Operations Estimate can be found in Appendix I.3, and the CIMIC Area Study and Assessment Format can be found in Appendix I.4. These annexes suggest that information is aggregated by centrally and systematically listing large amounts of information in order to produce a coherent picture of the situation.

3.2 Comparison of Doctrine

A total of eight of the nine doctrine reviewed described activities relevant to information aggregation. As described in the method section, the HSI® team identified similarities in information aggregation practices across doctrine. A coding scheme was devised where five types of relationships or links could exist between the functions and sub-functions identified in the tabular task analyses and annexes. For example, if the OPP doctrine is the focus and we are comparing it to the CF OPS doctrine, then the following data results:

- The OPP *contributes to* (represented by 1) CF OPS never (N=0);
- The OPP *receives from* (represented by 2) CF OPS (N=5);
- The OPP *is part of* (represented by <) CF OPS (N=1);
- The OPP *includes (represented by* >) CF OPS (N=4);and,
- The OPP is never *the same as* (represented by =) CF OPS.

The purpose of comparing information aggregation activities identified in doctrine was primarily to understand whether there was one overall information aggregation process, or several, possibly incompatible, information aggregation processes. This would help the reader to understand how information from separate disciplines would be combined in order to form a coherent picture that would inform decision making. The Intelligence Cycle (IC) and the Operational Planning Process (OPP) were identified by our reviewers as the key doctrines regarding information aggregation and were also noted as important to the SA and therefore used as the focus of analysis against which all other doctrine was compared. The results of this analysis are presented in Table 5 below.

The coding scheme was designed so that the relationships and links between the different doctrinal disciplines could be dissected. The goal was to develop a hierarchy of doctrine where information aggregation is the central activity. It is assumed that the output of 'lower level' doctrine will feed into creating the big picture of the 'higher level' doctrine. A possible information aggregation doctrinal hierarchy is discussed here.

Table 5: Results of Doctrinal Comparison

	1	2	>	<	=	Total	IC	OPP	Total	=	>	<	2	1	
OPP	57	5	2	6	0	70									OPP
IC									70	0	6	2	57	5	IC
CF OPS	0	0	9	0	0	9			10	0	4	1	5	0	CF OPS
PSO	-	-	-	-	-	-			-	-	-	-	-	-	PSO
NCE	18	5	0	0	0	23			10	0	5	0	5	0	NCE
IOPS	6	9	0	0	0	15			36	0	15	5	14	2	IOPS
PSYOPS	4	7	0	0	0	11			6	0	2	0	4	0	PSYOPS
RM	6	11	1	3	0	21			27	0	2	6	14	5	RM
CIMIC	6	0	0	0	0	6			14	0	0	0	2	12	CIMIC
Total	97	37	12	9	0	155			173	0	34	14	101	24	Total

According to this analysis, the OPP has more information aggregation activities in common with the other doctrines (N=173) than the IC (N=155). This could mean that the OPP is the most important doctrine for the CF with respect to information aggregation. This conclusion appears valid in that the OPP is the process by which the plan is formed and a plan represents how the mission will be accomplished. The OPP therefore aggregates the results of the different areas of expertise to ensure that all facets of the operation are balanced and integrated. The OPP could be considered the 'top level' doctrine of information aggregation.

The IC scores highest in the *contributes to* category (N=97). This means that information and intelligence that is collected and fused during the IC is dispersed to other areas of expertise to inform their specific picture. Most notably, a high number of products formed during the IC permeates to the OPP since 59% (N=57/N=97) of IC activities contribute to the OPP. This means that the OPP is highly shaped by the intelligence picture.

The OPP *receives* (something) *from* all doctrine in which information aggregation activities are identified (N=101). Although, the number of activities that the OPP *receives* vary according to the doctrinal discipline (ranges from N=57 to N=2), this is the only situation whereby all other doctrine had the same type of relationship, giving to (*receiving from*) the OPP. Therefore the OPP *receives* something from each area of expertise, confirming our suspicion that the OPP could indeed the capstone doctrine for information aggregation.

The OPP has the highest 'direct' relationships with Information Operations (IO), in both the cases of *includes* (N=14) and is *a part of* (N=5). This could be attributed to the fact that they are both planning processes and have three matching highest functions: *COA Development*, *Plan Development*, and *Plan Review*. Therefore the information aggregation process as described in Operational Planning is mirrored or mirrors the information aggregation process as described in Information Operations. The picture that results from the IO process is perhaps more easily aggregated into the OPP picture because of parallel processes. Although the OPP and the IO overlap in three of the six highest functions, we do not see more similar information aggregation activities because the last two functions, *Plan Development*, and *Plan Review*, involve a minimal number of information aggregation activities.

It is interesting to note that no information aggregation activities are identical or *the same as* any other doctrine (N=0). Although a doctrinal discipline can successfully stand on its own, weaknesses in CF doctrine become pronounced when doctrinal disciplines are aggregated. Structure, coherence, and overlap in information aggregation activities can provide more unified CF practices.

When the results of Table 5 above are sorted by the total number of information aggregation activities per doctrine, for the IC or the OPP, the hierarchy demonstrated in Table 6 below develops.

Table 6: Hierarchy of doctrine

Top Level	IC	OPP
2nd Level	OPP (N=70)	IC (N=70)
3rd Level	NCE (N=23)	IOPS (N=36),
4th Level	RM (N=21)	RM (N=27),
5th Level	IOPS (N=15)	CIMIC (N=14)
6th Level	PSYOPS (N=11)	CF OPS (N=10),
7th Level	CF OPS (N=9)	NCE (N=10),
8th Level	CIMIC (N=6)	PSYOPS (N=6)

Whether or not the OPP is the 'top level' doctrine, we can infer a general pattern in the hierarchy of information aggregation according to doctrine. The most prominent information aggregation activities are Intelligence and Operational Planning, and therefore, these disciplines come highest in the hierarchy. The next two levels of the hierarchy could be Risk Management and Information Operations. In both situations, Risk Management falls at the fourth level of analysis and is followed or preceded by Information Operations. The remaining four doctrine do not seem to present any overlapping consistencies with regards to their position in the information aggregation hierarchy.

The Canadian Forces Doctrine Development (A-AE-025-000/FP-000, 2003) identifies a hierarchy of Joint CF doctrine that graphically depicts how the different doctrinal disciples should fit together. This hierarchy includes a single capstone doctrine, which tops the hierarchy of CF doctrine publications, nine keystone doctrines that provide overall guidance in key areas, and a number of supporting doctrine. This hierarchy can be found in Annex J. According to the *CF Doctrine Hierarchy*, four of the doctrines reviewed in this report are keystone doctrines (JI, CF OPS, OPP and CIMIC) and the remaining five are supporting doctrines (PSO, NCE, IOPS, PSYOPS, RM).

In the *CF Doctrine Hierarchy*, the OPP doctrine sits equal to Joint Intelligence, CF Operations and CIMIC doctrines. However, in our review of doctrine, the OPP was identified as the 'top level' doctrine for information aggregation, Joint Intelligence followed closely behind, and CF Operations and CIMIC did not exhibit a high number of information aggregation related activities. Therefore, it is important to emphasize that the results of the doctrinal comparison may be artefacts that are highly dependent on our method of analyzing doctrine of varying levels of detail with regards to information aggregation.

4. SME Interviews

Four interviews with five Subject Matter Experts (SMEs) were conducted in September and October 2006. The two Intelligence (J2) SMEs were from the All Source Intelligence Centre (ASIC) and had a combined total of 45 years of experience in the Intelligence branch. Two SMEs (J3 (Operations) and J5 (Plans)) were from the recently formed Canadian Expeditionary Force Command (CEFCOM) and the retired CJ3 was from the International Security Assistance Force (ISAF) HQs. Semi-structured interviews with open ended questions, presented in Section 2.3, were conducted. The SMEs reviewed the international contingency scenario in Annex A beforehand in order to have a common baseline from which to discuss information aggregation. The following section describes the outcome of these interviews and discusses information aggregation as practiced by these SMEs. The purpose of SME interviews is to bridge the gap between theoretical perspectives (doctrine) and the actual practice of aggregating information in the CF.

4.1 Intelligence (Two J2s from ASIC)

The J2s identified the Intelligence Cycle (IC) of *Direction, Collection, Processing and Dissemination* as a key information aggregation activity. According to the SMEs, collected information is based on direction of the Commander, as well as other information that should be known about the mission. The former idea suggest that information collection is a rational process where the list of requirements produced by the Commander must be satisfied, while the latter idea suggests an intuitive process whereby information is collected on the basis of interest and relevance. Therefore the collection of information occurs on a 'demand basis' and on a 'should know' basis, and must be released to the target audience, the Commander, as he requires it. Rarely, does Staff have the luxury of time to produce perfect solutions before presenting findings to the Commander. Rather, if the Commander needs information at that moment, the Staff must deliver no matter the accuracy or fidelity of the information. Finding this balance is very intuitive.

The J2 Staff operate in a very visual world. Information is presented in diagrams, map, charts Intelligence Reports, Summaries, Estimates, and so on. Information aggregation can be as simple as looking at a map and correlating data, to as complex as using contextual data from the rear, flank, geopolitical situation, etc. and applying it to the tactical problem on the ground. No matter the level of complexity, the SMEs identified a general approach to aggregating information.

The critical aspect of information aggregation in the IC is 'collation'. 'Collation' occurs in the *Processing* stage, and is the grouping of related items, and keeping a record of the information. Collators can be dealing with up to eight systems including the internet, an unclassified network, a classified network, etc., and all sorts of mediums such as the radio, television, and so on. The key to keeping track of all this information and facilitating subsequent aggregation is to put everything into one place, similar to a central repository. As noted in doctrine, information can be organized along the Commander's Critical Information Requirements (CCIR). This way Staff are aware of all the different bits of information they must deal with and can compare the value of information with less difficulty. The second part is applying some sort of tool to make sense of information in the central repository. This could be done using some sort of geographical interface or a visualization tool which can be electronic or on paper.

Information aggregation can take place individually or in a group setting. When an individual is working independently, they are more likely to use a computer. When engaging in more

collaborative work, there is a tendency to use the white board and maps. Group decision making occurs in what is known as interim meetings where individual mental models are shared and compared. These interim meetings are critical in that interim results are shared face to face, brainstorming occurs, and the Staff walks away with a common picture. This type of situational awareness is further facilitated by setting up a workspace without walls. J2 encourages an environment with an open concept so that everyone can see everything, such as projections on the wall and so on. Also, to help breach the gaps between disciplines, interdisciplinary team meetings are encouraged so people with different pieces of information are forced to communicate.

There are six categories of information: what you want to know (comes from higher up), what you should know (things to protect mission success), things that are brought to your attention, what you know that you don't know, things that are interesting and may become relevant later, and things you don't know that you don't know. These categories of information can be derived from SIGINT reports, tactical SIGINT reports, HUMINT reports, liaison officers, Non-Government Organizations (NGOs), automated systems, etc. Whatever the source, information is aggregated the same way; the big picture is indifferent to whether the specific information came from a human or an automated source.

Two aptitudes are critical to intelligence: never taking anything at face value (curiosity and scepticism) and the ability to connect seemingly disparate concepts. This can occur at a formal, conscious level or it can occur intuitively. It is often the case that knowledge about a subject area comes from an individual and what they know about the problem space, the language, culture etc. Therefore, an individual may hoard pieces of seemingly useless information that at some point intuitively pops up to connect disparate concepts. When an individual makes recommendations or provides expert advice, the extent to which his ideas are taken into account is partly a reflection of his personal credibility and experience.

When composing the picture, ideally all available information should be leveraged, and layered or crossed. Layering or crossing information allows intelligence Staff to switch views, and establish patterns between different parts. Layering is a creative process that combines different knowledge areas and introspective experiences to create a representation of the problem space. The challenge is to conduct high level analyses to gauge how the little bits fit together while disseminating products that are tailored to the audience (i.e. Commander, subordinates, allies).

According to the J2 SMEs, the difference between planning and intelligence is that the planning Staff work with exact information such as how much fuel is left, and the number of personnel involved. The intelligence piece is in interested in communicating what is known and communicating what is not known about a situation. Therefore intelligence builds a picture of what's going on, and planning develops a picture of what should be done.

4.2 Plans (J5 of CEFCOM)

According to the J5 SME, the planning process begins when initiating directive comes from the Strategic Joint Staff (SJS). Based on the length of the planning task, the Commander will assign the task to either the J5 Staff (plans) or the J3 Staff (operations). Situations where long-term planning is required (six months plus) is tasked to the J5, and situations where short term planning is required (less than six months) is allocated to the J3 Staff. If the J5 is selected then the mission will be allocated to one of the two planning teams based on the geographic area of interest.

Planning usually commences with an Integrated Operational Planning Group (IOPG). The J5 tends to lead this meeting and is responsible for bringing together all the experts from the JStaff (Joint

Staff) in CEFCOM. The OPP begins with SMEs seated around a table who can provide input and develop an appropriate plan. Essentially the J5 is responsible for all planning activities up to the point of the Operations Order. At that point, planning responsibility is handed over to the J3 as the execution phase of the operation approaches.

Information can be aggregated alone or in groups. IOPG meetings present an opportunity for group decision making. The J5 tends to lead the meetings and his first responsibility is to bring together the right people at the right time. The problem is discussed and information is compiled through PowerPoint and notes. Information can come from a variety of sources including secure and unsecured internets, and open-sources. The J5 is responsible for keeping the team focused to ensure they come up with the desired end product, which is a picture of what should be done. Often times, the IOPG meeting results in new aspects that need to be examined. For example, an IOPG may result in a list of Requests for Information (RFIs) which must be sorted out by the J2. At this point the IOPG meeting disbands and the JStaff goes off to answer different parts of the equation. Answers can be brought directly to the attention of a specific JStaff member, but eventually all information will be fed back to the J5 who will put it together and identify conflicts. This process can occur several times so it can become quite long and iterative. As the planning process progresses, not all JStaff are required to participate in the IOPGs but do so as needed.

Between IOPGs, expert advice from individuals can be shared in smaller group meetings to answer some aspect of the question. Further, if one member of the JStaff has a lot of information he would like to share with the J5 he can do so on a one-to-one basis.

Part of the planning process is to provide the Commander with the background information he needs to make an informed decision. To facilitate this process, the JStaff produce PowerPoint slides that the J5 puts into a specific order for presentation to the Commander. The order of the presentation is based on the OPP. The picture that is produced as a result of IOPGs is usually presented in a PowerPoint presentation and put on a common drive so that relevant personnel have access to it.

The coherent picture is not the result of an automated fusion process but the result of integration on the part of humans. The J5 estimates that 10% to 15% of time is spent in group decision making. The remaining time is spent working alone. When working alone in a planning environment individuals sit in cubicles, are segregated, and come together on a required basis to collate information. This environment differs from the setting described by the J2 SMEs in the previous section.

4.3 Operations (J3 of CEFCOM)

If a planning mission falls under the timeline of less than six months, then the J3 is tasked. Our J3 SME identified the OPP as key to understanding information aggregation. The biggest constraint in aggregating information is time pressure. When the timeline is short and the OPP requires abbreviation, the first step to be formally compressed or eliminated is *Orientation*. (Recall that the doctrinal review indicated that the bulk of information aggregation occurs during the *Orientation* stage. This means that under time pressure a satisficing approach is taken to aggregate information, suggesting that the emerging picture is the result of intuitive processes.)

Unlike J5 and J2, the J3 SME did not identify internet or classified tools as sources of information. Rather, if interested in a specific piece of information, the J2 for example, is tasked to fill in the blanks. Information that is used to compose the big picture is transmitted face to face, over the

telephone, through email or in a formal document. However, the planning team tends to be in close proximity and therefore face-to-face communication is most common.

Our J3 SME identified Integrated Operation Planning Groups (IOPG) meetings as a setting where information aggregation occurs. In an IOPG meeting, specialist officers are brought together to provide information that is based on their area of expertise. Each SME is given the opportunity to add factors, information and identify incomplete or incorrect aspects of the big picture. IOPG meetings can occur as frequently as several times a day, once a day or once a week depending on the operation. The same group of SMEs usually attends the IOPG meetings. IOPG meetings are formal in that membership has been established, where one or two people representing each branch is present.

The J3 SME estimated that 1/3rd of each day is spent in group decision making. Each IOPG begins with a PowerPoint presentation and uses additional tools such as the whiteboard and Word documents. The lead for the meeting will depend on what issue is being addressed. A round-the-table discussion occurs, whereby each and every person gets a chance to discuss their area of expertise. Each attendee is formally prompted to speak and no input is still input. The initial parts of the meetings tend to be verbal communication and the second part of the meetings involves generating formal documents.

IOPGs are an opportunity to look at different Courses of Action (COAs). A series of IOPGs usually leads to a series of COAs. These COAs are then presented to the Commander who provides further direction to recommence, modify or tweak the COAs. Therefore this process is iterative, unending and continues even after an operation is launched.

When two SMEs have conflicting advice, two situations can occur. The relevant personnel are tasked to go out and confirm their information. Thereafter, the two SMEs could have their own meeting to share the new insights and develop the correct picture, before reporting back to the larger group. The other option would be to individually seek the correct information and report the new conclusions in an IOPG meeting.

The J5 and the J3 estimated different amounts of time spent in a group setting, the former estimating 10%-15% while the latter estimated 33%. This could be a result of the timescales, as the J5 has more time to collect detail about a problem while the J3 is less likely to have enough time to analytically investigate a problem. The J5 typically works greater than 6 months in advance of an operation, allowing him to request detailed information via telephone or e-mail from specialists in other departments (e.g. Assistant Deputy Minister for Policy, Department for Foreign Affairs and International Trade). This may involve playing 'telephone tag' for a period of time, and may also involve their contact in the specialist department passing the request further down the chain. Because the J3 typically works on operations that are less than 6 months in the future, the deadline is more acute (indeed, it is debateable whether the J5 has a deadline since the plan will be passed over to the J3 when convenient and appropriate for all parties, which will occur sometime around 6 months before it goes live). The J3 cannot accommodate the shifting timescales that are associated with tasking other departments. Thus, the J3 finds it more expedient to rely on the accumulated knowledge and experience of others. Because the interaction is face-to-face, and the J3's criteria has more to do with satisficing, rather than satisfying criteria for detail, accuracy and reliability, the J3 receives the required information immediately. This allows the J3 to control and schedule the pace of work, which is perceived to be necessary when approaching a deadline. Thus, the J3 has a tendency to engage in more group work and to rely on intuitive decision making skills, while the J5 has a tendency to prefer analytically-based information and decisions, which accommodate less face-to-face contact. Other work currently being conducted at DRDC Toronto

(Team Cognitive Task Analysis) describes the structural components of various staff positions and may further shed light on the differences in information aggregation practices between staff.

4.4 Operations (Retired CJ3 from the International Security Assistance Force (ISAF) HQs)

The retired SME provided unique perspectives on information aggregation. He described his experiences with information aggregation from a G1 brigade perspective and a CJ3 (Combined Joint Operations) Current Plans perspective. The retired SME commented on the purpose of doctrine, stating that doctrine describes the way a military organizes and structures itself. It is up to the Commander to take components of doctrine and mould it to the particular situation.

A Brigade is a manoeuvre unit of a Division and tends to be small. Therefore work is done face-to-face in a push/pull situation. Information is pushed when relevant bits of information are brought to the attention of another individual without a specific request for it. Information is pulled when a specific piece of information is requested for from other personnel. In a Brigade setting, the Commander is the focal point of the team and the G1 to G9 Staff fall under him. Two-way information feeds to the Commander, information is shared between the Staff, and information also travels to other teams through stovepipes. Stovepipes are usually conducted remotely/electronically in weekly meetings as (for instance) the G1 of the Brigade tends to communicate with the G1 of the Army through email and telephone. This network is designed to manage vast amounts of information and is graphically depicted in Figure 10 below.

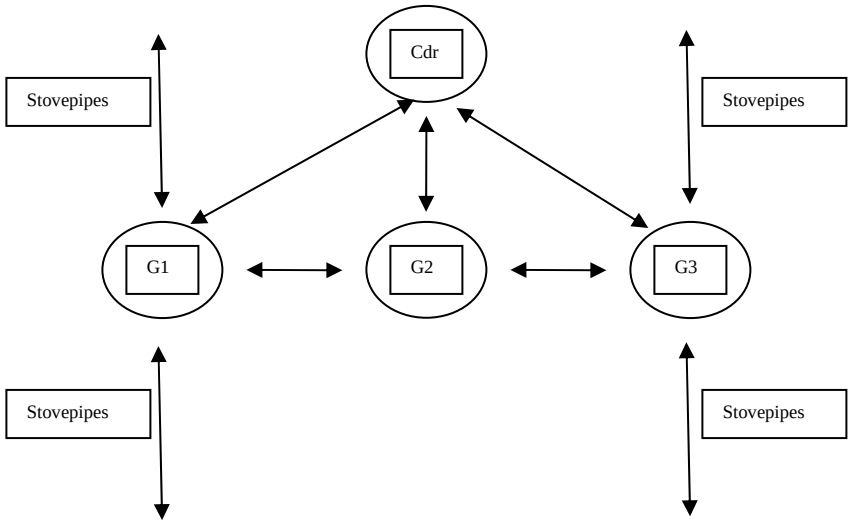

Figure 10: G1 Brigade Network

The retired SME also provided insight into information aggregation from a CJ3 International Security Assistance Force (ISAF) perspective. The ISAF headquarters is composed of Troop Contributing Nations (TCN) whereby personnel from different nations compose the principal Staff assignments (i.e. British CJ2, Canadian CJ3 etc.). The retired SME described the communication network available in Afghanistan. To a certain extent, NATO provided communication through a high-security (secret) network based on satellite communication. There was no access to secure email or phone lines. Therefore, aggregated information in the form of products, plans and orders

were released to disparate units via specific briefings where the Commander and Staff were physically brought into the headquarters. For more minute-to-minute information, a liaison officer would be sent to transmit relevant information. Another medium of communication was Roshan, the Afghan cell phone system. Information was passed along Roshan so long as the information wasn't confidential or sensitive. By the third month of deployment, a secure communication network was established permitting near-real time communication. At this point, around 70% of communication was through email.

In the Afghanistan operation, intelligence at the Brigade level and above (i.e. ISAF headquarters) feeds through a database called the Linked Operations-Intelligence Centers Europe (LOCE). The LOCE is a massive database where information can be pulled (information requirements can be satisfied) or pushed (accumulated information can be posted). Further, each NATO headquarters has a WISE page, which is similar to an internet homepage. Information is managed through WISE pages, and each Staff element has their own WISE page within the headquarters' homepage.

5. Discussion

Earlier in this report we noted that some information aggregation activities are analytical or rational, and other activities are more intuitive. An intuitive approach to information aggregation involves an individual using their personal experiences, common sense, and already existing knowledge base to produce a coherent picture of the situation. Intuitive processes for aggregating information are often the reflection of time constraints as this technique allows for conclusions to be drawn relatively quickly. Such a technique is also often employed by experts because being an expert presupposes that an individual has accumulated specialized knowledge in a given area. This specialized knowledge is then leveraged by the expert to conduct an efficient search for information and effectively aggregate information to compose a coherent mental representation of all the relevant factors in the problem space. An intuitive approach to aggregating information can occur in a variety of settings. For example, brainstorming activities often include intuitive information aggregation processes because experts present (what they believe to be) pertinent information to the rest of the group to help build an accurate picture. Further, intuitive information aggregation consists of a holistic evaluation of the situation that is concerned with the more vital topics, rather than all possible topics. Therefore a wider range of topics are covered with this approach through recognition of the situation and pattern matching.

A rational or analytic approach to information aggregation involves having equal concern for every possible topic that might impact the situation. All accumulated information, whether it is seemingly insignificant or very significant, is noted, so that when information aggregation occurs, a systematic and exhaustive approach is used to incorporate all the bits of information. Rational processes for aggregating information require longer timescales and are more demanding on the individuals composing the picture. Such a process is ideal for individuals who do not have extensive knowledge about a topic, and the result may yield a more detailed picture since all information is reviewed. While the intuitive information aggregation processes focus on the fundamental topics, rational information aggregation processes focus on the fundamental topics as well as the details.

Another way of considering intuitive and rational decision making processes is as top-down and bottom-up processes. The intuitive decision maker considers information in a top-down manner, appreciating the whole of the problem space and drilling down for more detail in areas adjudged to be particularly critical (e.g. in a military environment, centres of gravity and main thrusts). The top-down approach employs a satisficing criterion where the analysis and search for more detail stops when it is felt that further effort will not yield proportional benefits. The top-down approach can be significantly affected by the pre-existing biases and prejudices of the decision maker, which themselves are based on the decision maker's experience and training. The analytical decision maker considers information in a bottom-up manner. This approach entails accumulating detailed information and putting it together in the manner in which they fit to arrive at conclusions and to make deductions. This approach is less susceptible to the decision maker's biases, but can take significantly longer to apply. Our SMEs acknowledge that a top-down approach was generally better at the operational level of activity.

The intuitive and rational approaches described above present two ways aggregating information. However, it is important to note that these two approaches are not mutually exclusive, meaning that both intuitive and rational information aggregation processes can exist simultaneously. This was demonstrated in both the doctrinal review and the SME interviews. In the Joint Intelligence

doctrine review, it was noted that a rational and systematic approach is taken to understanding the Commander's requirements, collecting information, organizing the collected information, and evaluating the information. It was then noted in doctrine that an intuitive approach to aggregating information is necessary, since putting together the collected information is a mental process that is dependent on the abilities and skill level of the Staff. In the J5 and J3 SME interviews, it was noted that most of the picture is formed during IOPG meetings where experts are given the opportunity to brainstorm and share information about their area of expertise. Although this is an intuitive process (i.e. each expert does not share everything they know), the IOPG meetings are rational or analytical in that membership is structured to ensure that each areas of expertise is represented. Further, each expert present in an IOPG meeting is prompted to share ideas. Combing an intuitive approach with a rational approach as described by the J3 and J5 ensures against one area of expertise dominating over the others.

Critically though, the interviews indicated that the Commander typically uses an intuitive approach to understand the problem space being presented by his Staff, and continues in this manner to direct the Staff to develop certain ideas, to provide more information in certain areas, and to choose discrete COAs. The staff then carry out the Commander's direction analytically, at least as far as uncovering information. Other interviews for different projects have indicated that, having accumulated information in a systematic manner, deductions and then planning take place based on the experience of the Staff, thus using intuitive approaches. The various Staff members spoken to under the auspices of this project and others recognise the importance of training to ensure the various Staff members can coordinate their activities, but generally feel that there is not substitute for experience when producing quality products (e.g. plan, intelligence, etc.).

Another perspective on rational and intuitive process is provided in Figure 11. The J2 is responsible for providing intelligence and, as such, must constantly be providing detail of the problem space and aggregated descriptions of the problem space. This process never stops and is driven to some extent by the CCIRs, the PIRs, the IRs and the RFIs of the Commander and Staff. This process is largely analytical. The J5 also engages in a lot of analytical work when accumulating information that might be important to the plan. Some of this information may lack the necessary detail, and thus result in an RFI that is fed back to the J2. When the J5 begins to formulate the plan he begins to exhibit more intuitive thinking. The J3 tends to act more intuitively throughout the process.

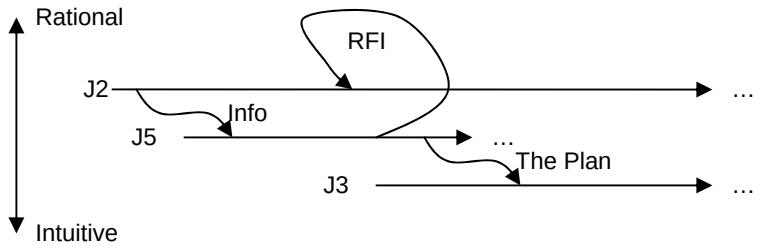

Figure 11: Information Flow Between J2, J5 and J3

The figure above shows that information aggregation is more rational with the J2, is midway between rational and intuitive with the J5, and is more intuitive with the J3. However, this continuum implies that the work of the J3 is entirely intuitive. This is not the case; the J3 organisation still works analytically when compared with lower formations. If one considers the different levels of activity (Strategic, Operational, and Tactical), information aggregation, when considered as a whole (i.e. not solely from the perspective of the Commander, but his entire

organisation), tends to be more analytical at the Strategic and Operational levels, and more intuitive at the Tactical level. This is one of the bases for the intuitive planning work being performed by DRDC Toronto.

Doctrine and SME interviews provided several more examples of co-existing intuitive and rational information aggregation processes. Therefore information aggregation is a hybrid of both intuitive and rational processes. To say that information aggregation is the result of only one type of processes overlooks the complexities involved in the practice of aggregating information.

The doctrinal review and the SME interviews identified key CF personnel involved in information aggregation: the Commander and the Staff. Ultimately, it is the Commander who is responsible for making decisions, however it is both the responsibility of the Commander and Staff to ensure that the aggregated information accurately reflects the situation. The consequences of an incorrect picture can prove detrimental to a military operation because the Commander would base his decisions on incorrect assumptions and expectations. Both the Commander and Staff are active in information aggregation, however the doctrinal review and SME interviews identified differences in the ways these personnel may carry out information aggregation activities.

The Commander predominately takes an intuitive approach to aggregating information. This is because the Commander is an expert who is responsible for understanding the picture as a whole, rather then developing a particular aspect of the picture. Further, although the Commander is skilled in his abilities, he is only one person and therefore it would be very difficult for the Commander to aggregate every detail of an operation, given that so much information is available and timescales are not ideal. To support the Commander, each Staff member is an expert in a particular area and, together, the Commander and Staff form a coherent picture that balances a holistic view of the operation without sacrificing a detailed perspective.

Given the huge amount of information that the Commander and his Staff must consider, it is reasonable to assume that they use strategies to 'reduce' the size of the dataset. From the SME interviews, the most likely approach to this is hypothesis testing. None of the SMEs interviewed specifically mentioned hypotheses, but they did mention investigating hunches and proceeding on the basis of similarity to previous situations encountered. Both hunches and similarity to previous situations imply hypothesis testing. The analysis assumption we made is that the SME holds some belief about the manner in which the problem space is structured, and this belief includes an understanding of how the problem space will react to certain inputs. Thus, the SME holds a hypothesis about the problem space which will shortcut the information aggregation process because the SME is looking for information to confirm or reject the hypothesis. The SME is unlikely to actively search for information that falls outside the structure of the hypothesis. Assuming the hypothesis is supported, the SME implicitly believes it is reasonable to proceed with a similar solution or conclusion to the previous example encountered, since it was (presumably) successful. If the previous situation was unsuccessfully dealt with then it is likely that the development of deductions and plans will take a much longer time and will involve a much more rational process. To build this repertoire of previous experience (i.e. templates for the problem space), the Commander and Staff must have considerable experience and learning.

Whether intuitive, rational or hybrid processes are involved in information aggregation, it is a process that relies on fusion by humans and is therefore a mentally demanding process. As yet, there is no method of presenting information in such a way that a coherent representation of all relevant facets of the problem space is communicated. Nor is there a method of presenting information that allows the audience to extract the information they need at the level of detail they need. The audience must actively search for the information and then hold it in working memory

until they have 'chunked' it in some way (thereby overcoming the limit on working memory capacity). This process must be repeated several times until the audience can be considered to 'have the picture'. This activity forces a heavy burden on human information processing capabilities and leaves the process open to mistakes and inaccuracies. Of course, with effort, information can be presented in an effective way, but this is not practical given the frequency with which briefings must be given and the speed with which information changes. A tool presenting information effectively, that is also easy to use, may reduce the need for such frequent communications because everyone would be able to understand the problem space from one briefing, rather than having to build it over several briefings.

Information aggregation can be thought of as an art as well as a science. It is art in that it requires creativity, situation awareness, memory, metacognition, pattern-recognition, problem solving, and mental flexibility. It is a science in that the information aggregation process can be facilitated by the common sense design of participating systems. The CF recognizes the value of information aggregation as a science and therefore attempts to provide supporting tools to help personnel recognize the value of information.

Doctrine and SMEs identified tools such as PowerPoint, databases and pre-formatted annexes as key to information aggregation. PowerPoint slides can be produced to represent the different areas of expertise, while the entire PowerPoint presentation could represent the aggregated picture. Therefore a PowerPoint presentation is also representative of the information aggregation process. Further, PowerPoint is flexible. Text-based information, pictures and maps can all be presented in a PowerPoint presentation.

Databases are also valuable in information aggregation because they serve as a central repository where information from different sources, and in different formats can be placed. This allows for personnel to individually access information as they require it and to ensure that information does not get lost. Pre-formatted annexes can be thought of as a type of database since annexes serve as a repository for information. However, some dangers exist with putting all information into one place. For example, when a lot of dense information is put in one place, without any differentiation between the significant and less significant pieces of information, there is the risk that the critical points may be overlooked, or the user may spend a long time trying to find relevant information and may ultimately be unsuccessful. However, databases and annexes allow for easily retrieval of information from a single place.

Annexes may also prove the most fruitful avenue of enquiry to improving the information aggregation process. Currently, many annexes exist, specific to each doctrine, that suggest the broad categories and the detail of the data to be collected. These could be used by a researcher to identify most of the information collected by the CF and develop a tool that could be used to aggregate information and present it. As noted elsewhere, the doctrine (and thus these annexes) is disjointed, and there is no guarantee that there would be acceptance across the CF of a universal approach to information aggregation and presentation. However, such a proof-of-concept activity could be highly persuasive if done correctly. A similar approach is being posited for the intuitive planning work being performed by DRDC Toronto.

6. Conclusions and Recommendations

6.1 Conclusions

Nine pieces of doctrine were reviewed to provide insights into how information aggregation should occur within the CF. The doctrinal review led to the conclusion that no single information aggregation process exists across doctrine, rather the information aggregation process as presented in doctrine is fragmentary. In general, doctrine identified a rational approach to aggregating information. The eight pieces of doctrine, with identifiable information aggregation activities, highlighted systematic approaches in carrying out information aggregation. Many of these approaches include collecting information, grouping the information, placing information into a central repository (e.g. annexes), and analyzing information before it is released to other formations. When it came to describing how to analyze information, doctrine was vague. Only two of the eight doctrines, Intelligence and Risk Management, identified the fusion of information as dependent on human abilities and skill.

SME interviews helped bridge the gap between theoretical information aggregation perspectives and actual practices by describing information aggregation as primarily intuitive. SME interviews also led us to believe that information aggregation processes are the same whether information comes from experts, an automated system, or performed in a group setting. According to the SMEs, information aggregation involves getting people with the appropriate knowledge together, describing the problem and fleshing out the accurate picture. The SMEs also emphasized the importance of visualization, grouping and a central repository.

Together, the doctrinal review and SME interviews revealed that information aggregation is a hybrid of both intuitive and rational processes. The Commander is more likely to take an intuitive approach to information aggregation while the Staff are more likely to alternate between rational and intuitive processes.

Analysis of the information collected also led to the conclusion that information aggregation is an intensive process as regards human information processing, which may lead to mistakes and omissions. This reliance on human cognitive abilities is due to the volume of information to be processed, the time available to do so, and the use of limited tools such as Powerpoint and databases. However, it is felt that the requirements for a useful tool to aid information aggregation exist in the doctrine and that provision of such a tool might lead to efficiencies in the information aggregation process.

6.2 Recommendations

The CF can contribute significantly to the common sense design of participating systems by synchronizing doctrine, practice, processes, training, analytic tools, central repositories, annexes and so on. For example, annexes and databases can be designed so that information from different doctrinal disciplines is presented using standardized classes, sub-classes, and sub-sub-classes of information that are applicable across the CF and across doctrines.

Further, this generalised information structure could be leveraged to create technology that allows information to be transferred, through a single medium, from the tactical to strategic level and back

down. For example, tools could be designed so that the user is initially presented with the critical pieces of information pertinent to an overview of the situation, while the more detailed information 'lies underneath' and is easily accessible to the officer who needs the detail. This way, a holistic picture of all aspects is initially presented but the supporting detailed information is associated with the holistic picture and usable by those who need it. This tool could also maintain a listing of CCIRs, PIRs and RFIs to which information can be linked simply. The tool could also have built in intelligence to suggest CCIRs, PIRs and RFIs that might be duplicated.

Further research is necessary into how CF officers use and assess information. It is unclear how CF experts select information from the environment and how they aggregate them. It is important to develop an understanding of the implicit cues which make information more or less valuable and in what circumstances the value of information may change..

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8. List of Acronyms

ACINT	Acoustic Intelligence	ISAF	International Security Assistance Force
ASIC	All-Source Intelligence Centre	J2	Joint Intelligence
C4ISR	Command &Control, Communications, Computing, Intelligence, Surveillance and Reconnaissance	J3	Joint Operations
CCIR	Commander's Critical Information Requirements	J5	Joint Plans
CEB	Command Effectiveness Behavior	J7	Joint Training
CEFCOM	Canadian Expeditionary Forces Command	JIMP	Joint, Interagency, Multinational and Public
CF	Canadian Forces	JStaff	Joint Staff
CF Ops	CF Operations	JTF	Joint Task Force
CIMIC	Civil-Military Cooperation	LOCE	Linked Operations-Intelligence Centers Europe
CJ3	Combined Joint Operations	MASINT	Measurement and Signature Intelligence
COA	Course of Action	NCE	Non-Combatant Evacuation Operations
DFAIT	Department of Foreign Affairs and International Trade	OAE	Operational Area Evaluation
DND	Department of National Defence	PSYOPS	Psychological Operations
G1	Army Personnel	RADINT	Radar Intelligence
HSI®	Human*systems*® Incorporated	RFIs	Requests for Information
HUMINT	Human Intelligence	RM	Risk Management
IC	Intelligence Cycle	SA	Scientific Authority
IMINT	Imagery Intelligence	SIGINT	Signals Intelligence
IO	Information Operations	SJS	Strategic Joint Staff
IOCC	Information Operations Coordination Cell	SME	Subject Matter Expert
IOPG	Integrated Operational Planning Group	SOP	Standard Operating Procedure
IOPS	Information Operations	SOW	Statement of Work
IPB	Intelligence Preparation of the Battlespace	SRs	Situation Reports
IRs	Information Requirements	SUPLAN	Supporting Plan

Annex A:
Non Combatant Evacuation Scenario

Note: This entire scenario, its characteristics and details are totally fictional. While the details of the scenario are offered as plausible, no indication of the likelihood of occurrence is implied. This scenario was prepared for the Information Aggregation project solely to provide a scenario of sufficient detail to draw out the Information Aggregation activities that would be faced by military planners and operational personnel faced with this situation. Much of the format and wording was drawn from Scenario 9 (Peace Support Operations) of the force planning scenarios listed on the Force Planning and Defence website (http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/scen/intro_e.asp).

1. Situation and Intelligence

1.1 Situation Awareness

1.1.1 General

The poor Caribbean country of Caribba has experienced political turmoil for more than forty years. The inability of any national government to gain popular support has resulted in frequent, dramatic changes in government following military coups and elections that have had questionable results due to intimidation at the polls and ballot manipulation. The periods immediately following these changes in government have been particularly unstable and violent as government forces act forcefully to quell protests and organized gangs take advantage of the disorganization to threaten, kidnap and rob those who cannot protect themselves. During these periods the government has tended to rigidly defend its sovereignty, threatening that any attempts at external interference within its territory will be met with an immediate military response.

The next election in Caribba is scheduled for six weeks from now. United Nations observers on the ground, as well as Canadian government officials at the Canadian embassy, have reported that there are warning signs suggesting that the violence following this election might be worse and more protracted than usual. Warnings have been issued for foreign visitors and non-essential business and government personnel to leave Caribba well in advance of the election, but past history suggests that a significant number of people will remain.

Canada has had the closest relationship with Caribba among all western countries due to proximity and the fact that the primary spoken languages in Caribba are French and English. Caribba has been the recipient of a significant amount of Canadian aid and there are numerous Canadian business interests, particularly in and around the capital city of Port Angeles.

Because of Canada's leading role in Caribba, and the fact that Canada has the most citizens in the country of any western country, it has been approached by both the United States and Britain to lead a multi-national task force to the region to be prepared to evacuate westerners should the situation on the ground following the election get too dangerous.

There are approximately 440 Canadians, 130 Americans and 80 British citizens in Caribba.

1.1.2 Economic

About 75% of the population lives in abject poverty. Nearly 50% of all Caribbanians depend on the agriculture sector, which consists mainly of small-scale subsistence farming and employs about two-thirds of the economically active work force. Another 20% depend on the fisheries. The country has experienced little job creation since the current president took office in 2002, although the informal economy is growing.

Caribba exports refined sugar, wood for pulp and paper, and some small manufactured goods. The over harvesting of trees has resulted in soil erosion and an increasing threat to the agriculture industry. Primary imports are food, machinery and petrochemicals.

The primary Canadian business interests are banking and telecommunications, and the management of the primary water purification and distribution system.

1.1.3 Sociological

Caribba is a country of approximately six million people. Its ethnic composition is largely a mix of African and French, the result of colonial slavery. Caribbanian blacks make up the largest ethnic group, accounting for about 65% of the population. Mulattos, a combination of white Europeans and blacks, make up the remaining 35%. Political parties have traditionally organized around these two ethnic groups, with the Mulattos most frequently providing the ruling party.

The major population centres are in the capital city of Port Angeles (1.6 million), a port city on the southwest coast, and Jordaine (750,000), the main interior city.

1.2 Geography

1.2.1 Topography

Caribba is an island state located in the western Caribbean. It has an area of approximately 25,000 square kilometres, and an 1800 kilometre long coastline. The southern portion of the island has a rugged mountain range covered by a rainforest, and the northern portion is primarily a large, flat plain. The southern coast has numerous beaches protected by coral reefs.

1.2.2 Hydrography

Several rivers run from the mountains in the south throughout the island. Starting out as pristine, the water is often polluted by human waste as it runs through cities and towns, necessitating purification around major population centres. Excessive rainfall during the summers often causes flash floods and continuous erosion of riverbanks.

1.2.3 Climate/Weather

The climate is primarily tropical. The island often bears the brunt of hurricanes from May to October each year. Summer temperatures reach as high as 40 degree Celsius, dipping to a norm of 26 degrees during the winter.

1.3 Infrastructure

1.3.1 General Aspects

Much of Caribba's infrastructure originates from past colonial times under French rule, which ended in 1893. The transportation network is reasonable extensive thanks to Canadian aid, lying somewhere between Western standards and that of poor third world countries. It is largely concentrated from the southwest corner through the centre of the island.

1.3.2 Transportation

Caribba has approximately 10,000 km of highways, 60% of which are paved or at least hard. The best highways are between the major population centres.

Caribbanian railway systems are inherited from colonial times, so spread out from Port Angeles, from where raw materials were shipped, to various plains towns, many of which are now mostly deserted as plantations failed over time.

1.3.3 Ports and Airports

Caribba's only major shipping port is located at Port Angeles. The harbour was dredged to 11 metres in 2003, but the dredging program has been suspended since then and historical soundings are questionable. There are some containers handling services, consisting of two specialized cranes deep within the harbour. The majority of infrastructure supports bulk transport. The longest alongside berth is 200 metres long.

The one international airport is located 20 km north of Port Angeles. Smaller national airports are located at Jordaine and three other cities in the interior, and local airfields dot the country. CC-130 and C-17 aircraft could land at most of the smaller airfields but they have limited support facilities. Airbus type aircraft can operate out of the international and national airports.

1.3.4 Communications

Caribba's domestic telephone communication system is poor but improving. Long distance telephoning is getting better with the use of a domestic satellite system. Caribba has one INTELSAT earth station.

1.3.5 Industrial Capacity

The industrial base of Caribba is largely dominated by agriculture and fisheries-based industries. There is a significant forestry industry in the rainforest region. The defence industry is limited to the production of light vehicles for the army and small arms and ammunition.

1.4 Enemy Forces/Threat Situation

1.4.1 General

Caribba possesses a modest military force with a good range of conventional combat capability. There have been unconfirmed reports of a modest chemical weapons capability but Caribba has never admitted to possessing chemical weapons. The army has historically been used primarily against its own citizens and has a reputation of being ruthless. The air force and navy jealously guard Caribba's sovereignty. Caribba has modern command and control but does not practice in a joint environment.

1.4.2 Composition/Strength

Caribba's total military strength is estimated to be 80,000.

Land Force strength is approximately 65,000, organized into 4 infantry divisions, 1 armoured division, 2 artillery brigades and 1 air defence brigade. The army has 20 year old tanks main battle tanks, infantry fighting vehicles, self-propelled howitzers, anti-tank weapons and air defence gun and missile systems.

Air Force strength is approximately 9,000. The Air Force is comprised of:

a. 2 squadrons of multi-role fighter aircraft,

b. 3 squadrons of ground attack aircraft,

c. 1 EW/Recce aircraft,

d. 2 squadrons of observation helicopters,

e. 1 squadron of transport helicopters,

f. 3 squadrons of attack helicopters,

g. 2 maritime patrol aircraft,

h. 4 maritime helicopters, and

i. 3 transport aircraft.

Naval strength is approximately 6,000. Caribba operates 2 conventional submarines, 6 destroyers and 12 corvettes. Weapons include anti-ship torpedoes, SSMs, SAMs and guns.

1.4.3 Location/Disposition

Army bases are located near Port Angeles, Jordaine and 8 smaller cities. Air bases are co-located with all international and national airports, and helicopters routinely operate from the various local air fields. The major naval base is located in Port Angeles, but 6 of the corvettes are operated from a small port on the north coast.

1.4.4 Technical Capability

Caribba's Air Force and Navy operate older platforms but they are well maintained. All weapons systems are considered to be reliable, although there have been reports that at least one of the submarines has not sailed in two years. The Air Force and Navy are quite well trained and are considered to be proficient in tactics. The Army has newer equipment except for its main battle tanks but is not considered proficient in modern tactics. What it lacks in skill it makes up for in ferocity.

1.4.5 Intelligence Capability

Caribba's intelligence forces tend to focus inward, but they maintain currency with international affairs and are generally well prepared to meet any external attempts at interference prior to the action being undertaken. Sporadic aircraft and naval patrols are able to provide some warning of forces in the vicinity.

1.4.6 Chemical Warfare Capability

Caribba claims to have no chemical weapons, but rumours have persisted for years about a shipment of artillery shells containing chemicals. It is unlikely that Caribba would employ chemical weapons if it did possess them except to defend against invasion, but their use at any time cannot be fully discounted.

1.4.7 Centre of Gravity

The majority of military forces and headquarters are located in and around the capital city. The government is also located in the capital city.

1.4.8 Command, Control and Communications (C3)

Because the military has been responsible for many coups and coup attempts in the past, the current government tends to maintain close control over the military, placing trusted senior officers in command positions and limiting junior officers' access to information. Because of this individual units do not tend to use their initiative. Communications equipment is modern and the military operates on encrypted circuits for the most part.

1.4.9 Threat Level

There have been numerous occasions in the past where Caribba has reacted forcefully to attempts at external interference. During the 1998 national elections army forces seized a United Nations aircraft and international delegation at the airport in Port Angeles following a "misunderstanding" of the authority the delegation had to observe the election. The aircraft was escorted out of Caribbanian airspace by fighters. In 2001 Caribbanian destroyers fired on a neighbour's naval vessel near Caribbanian territorial waters, claiming that it had entered territorial waters to challenge its sovereignty.

Caribba has stated explicitly that it will meet any unauthorized entry into its air space or territorial waters with military force. To complicate matters, Caribba has never allowed any foreign military forces to enter its territory except for a good will visit.

1.5 Coalition Forces

1.5.1 General

Specific forces have yet to be assigned, awaiting a Canadian decision on the appropriate task force composition. The Canadian government is awaiting the recommendation of military planners, including a recommendation of whether or not the cooperation of non-participating foreign governments should be sought to provide forward operating bases closer to Caribba.

1.5.2 Available Forces

All Canadian forces not currently deployed are available for consideration. The United States has offered one amphibious helicopter carrier with embarked Marines, and access to satellite imagery. The British have offered a squadron of Harrier fighter aircraft and a naval replenishment vessel.

1.5.3 Location/Disposition

Caribba is a four day transit for naval forces from Halifax. Canadian land and air units are located at their home bases in Canada. The American amphibious vessel is based in San Diego and would require a transit of the Panama Canal if employed. It would take the ship two weeks to prepare for the mission, including embarking its aircraft and Marine contingent. The British Harriers are in Britain and would need to be transported to a forward operating base near Caribba. The replenishment vessel is a six-day steam from Halifax, or an eight-day steam to Caribba.

2. Additional Factors

2.1 General Factors

Western governments have frequently commented on the fact that extractions of foreign nations from Caribba under conditions of internal instability might be required, and Caribba has never directly responded to these comments in a threatening manner. Rather, its comments regarding sovereignty have generally been directed toward any attempts to influence or overturn elections.

2.2 Specific factors

The Canadian embassy in Caribba has a very good communication network with Canadians in Caribba, and has a detailed database of names, addresses and phone numbers. The British use the Canadian embassy as a base to service their citizens as well, so from this one location there

is the ability to communicate with most westerners on the island. The Canadian embassy has close liaison with the American mission, which is located just two blocks away from the Canadian embassy in Port Angeles.

Locals tend to be friendly but wary towards westerners, primarily because the government frowns upon too much close contact. Any western forces entering Caribba could probably not count on the explicit help of the locals, but would not expect them to impede them.

3. Coalition/Task Force Mission Concept

3.1 Mission Statement

The multi-national Joint Task Force will achieve, if required by instability following the Caribbanian national election, the safe extraction of Canadian, American and British citizens from Caribba.

3.2 Concept of Operation

The task force must be identified, moved and assembled in the vicinity of Caribba such that it is ready to perform its assigned mission. Assigned units will operate under OPCON of the Canadian Task Force Commander but OPCOM will remain with the respective nations. Forces will act under national Rules of Engagement, coordinated through the Canadian commander.

All attempts will be made diplomatically to secure permission from the Caribbanian government to allow forces to enter Port Angeles to cooperatively extract western citizens, but it will remain impossible to predict the authority the current regime will retain following the election even if this authority is granted in advance.

3.3 Contingency Operations

The most likely situation that could alter the mission is that the extent of the human suffering due to instability following the election is such that the United Nations would ask for assistance to secure the relative safety of major pockets of the population. It is Canada's current position that it will not interfere with the internal affairs of Caribba unless it can be clearly demonstrated that the government is systematically acting against its own population.

4. Assessment of Tasks

4.1 Assigned Tasks

Provide overall command and control for the multi-national joint task force. Tasks will include:

a. In cooperation with American and British military planners determine the optimal task force composition,

b. Determine the operational command and control structure.

Provide combat capable land, air and naval forces. Anticipated operational tasks include:

a. provide ocean area security in support of task force operations by conducting ASW, ASuW and/or AAW operations,

b. establish a temporary secure zone on Caribba territory from which to evacuate civilians,

c. transport designated civilians from extraction point to task force vessels at sea.

d. protect lives of designated western civilians at the extraction point and between the extraction point and task force ships for the duration of the operation,

e. Close Air Support/Interdiction,

f. Tactical Air Support of Maritime Operations,

g. Combat Air Patrols for protection of air transport aircraft,

h. develop and maintain tactical air, land and maritime pictures,

4.2 Implied Tasks

The task force must be prepared to:

a. provide intelligence support,

b. deploy Canadian, American and British assets to the area and re-deploy as ordered by national authorities at the conclusion of the operation,

c. liaise with the Canadian embassy in Caribba to agree on an extraction location and have communicated to designated civilians the time and place for the extraction,

d. provide food, lodging and medical care to civilians for the duration of the transit from the Caribba Area of Operation to a designated location,

e. undertake collective training prior to the conduct of operations,

f. provide logistic support for the task force, and

g. conduct second line and limited third line maintenance/repair.

4.3 Constraints and Restraints

International support for the operation may depend on the ability of the operation to be undertaken with no or minimal risks to Caribbanian civilians. The potential presence of large numbers of Caribbanian civilians has to be considered in the planning.

4.4 Capabilities of Own Forces

Task force capability requirements will be determined from the analysis of the scenario.

5. Mission Success

5.1 End State Conditions

The mission will be considered to have reached its “End State” when all designated civilians that are at the extraction point at the designated time have been delivered to the designated location.

5.2 Success Criteria

From a task force perspective, the mission will be considered successful overall when the following criteria have been met:

a. operational planning is performed in accordance with established doctrine and procedures,

b. the military aim is defined and is in support of the governments of Canada, the United States and the United Kingdom,

c. task force units are sustained for the duration of the mission,

d. task force units are repatriated within the planning timelines,

e. minimum task force military losses to personnel and equipment are achieved, and

f. minimum injury and losses of designated civilians are achieved.

6. Association of Time, Space and Mass

6.1 Critical Times

Under ideal conditions, all of the following actions would be completed prior to the follow-on activity indicated. However, the nature of the situation may lead to some activities being incomplete as the subsequent actions begin.

a. ROE are determined and promulgated before deployment,

b. Local reconnaissance is completed to identify potential extraction points,

c. Unit and formation training is completed before employment,

d. Secure, dedicated, and reliable communication is established between the task force commander and the Canadian Embassy in Caribba,

e. All task force elements are in position ready for the operation 24 hours before the election takes place.

6.2 Critical Distances

The following critical distances must be accounted for in all operational plans:

a. The distance between Halifax and Caribba is 3200 km,

b. The distance between Portsmouth, England and Caribba is 7300 km, and

c. The distance between San Diego and Caribba is 8100 km.

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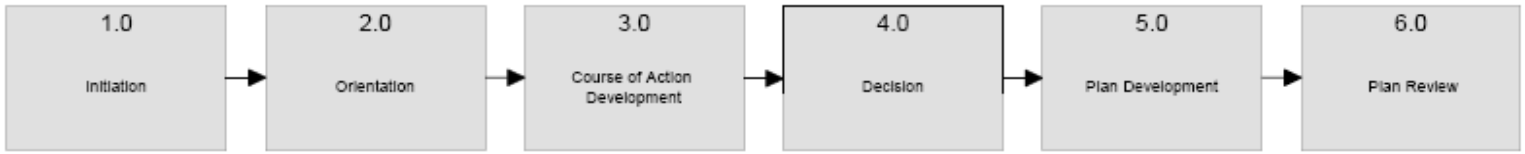
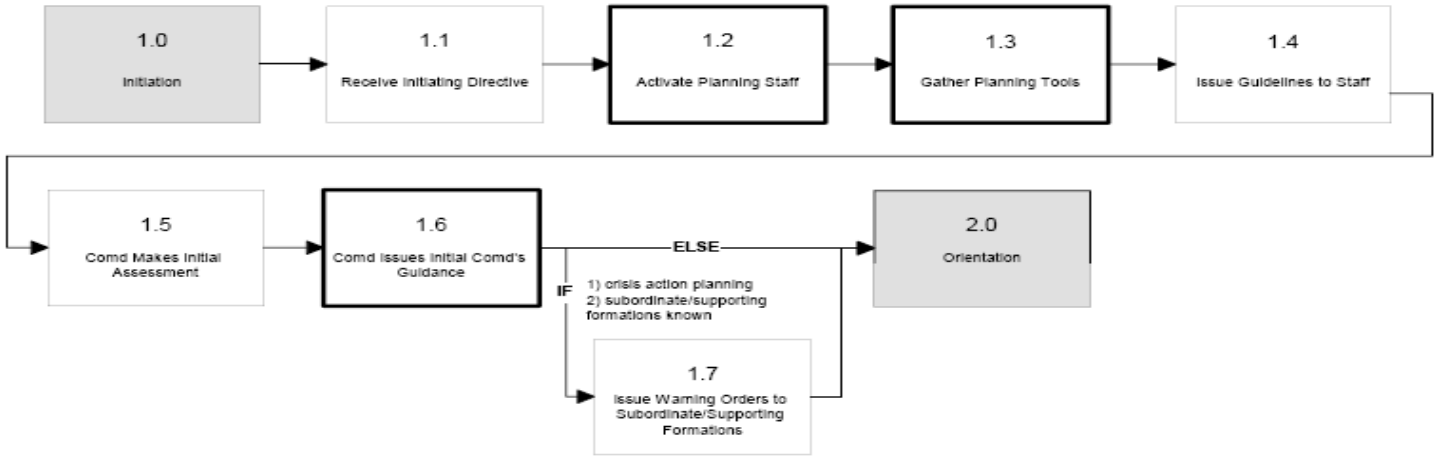
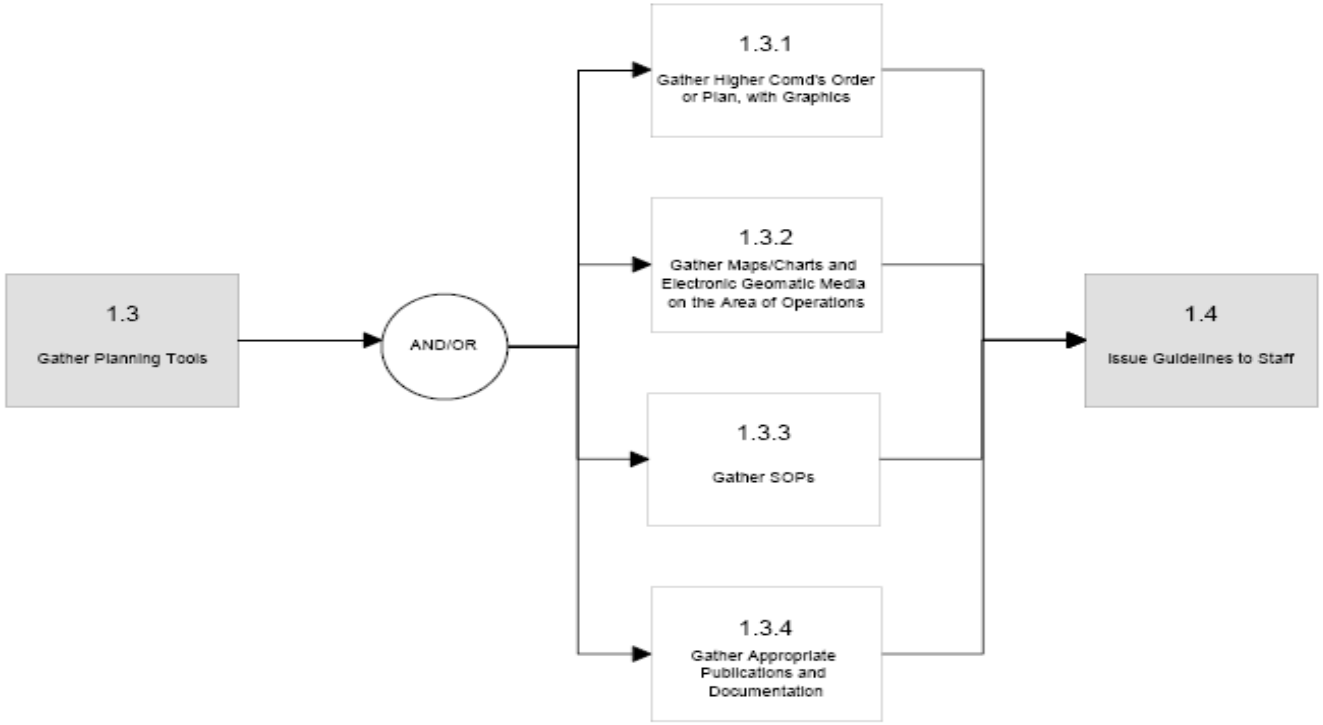
Annex B:
Operational Planning Process

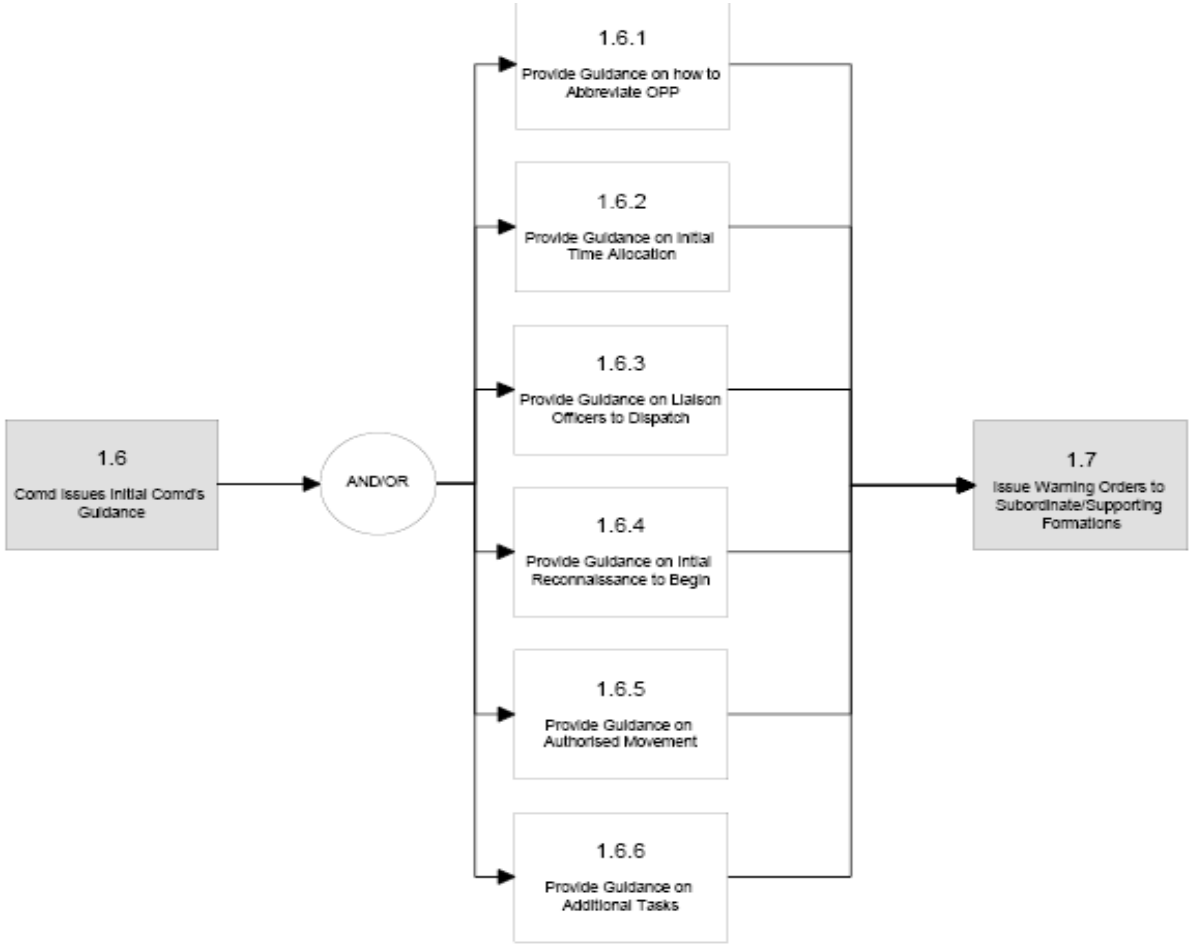
Appendix B.1
OPP Function Flow Diagram



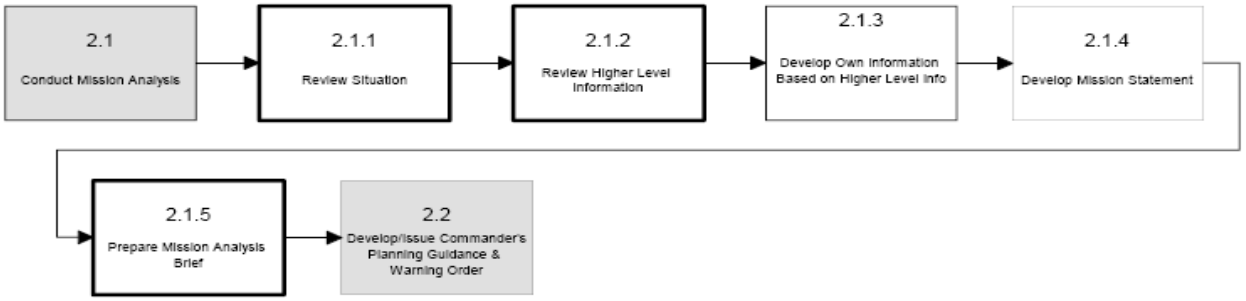


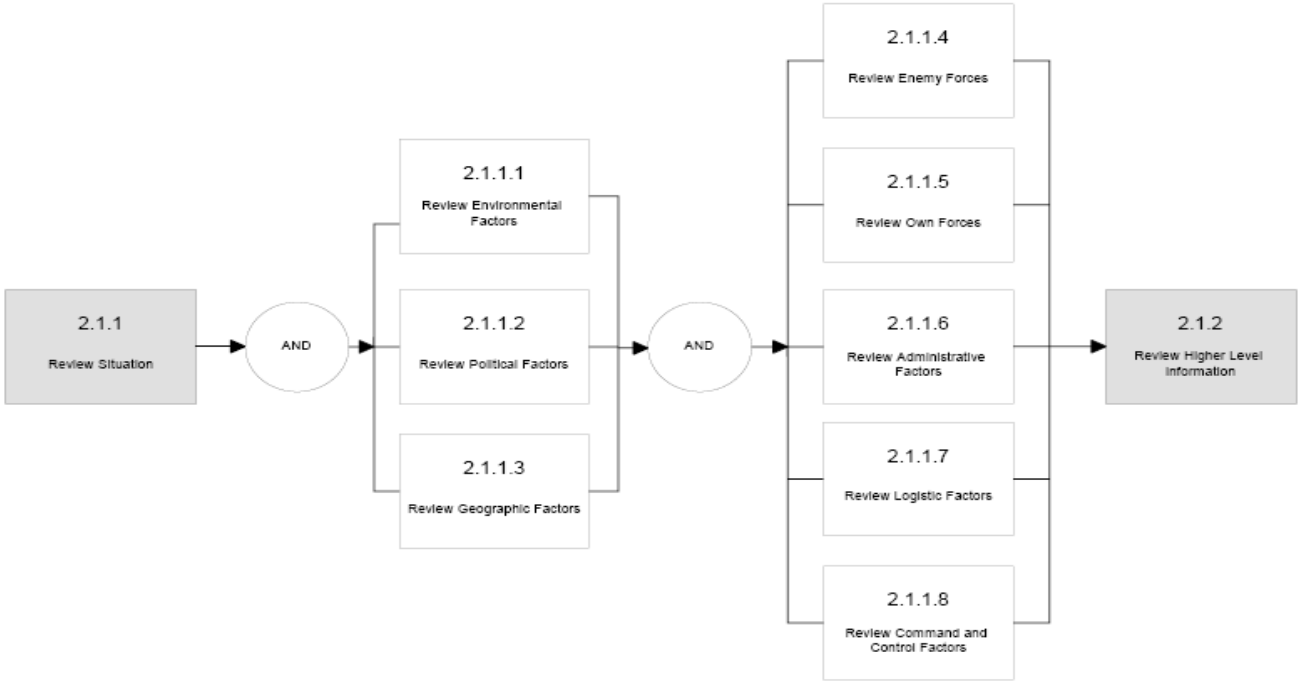

1.2
Activate Planning Staff
1.2.1
Designate Planning Staff
1.2.2
Notify Planning Staff
1.2.3
Activate Planning Staff
1.2.4
Establish Staff Contacts with Higher Formations
IF
1) subordinate formations are known
ELSE
1.2.5
Establish Staff Contacts with Subordinate Formations
1.3
Gather Planning Tools

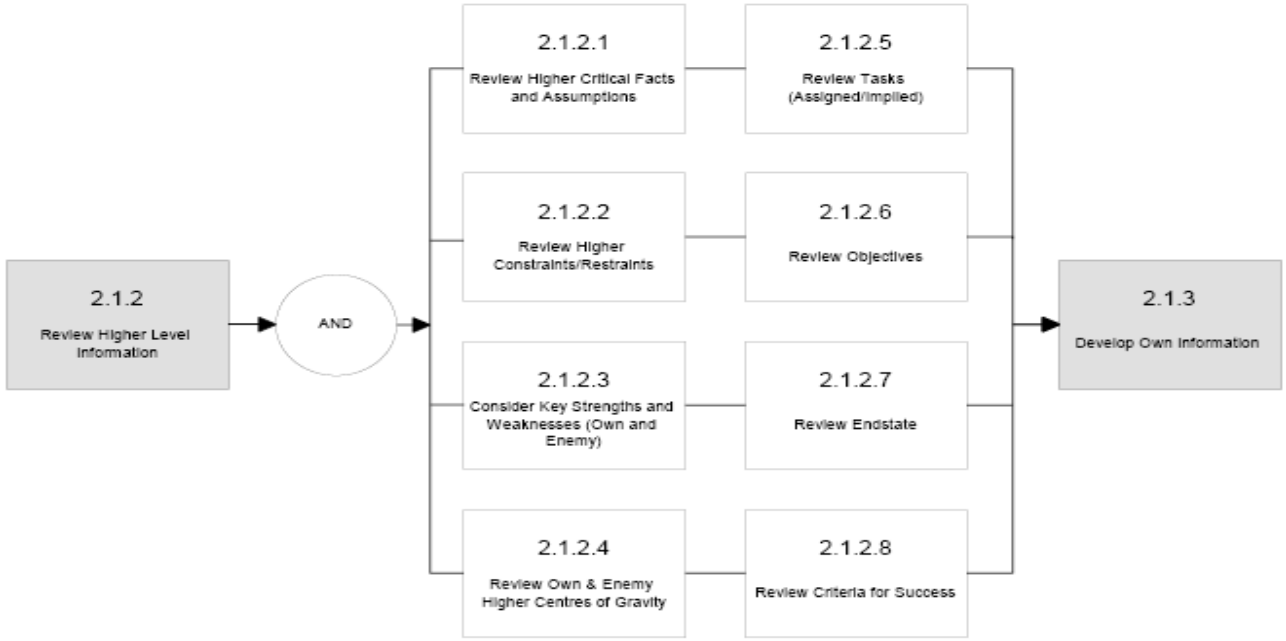

1.3
Gather Planning Tools
AND/OR
1.3.1
Gather Higher Comd's Order or Plan, with Graphics
1.3.2
Gather Maps/Charts and Electronic Geomatic Media on the Area of Operations
1.3.3
Gather SOPs
1.3.4
Gather Appropriate Publications and Documentation
1.4
Issue Guidelines to Staff


1.6
Comd Issues Initial Comd's Guidance
AND/OR
1.6.1
Provide Guidance on how to Abbreviate OPP
1.6.2
Provide Guidance on Initial Time Allocation
1.6.3
Provide Guidance on Liaison Officers to Dispatch
1.6.4
Provide Guidance on Intial Reconnaissance to Begin
1.6.5
Provide Guidance on Authorised Movement
1.6.6
Provide Guidance on Additional Tasks
1.7
Issue Warning Orders to Subordinate/Supporting Formations

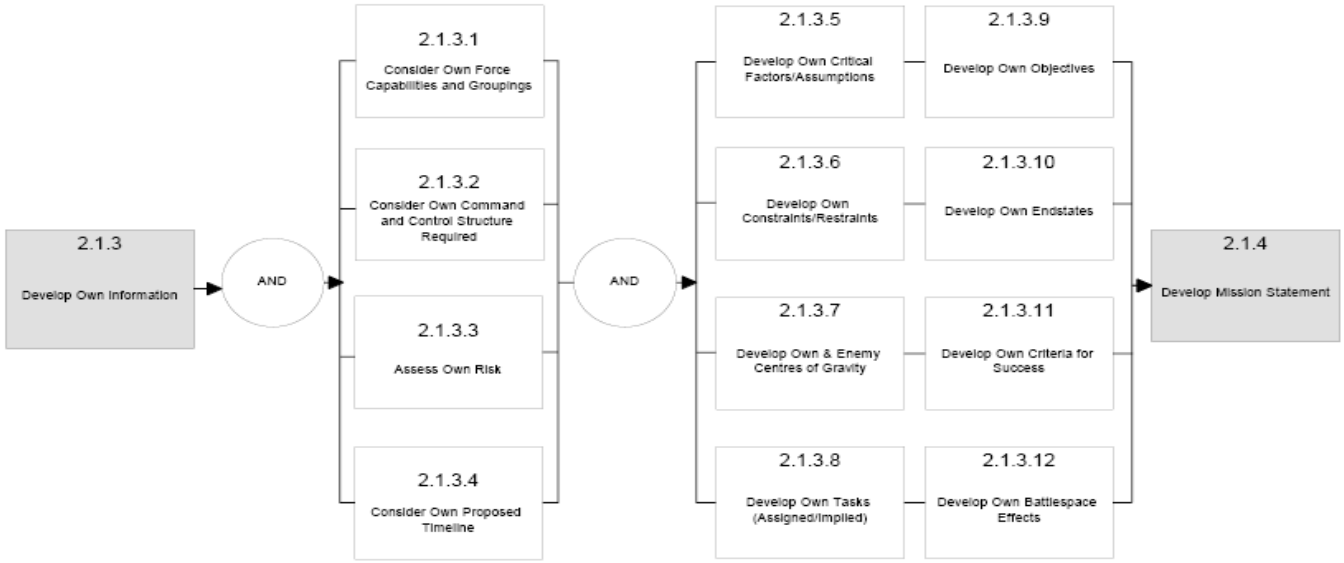

2.0
Orientation
2.1
Conduct Mission Analysis
2.2
Develop/Issue Commander's Planning Guidance & Warning Order
2.3
Issue Commander's Planning Guidance
3.0
Course of Action Development


2.1
Conduct Mission Analysis
2.1.1
Review Situation
2.1.2
Review Higher Level Information
2.1.3
Develop Own Information Based on Higher Level Info
2.1.4
Develop Mission Statement
2.1.5
Prepare Mission Analysis Brief
2.2
Develop/Issue Commander's Planning Guidance & Warning Order

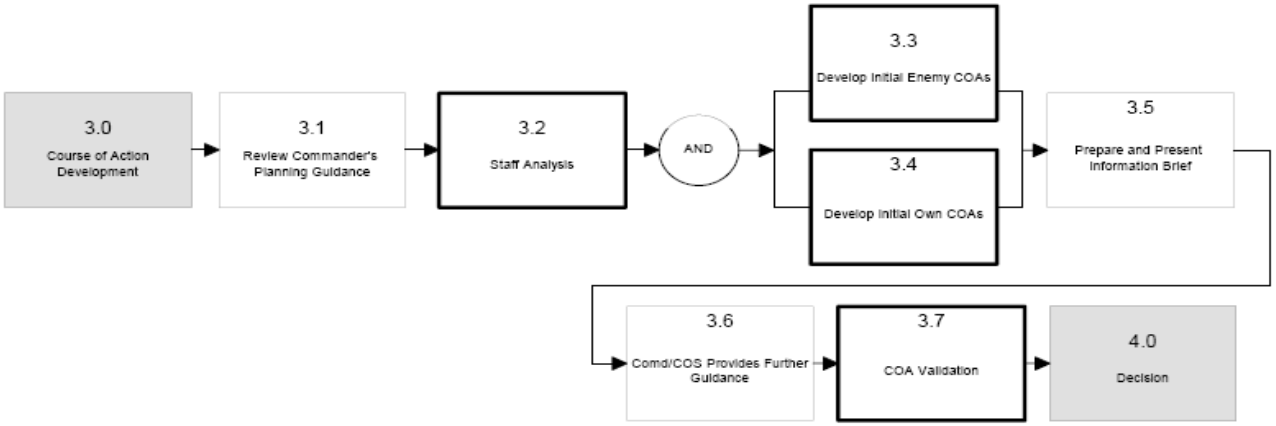

2.1.1
Review Situation
AND
2.1.1.1
Review Environmental Factors
2.1.1.2
Review Political Factors
2.1.1.3
Review Geographic Factors
AND
2.1.1.4
Review Enemy Forces
2.1.1.5
Review Own Forces
2.1.1.6
Review Administrative Factors
2.1.1.7
Review Logistic Factors
2.1.1.8
Review Command and Control Factors
2.1.2
Review Higher Level Information

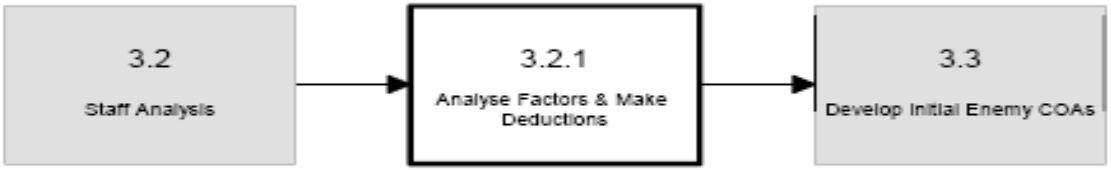


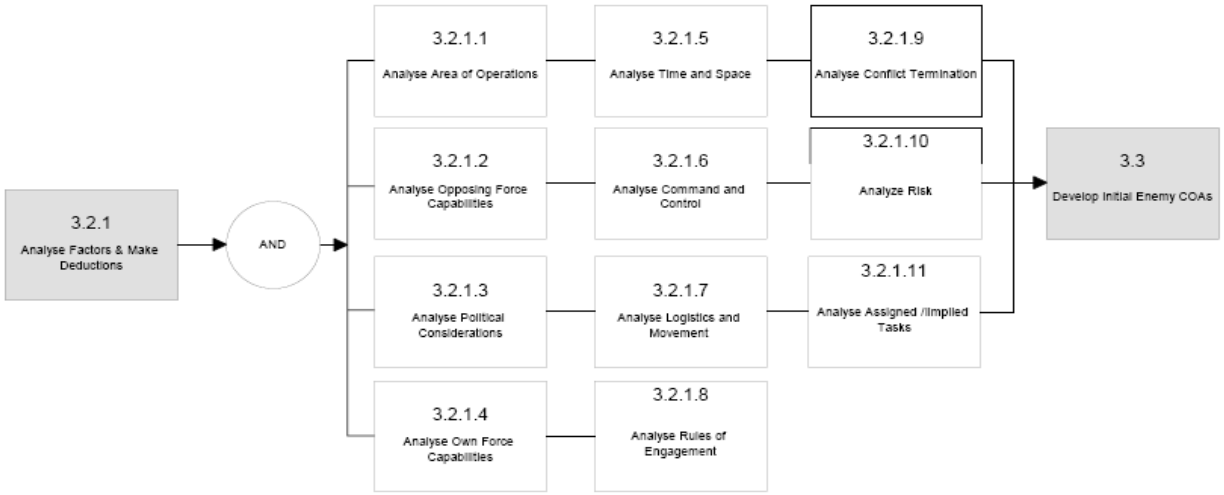
Note: The order in which 2.1.2.1 through 2.1.2.8 are performed is not defined


2.1.3
Develop Own Information
AND
2.1.3.1
Consider Own Force Capabilities and Groupings
2.1.3.2
Consider Own Command and Control Structure Required
2.1.3.3
Assess Own Risk
2.1.3.4
Consider Own Proposed Timeline
AND
2.1.3.5
Develop Own Critical Factors/Assumptions
2.1.3.6
Develop Own Constraints/Restraints
2.1.3.7
Develop Own & Enemy Centres of Gravity
2.1.3.8
Develop Own Tasks (Assigned/Implied)
2.1.3.9
Develop Own Objectives
2.1.3.10
Develop Own Endstates
2.1.3.11
Develop Own Criteria for Success
2.1.3.12
Develop Own Battlespace Effects
2.1.4
Develop Mission Statement

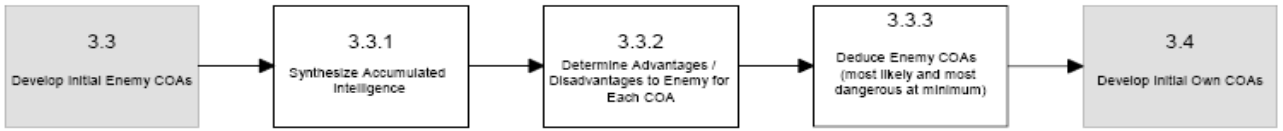

2.1.5
Prepare Mission Analysis Brief
AND
2.1.5.1
Summarise Directives
2.1.5.2
Summarise Decisions
2.1.5.3
Summarise Initial Concerns
2.1.5.4
Describe Mission as Perceived by the Commander
2.1.5.5
Deliver Mission Analysis Briefing
2.1.5.6
Receive Additional Guidance from Commander
2.1.5.7
Finalise Mission Statement
2.2
Develop Commander's Planning Guidance

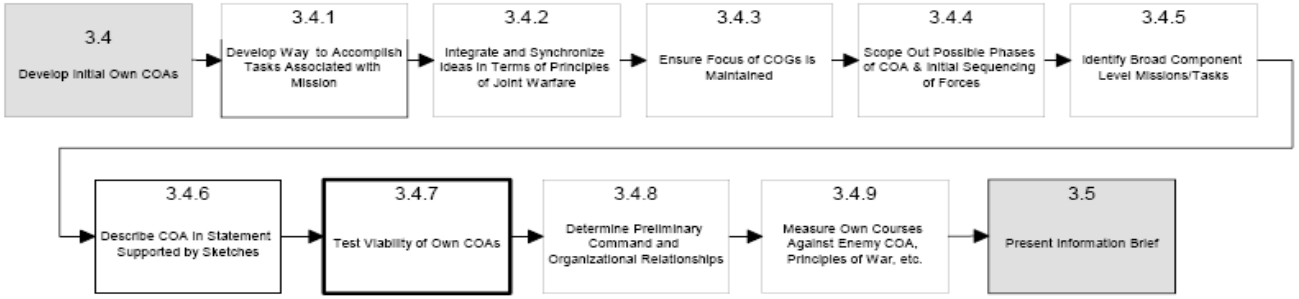

3.0
Course of Action Development
3.1
Review Commander's Planning Guidance
3.2
Staff Analysis
AND
3.3
Develop Initial Enemy COAs
3.4
Develop Initial Own COAs
3.5
Prepare and Present Information Brief
3.6
Comd/COS Provides Further Guidance
3.7
COA Validation
4.0
Decision



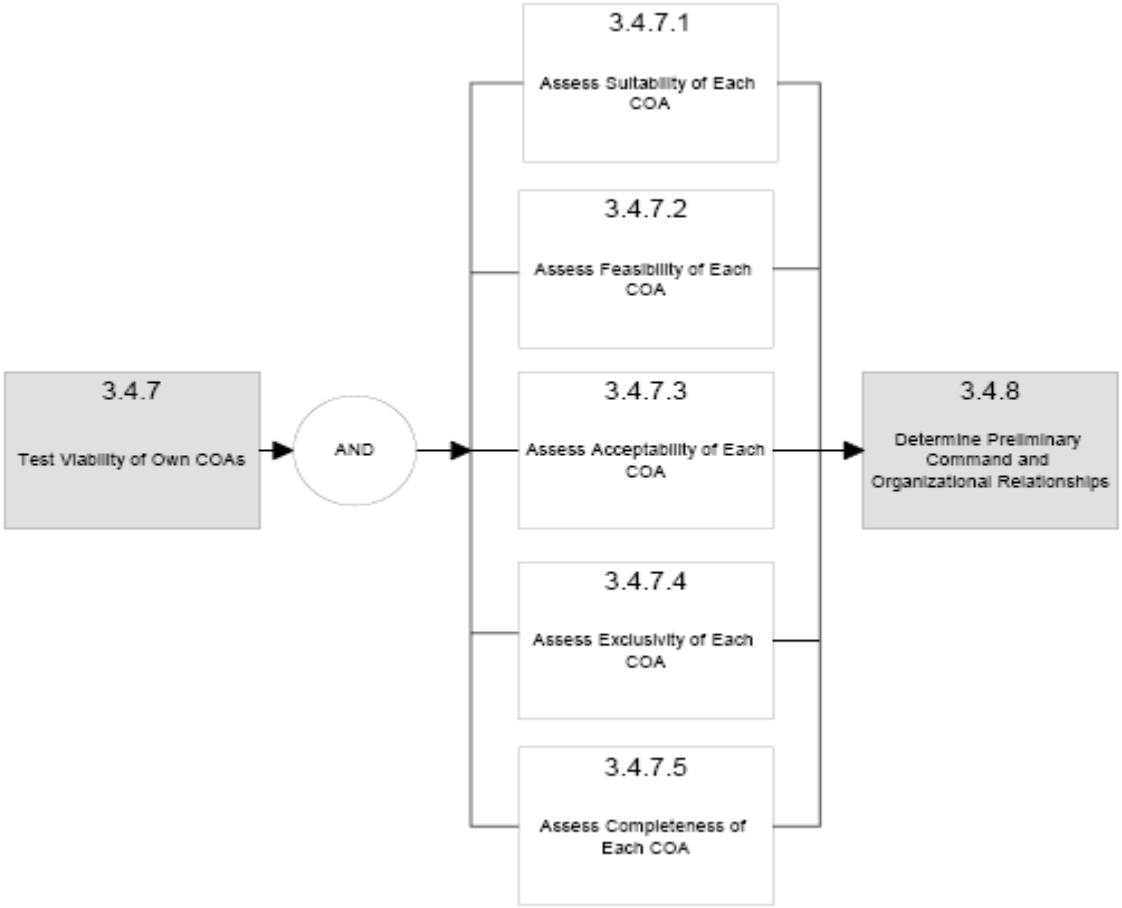


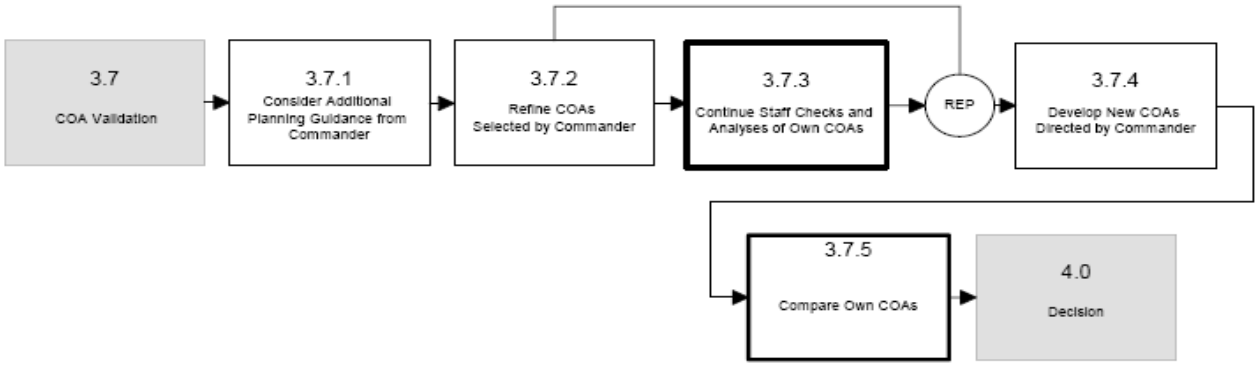
Note: The order in which 3.2.1.1 through 3.2.1.11 are performed is not defined

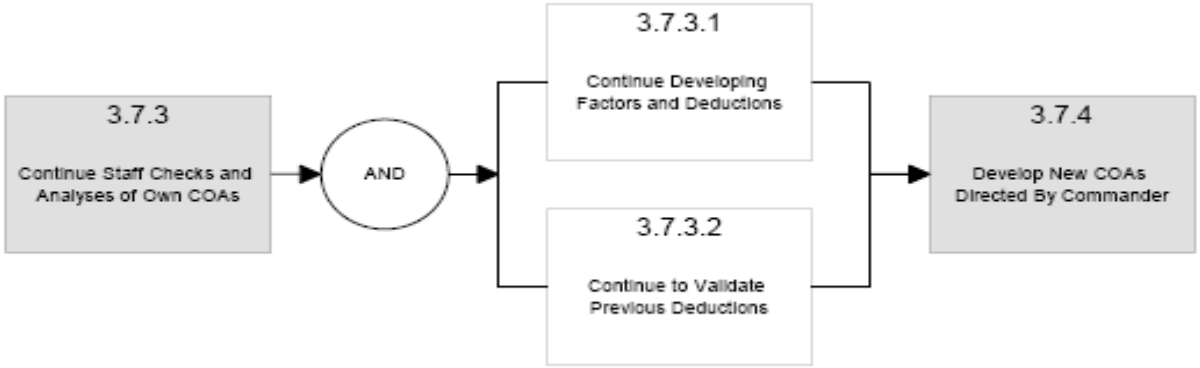


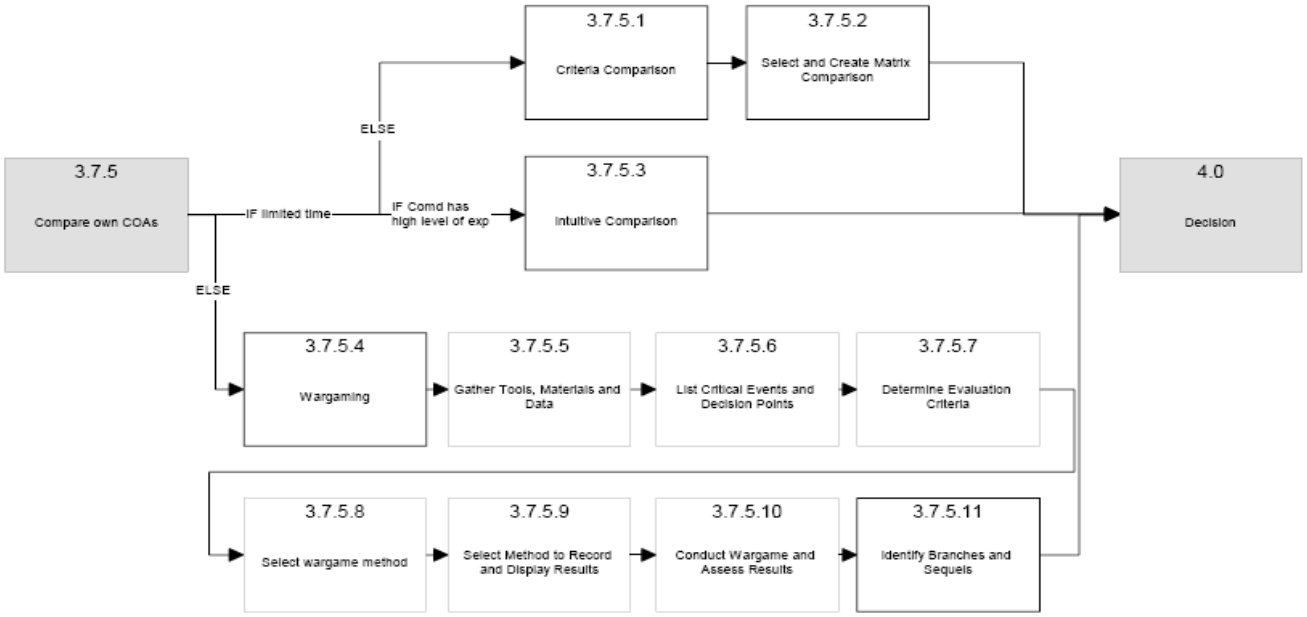


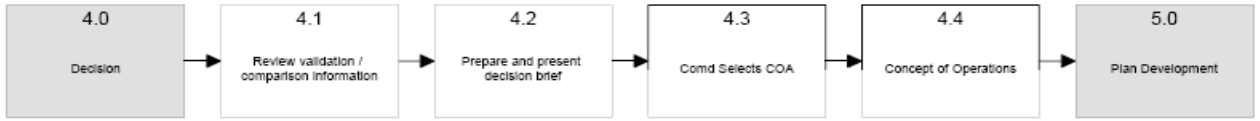
Note: 3.4.2 and 3.4.5 are joint-only applications and may not apply specifically to army OPP

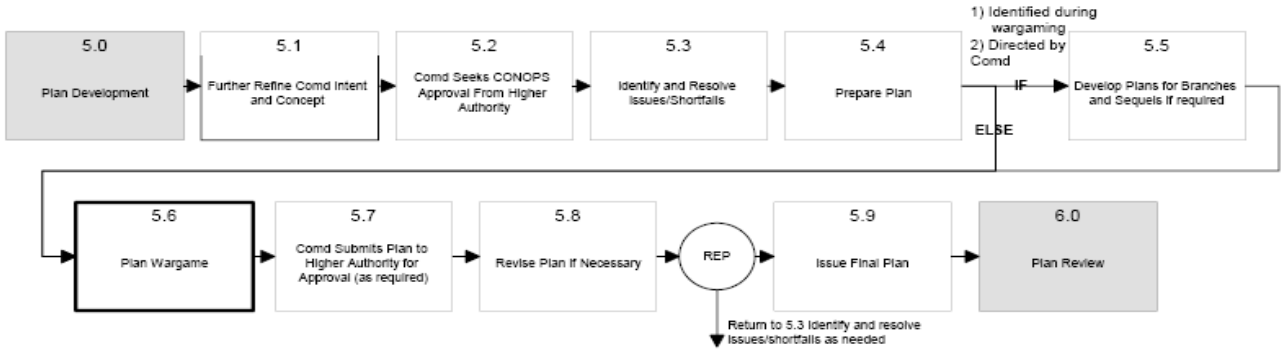

3.4.7
Test Viability of Own COAs
AND
3.4.7.1
Assess Suitability of Each COA
3.4.7.2
Assess Feasibility of Each COA
3.4.7.3
Assess Acceptability of Each COA
3.4.7.4
Assess Exclusivity of Each COA
3.4.7.5
Assess Completeness of Each COA
3.4.8
Determine Preliminary Command and Organizational Relationships

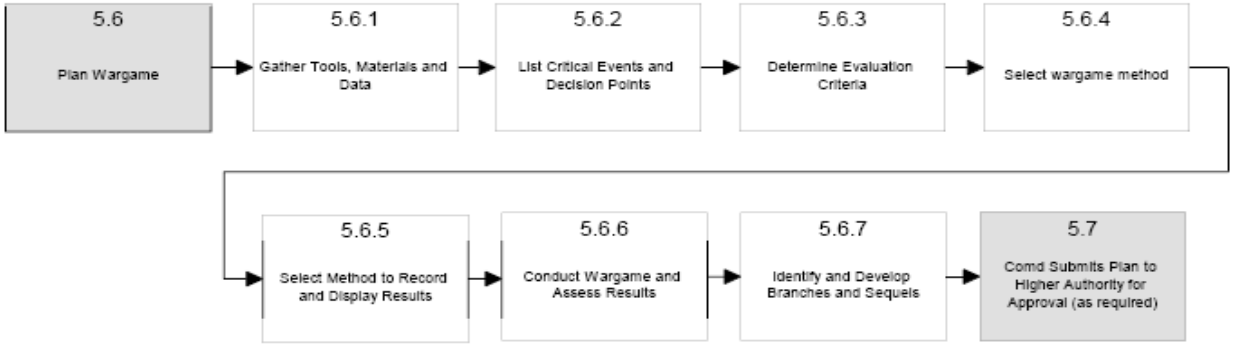

3.7
COA Validation
3.7.1
Consider Additional Planning Guidance from Commander
3.7.2
Refine COAs Selected by Commander
3.7.3
Continue Staff Checks and Analyses of Own COAs
REP
3.7.4
Develop New COAs Directed by Commander
3.7.5
Compare Own COAs
4.0
Decision

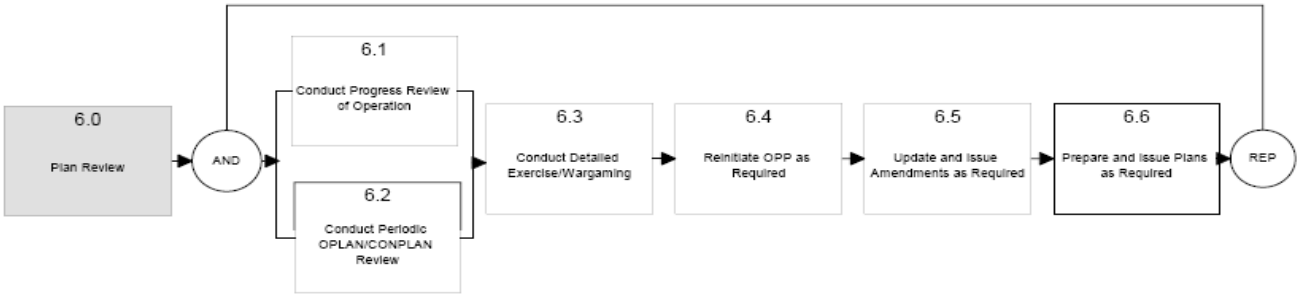

3.7.3
Continue Staff Checks and Analyses of Own COAs
AND
3.7.3.1
Continue Developing Factors and Deductions
3.7.3.2
Continue to Validate Previous Deductions
3.7.4
Develop New COAs Directed By Commander


3.7.5
Compare own COAs
IF limited time
ELSE
IF Comd has high level of exp
3.7.5.1
Criteria Comparison
3.7.5.2
Select and Create Matrix Comparison
3.7.5.3
Intuitive Comparison
ELSE
4.0
Decision
3.7.5.4
Wargaming
3.7.5.5
Gather Tools, Materials and Data
3.7.5.6
List Critical Events and Decision Points
3.7.5.7
Determine Evaluation Criteria
3.7.5.8
Select wargame method
3.7.5.9
Select Method to Record and Display Results
3.7.5.10
Conduct Wargame and Assess Results
3.7.5.11
Identify Branches and Sequels


4.0
Decision
4.1
Review validation / comparison information
4.2
Prepare and present decision brief
4.3
Comd Selects COA
4.4
Concept of Operations
5.0
Plan Development


5.0
Plan Development
5.1
Further Refine Comd Intent and Concept
5.2
Comd Seeks CONOPS Approval From Higher Authority
5.3
Identify and Resolve Issues/Shortfalls
5.4
Prepare Plan
1) Identified during wargaming
2) Directed by Comd
IF
5.5
Develop Plans for Branches and Sequels if required
ELSE
5.6
Plan Wargame
5.7
Comd Submits Plan to Higher Authority for Approval (as required)
5.8
Revise Plan if Necessary
REP
5.9
Issue Final Plan
6.0
Plan Review
Return to 5.3 Identify and resolve issues/shortfalls as needed


5.6
Plan Wargame
5.6.1
Gather Tools, Materials and Data
5.6.2
List Critical Events and Decision Points
5.6.3
Determine Evaluation Criteria
5.6.4
Select wargame method
5.6.5
Select Method to Record and Display Results
5.6.6
Conduct Wargame and Assess Results
5.6.7
Identify and Develop Branches and Sequels
5.7
Comd Submits Plan to Higher Authority for Approval (as required)


6.0
Plan Review
AND
6.1
Conduct Progress Review of Operation
6.2
Conduct Periodic OPLAN/CONPLAN Review
6.3
Conduct Detailed Exercise/Wargaming
6.4
Reinitiate OPP as Required
6.5
Update and Issue Amendments as Required
6.6
Prepare and Issue Plans as Required
REP

Appendix B.2
OPP Tabular Task Analysis

Gather Planning Tools

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
1.3 Gather planning tools	Planning staff activated	To assemble relevant planning materials for mission analysis	Intelligence, relevant doctrine, maps, charts, SOPs, etc.	Must decide relevant information, materials, etc.	Collection of relevant planning materials	COS	All staff	
1.3.1 Gather higher Comd's order or plan, with graphics								These functions may occur simultaneously
1.3.2 Gather maps/charts and electronic geomatic media on the area of operations								
1.3.3 Gather SOPs								
1.3.4 Gather appropriate publications and documentation								

Commander Issues Initial Commander's Guidance

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
1.6 Comd issues initial comd's guidance	Completion of initial assessment	To issue initial direction based on initial	Time available	Comd must decide what initial guidance		Comd (may decide		Step is optional

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
		assessment		is important		not to issue)		
1.6.1 Provide guidance on how to abbreviate OPP								Step is optional
1.6.2 Provide guidance on initial time allocation								Step is optional
1.6.3 Provide guidance on liaison officers to dispatch								Step is optional
1.6.4 Provide guidance on initial reconnaissance to begin								Step is optional
1.6.5 Provide guidance on authorized movement								Step is optional
1.6.6 Provide guidance on additional tasks								Step is optional

Review Situation

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.1 Review situation		To identify boundaries of the problem	See 2.1.1.1 through 2.1.1.8			COS	All staff	
2.1.1.1 Review environmental factors						G2?		
2.1.1.2 Review political factors						G2		
2.1.1.3 Review geographic factors						G2		
2.1.1.4 Review enemy forces						G2		Functions are time
2.1.1.5 Review own forces						G3		

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.1.6 Review administrative factors						G1		dependent and based on Comd's decision
2.1.1.7 Review logistic factors						G4		
2.1.1.8 Review command and control factors						G3		

Review Higher Level Information

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.2 Review higher level information		To ensure proper interpretation of higher HQ mission, intent and guidance	See 2.1.2.1 through 2.1.2.8			COS	All staff	Staff must seek clarification immediately if there is confusion in higher level info
2.1.2.1 Review higher critical facts and assumptions								
2.1.2.2 Review higher constraints/restraints								
2.1.2.3 Consider key strengths and weaknesses (own and enemy)								
2.1.2.4 Review own & enemy higher centres of gravity								
2.1.2.5 Review tasks (assigned/implied)								
2.1.2.6 Review objectives								
2.1.2.7 Review end state								

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.2.8 Review criteria for success								

Develop Own Information

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.3 Develop own information based on higher level info		To develop info specific to mission	See 2.1.3.1 through 2.1.3.12			COS	All staff	
2.1.3.1 Consider own force capabilities and groupings						G3		Functions may be performed simultaneously
2.1.3.2 Consider own command and control structure required						G3		
2.1.3.3 Assess own risk						G1/G4		
2.1.3.4 Consider own proposed timeline						G3	All staff	
2.1.3.5 Develop own critical factors/assumptions						G3	All staff	Functions may be performed simultaneously
2.1.3.6 Develop own constraints/restraints						G3	All staff	
2.1.3.7 Develop own & enemy centres of gravity						G2/G3	All staff	
2.1.3.8 Develop own tasks (assigned/implied)						G3		
2.1.3.9 Develop own objectives						G3	All staff	
2.1.3.10 Develop own end states						G3		

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.3.11 Develop own criteria for success						G3		
2.1.3.12 Develop own battlespace effects						G3		

Prepare Mission Analysis Brief

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.5 Prepare mission analysis brief	Completion of 2.1-2.4	To allow Comd to provide direction based on mission statement To synchronize staff planning efforts	Mission statement	Must decide which concerns to address	Approved mission statement and initial Comd's intent	COS		
2.1.5.1 Summarize directives								Functions may be performed simultaneously
2.1.5.2 Summarize decisions								
2.1.5.3 Summarize initial concerns								
2.1.5.4 Describe mission as perceived by the commander								

2.1.5.5 Deliver mission analysis briefing	Mission statement	To ensure all staff members have shared vision of requirements for upcoming operation				COS	All staff	
2.1.5.6 Receive additional guidance from commander						Comd		
2.1.5.7 Finalize mission statement						Comd		

Analyze Factors and Make Deductions

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.2.1 Analyze factors & make deductions		To synthesize intelligence; determine advantages and disadvantages for each COA			Updated factors & deductions	COS	All staff	
3.2.1.1 Analyze area of operations			Physical elements such as topography, oceanography, meteorology, etc.			G2		
3.2.1.2 Analyze opposing force capabilities			Intelligence such as C2, leadership, doctrine, morale, NBCW capability, etc.			G2		

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.2.1.3 Analyze political considerations						G2	G9 - if available	
3.2.1.4 Analyze own force capabilities						G3		
3.2.1.5 Analyze time and space			Impact of timelines, weather, force readiness, etc.			G3		
3.2.1.6 Analyze command and control			Superior, subordinate and supporting formations C2 arrangements			G3		
3.2.1.7 Analyze logistics and movement						G4, G3		
3.2.1.8 Analyze rules of engagement						G3		
3.2.1.9 Analyze conflict termination						G3		
3.2.1.10 Analyze risk		To analyze risk in terms of the mission itself, force protection requirements, level of risk task force is willing to accept, risk determined by staff				G3		

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.2.1.11 Analyze assigned/implied tasks		To make deductions based on tasks derived from initiating directive and verbal/written direction given to or from Comd				G3		

Synthesize Accumulated Intelligence

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.3 Develop initial enemy COAs	Accumulated intelligence from staff analysis	To synthesize intelligence from staff analysis; Deduce enemy COAs; sets the stage for development of own COAs	Accumulated intelligence from staff analysis	Are the COAs significantly different from one another?	At a minimum, most likely and most dangerous enemy COAs	G2		Initial enemy COAs may be developed first or simultaneously with own COAs
3.3.1 Synthesize accumulated intelligence								
3.3.2 Determine advantages/disadvantages to enemy for each COA								

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.3.3 Deduce enemy COAs (most likely and most dangerous at minimum)								

Integrate and Synchronize Ideas in Terms of Principles of Joint Warfare

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.4.2 Integrate and synchronize ideas in terms of principles of joint warfare								

Viability of Own COAs

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.4.7 Test viability of own COAs	COA statement with sketches	To evaluate own COAs in a manner in which they can be easily compared			Evaluation of viability of each own COA	G2, G3, G4, G5		
3.4.7.1 Assess suitability of each COA						COS	All staff	Functions may be performed simultaneously
3.4.7.2 Assess feasibility of each COA						COS	All staff	
3.4.7.3 Assess acceptability of each COA						COS	All staff	
3.4.7.4 Assess exclusivity of each COA						COS	All staff	

3.4.7.5 Assess completeness of each COA						COS	All staff	

Compare own COAs

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.7.5 Compare own COAs		To use criteria comparison, intuitive comparison or wargaming to compare COAs for Comd				G3 / COS	G2, G2 scribe, G3, G3 scribe, G3 plans, G4, combat function reps	
3.7.5.1 Criteria comparison	Own COAs	To compare own COAs based on selected criteria		Which COA(s) to abandon and retain	Recommended own COA	G3, G2, G4, COS		Function performed only if time is too limited for wargaming
3.7.5.2 Select and create matrix comparison	Own COAs					G3	G2, G4, COS	

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.7.5.3 Intuitive comparison	Own COAs	To select most appropriate own COA based on experience of Comd and staff		Which COA(s) to abandon and retain	Recommended own COA	Comd / COS		Function performed only if time is too limited for wargaming and Comd experience is high; May be more at tactical level than operational
3.7.5.4 Wargaming	Determination of time allocation, identification of COA to be wargamed and selection of type of wargame (by COS)	To "play out" own COAs in order to evaluate each COA with respect to each enemy COA		Which COA(s) to abandon and retain	Recommended own COA	COS	All staff	Function performed only if time is not a constraint
3.7.5.5 Gather tools, materials and data						COS	All staff	
3.7.5.6 List critical events and decision points						COS	All staff	
3.7.5.7 Determine evaluation criteria						COS	All staff	

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.7.5.8 Select wargame method		To select most appropriate wargame method: the belt, the avenue-in depth or the box				COS		
3.7.5.9 Select method to record and display results						COS		
3.7.5.10 Conduct wargame and assess results		To identify COA strengths and weaknesses, confirm decisive points, refine location and timing of decision points, etc.				COS	All staff	
3.7.5.11 Identify branches and sequels		To identify opportunities for contingency and subsequent operations			Branch and sequel opportunities	G3	All staff	Depends on operational situation Decided by Comd

Decision

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
4.0 DECISION	COA comparison information	To present results of COA comparison to Comd	COA comparison information	Decision on which COA to recommend in decision brief	Decision brief, selected COA	COS	All staff	*if time is limited, the decision step can be integrated with COA development (3.0)
4.1 Review validation/comparison information								
4.2 Prepare and present decision brief	COA validation/comparison information	To present (to Comd) comparison of each COA as well as staff's recommendation for best COA				COS		
4.3 Comd selects COA	Decision brief	To identify a COA for staff to translate into a CONOPS		Must decide which COA is most appropriate to achieve mission	Selected COA	Comd/COS		

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
4.4 Concept of Operations	COA selected by Comd	To produce a formal written product to be used by lower formations and staff as a basis for further planning			Concept of operations	G3	All staff	CONOPS is a clear, concise statement of the line of action chosen by Comd in order to accomplish mission

Plan Wargame

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
5.6 Plan wargame	Approved plan	To identify time, space and synchronization issues with selected COA/plan To identify branches and sequels if required				COS	All staff	
5.6.1 Gather tools, materials and data						All staff		

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Suppor t Staff	Comments
5.6.2 List critical events and decision points				Must determine critical events and decision points to include and exclude		COS		
5.6.3 Determine evaluation criteria				Must decide on plan evaluation criteria		COS		
5.6.4 Select wargame method		To select most appropriate wargame method: the belt, the avenue-in depth or the box		Must decide on wargame method (what are they?)		COS		
5.6.5 Select method to record and display results						COS		
5.6.6 Conduct wargame and assess results		To identify plan strengths and weaknesses, confirm decisive points, refine location and timing of decision points, etc.				COS	All staff	
5.6.7 Identify branches and sequels		To identify additional resources and forces required for contingency and subsequent operations	Original mission analysis		Branch and sequel plans	G3	All staff	Depends on operational situation Decided by Comd

Plan Review

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
6.0 PLAN REVIEW	Final plan	To regularly review plan / OP Order in order to evaluate its viability	Evolving operational conditions	Must decide whether to reinitiate OPP if situation changes	Updated / new campaign plan / OPLAN / CONPLAN / OP Order	COS	All staff	Plan review is repeated until strategic and operational objectives have been accomplished
6.1 Conduct progress review of operation		To confirm relevance of plan and identify whether update action is required	Branch and sequel plans Changes in situation, new threats, etc.		Additional plans or revised original plan, if required	COS	All staff	Functions may be performed simultaneously
6.2 Conduct periodic OPLAN/CONPLAN review		To ensure that contingency operations plan remains valid	Changes in situation, new threats, etc.		Modified OPLAN/CONPLAN if required	G3	All staff	
6.3 Conduct detailed exercise / wargaming	Current plan (may have been modified)	To gain detailed knowledge on effectiveness of plan to achieve desired results To identify changes to plan that may be required	Current plan (may have been modified)	Must decide which method of wargaming is most effective in current situation	Advantages / disadvantages of current plan for current situation	COS	All staff	Costly in terms of resources

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
6.4 Reinitiate OPP as required	Changes to plan are required		Results of progress and periodic review and wargaming		Reinitiation of planning process from Orientation step	COS	All staff	If time is limited, planning process may be abbreviated
6.5 Update and issue amendments as required				Comd must determine need to seek approval for changes		COS	G3	Approval of higher authority may not be required with minor changes
6.6 Prepare and issue plans as required	Significant changes to plan are required	To issue new plans, if required, based on necessary changes		Must decide whether to reinitiate process depending on significance of changes	New plan if required	COS	All staff	Return to 6.0 and repeat plan review process

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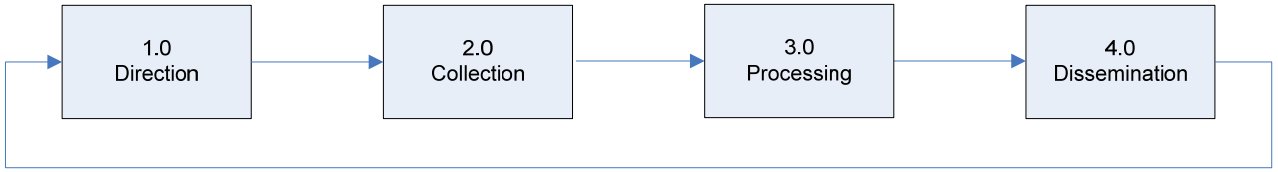
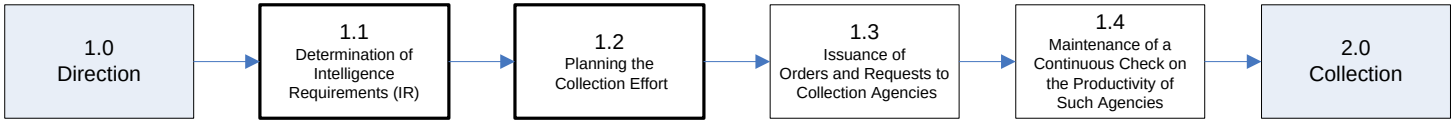
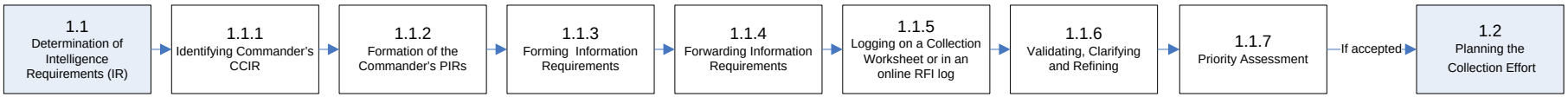
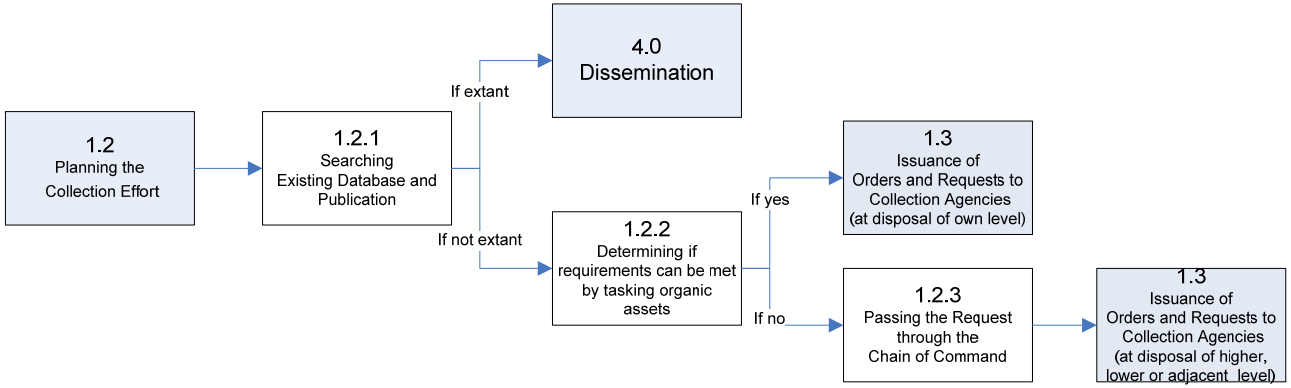
Annex C: Intelligence

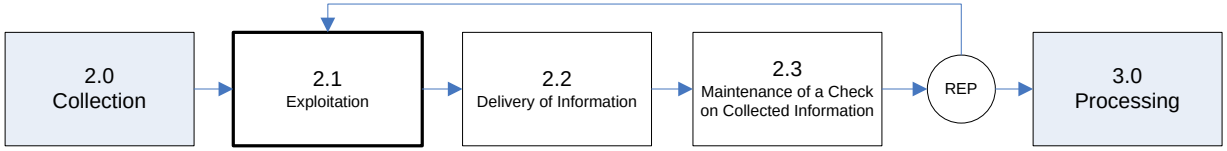
Appendix C 1
Intelligence Cycle Function Flow Diagram

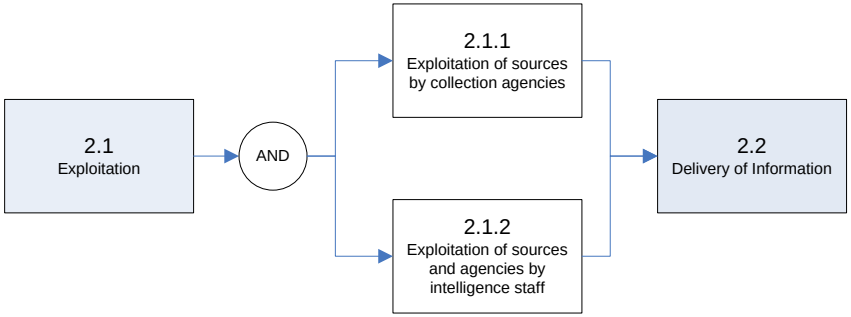


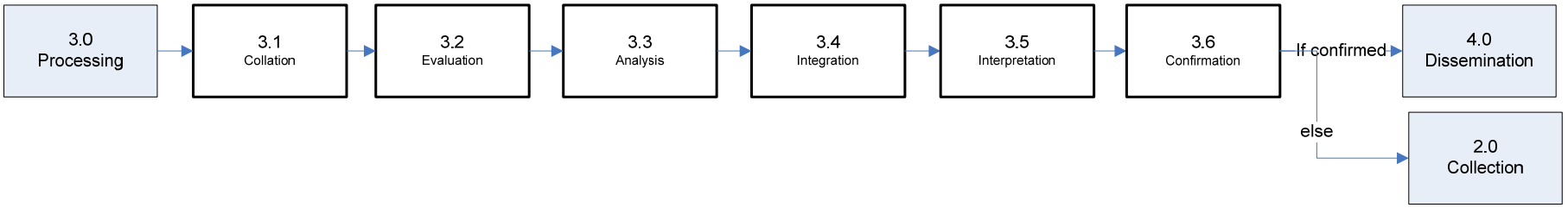


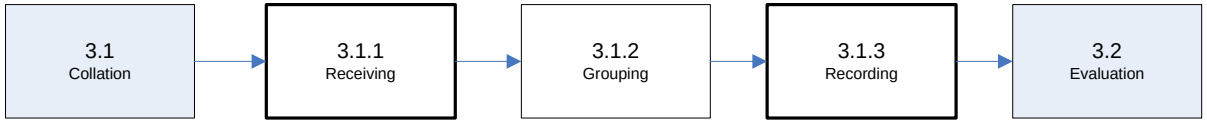


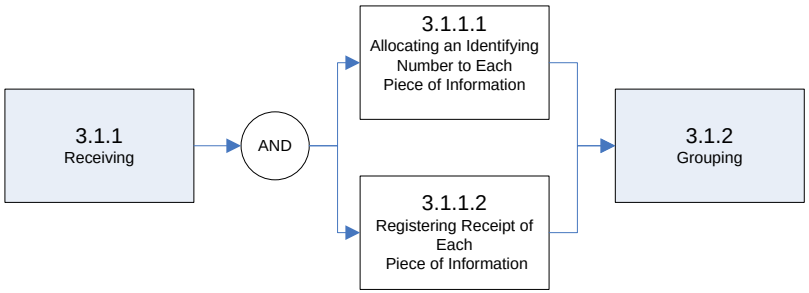

1.2
Planning the
Collection Effort
1.2.1
Searching
Existing Database and
Publication
If extant
If not extant
4.0
Dissemination
1.2.2
Determining if
requirements can be met
by tasking organic
assets
If yes
If no
1.3
Issuance of
Orders and Requests to
Collection Agencies
(at disposal of own level)
1.2.3
Passing the Request
through the
Chain of Command
1.3
Issuance of
Orders and Requests to
Collection Agencies
(at disposal of higher,
lower or adjacent level)

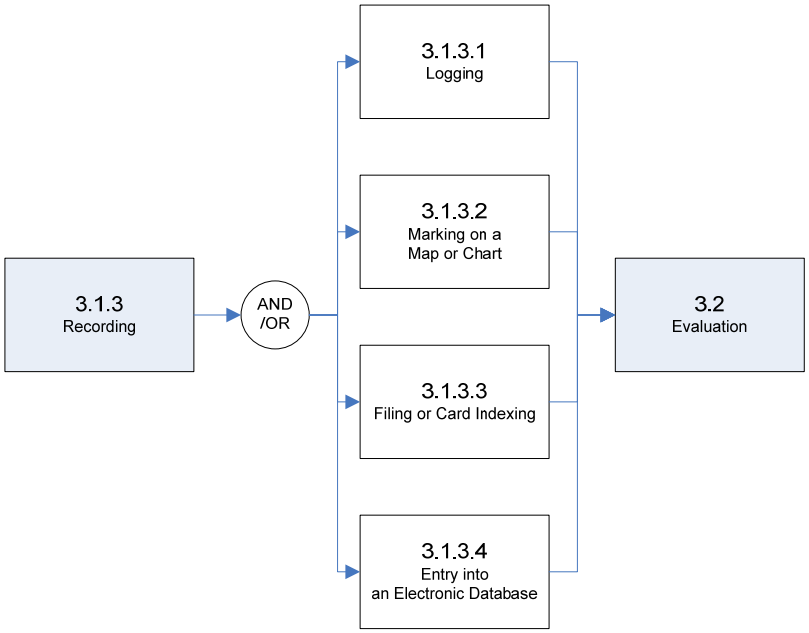

2.0
Collection
2.1
Exploitation
2.2
Delivery of Information
2.3
Maintenance of a Check
on Collected Information
REP
3.0
Processing

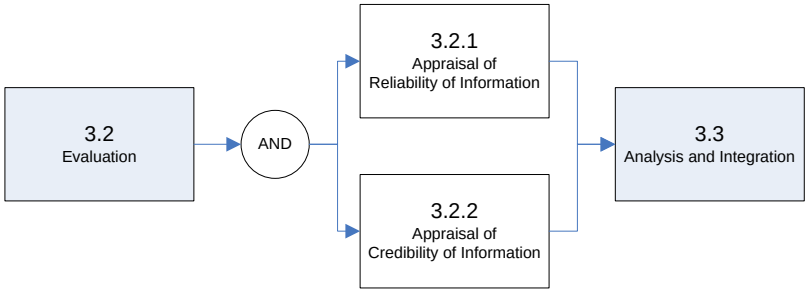

2.1
Exploitation
AND
2.1.1
Exploitation of sources by collection agencies
2.1.2
Exploitation of sources and agencies by intelligence staff
2.2
Delivery of Information

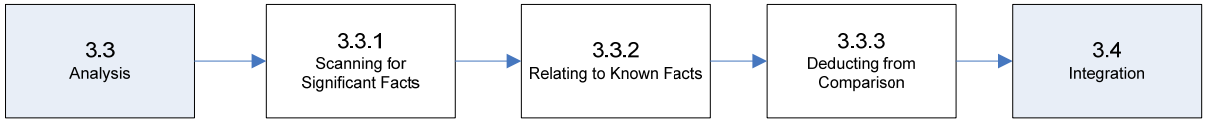

3.0
Processing
3.1
Collation
3.2
Evaluation
3.3
Analysis
3.4
Integration
3.5
Interpretation
3.6
Confirmation
If confirmed
4.0
Dissemination
else
2.0
Collection

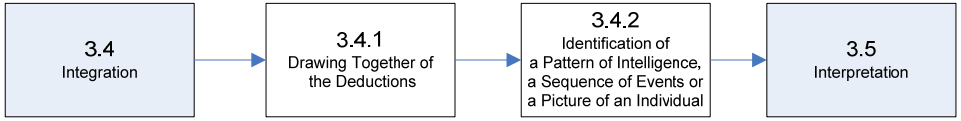

3.1
Collation
3.1.1
Receiving
3.1.2
Grouping
3.1.3
Recording
3.2
Evaluation

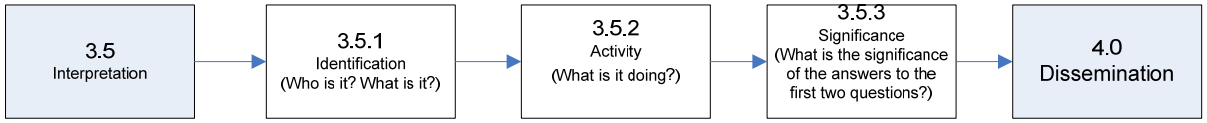

3.1.1
Receiving
AND
3.1.1.1
Allocating an Identifying Number to Each Piece of Information
3.1.1.2
Registering Receipt of Each Piece of Information
3.1.2
Grouping

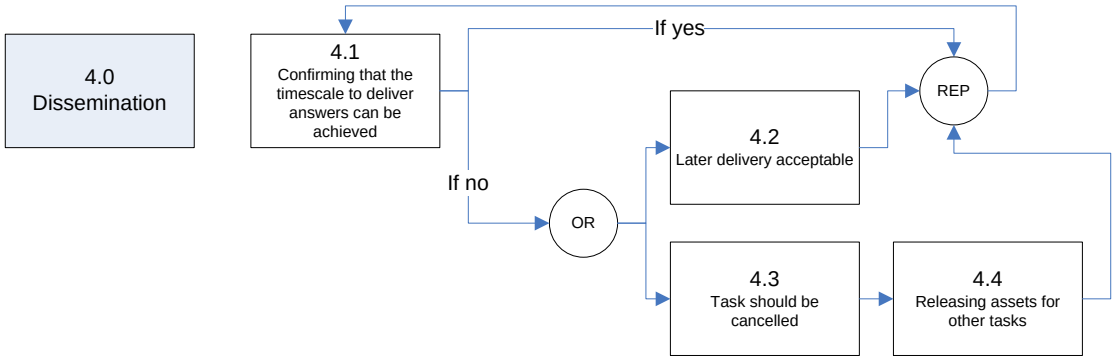

3.1.3
Recording
AND /OR
3.1.3.1
Logging
3.1.3.2
Marking on a Map or Chart
3.1.3.3
Filing or Card Indexing
3.1.3.4
Entry into an Electronic Database
3.2
Evaluation


3.2
Evaluation
AND
3.2.1
Appraisal of
Reliability of Information
3.2.2
Appraisal of
Credibility of Information
3.3
Analysis and Integration


3.3
Analysis
3.3.1
Scanning for
Significant Facts
3.3.2
Relating to Known Facts
3.3.3
Deducting from
Comparison
3.4
Integration


3.4
Integration
3.4.1
Drawing Together of
the Deductions
3.4.2
Identification of
a Pattern of Intelligence,
a Sequence of Events or
a Picture of an Individual
3.5
Interpretation


3.5
Interpretation
3.5.1
Identification
(Who is it? What is it?)
3.5.2
Activity
(What is it doing?)
3.5.3
Significance
(What is the significance
of the answers to the
first two questions?)
4.0
Dissemination


4.0
Dissemination
4.1
Confirming that the timescale to deliver answers can be achieved
If yes
If no
REP
OR
4.2
Later delivery acceptable
4.3
Task should be cancelled
4.4
Releasing assets for other tasks

Appendix C.2
Intelligence Cycle Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.0 Direction	Need for intelligence to support strategic, operational, tactical objectives. From the outset the commander will identify what information, relating to the adversary and the environment he requires to reach his decision.	- Identifying CCIR - Tasking suitable and available sources and agencies	Indicators: - alert or warning indicators; - tactical or combat indicators; - identification indicators;	- Identifying CCIR and PIR - Forming information requirements - Tasking organic or non-organic sources and agencies	Orders and requests to sources and agencies Two aspects to Direction: - Commander to Intelligence Staff; - Intelligence staff to their Sources, Agencies and Personnel.	- Commander - Intelligence Staff - Operations and Plans Staff	- Commander must have a firm understanding of the intelligence process, its strengths and its limitations. - He must have the capability to frame his intelligence requirements succinctly and to interpret the intelligence derived in response to his requirements in the context of his mission
1.1 Determination of Intelligence Requirements (IR)			- Indications and Warning (I&W) - Triggers (political, social, religious and economic)		Intelligence Requirements (IR)		A range of indicators is identified in advance of an operation and forms Information Requirements (IRs) that leads to the tasking of sources and agencies.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.1.1 Identifying Commander's Critical Information Requirements (CCIR)			Commander formulates questions to which he requires answers		Defined CCIR		
1.1.2 Formation of the Commander's Priority Intelligence requirements (PIR)		Identifying questions in CCIR which cannot be answered by simple facts and which will require information to be processed into intelligence in order to provide answers			Defined PIR		PIR are only those intelligence requirements for which a commander has an anticipated and stated priority in the task of planning and decision-making
1.1.3 Forming Information Requirements		- Ensuring no unnecessary duplication of tasking - Ensuring the most appropriate resources are used to obtain the necessary information - Monitoring the requirements of operation in process and guide the allocation of necessary resources to meet those requirements		Breaking PIR into individual information requirements (IRs) to be collected Individual IRs are processed and fused together to answer PIR.	Individual IRs		How is the PIR broken down? What is the size of an IR?

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.1.4 Forwarding Information Requirements					A copy of information requirements (IRs)	Collection Coordination and Intelligence Requirements Management (CCIRM) staffs at the customer headquarters	IRs must state: -what information is needed? - By whom? - By what time/date? - In what format? - By what means?
1.1.5 Logging on a collection Worksheet or in an online Request For Information (RFI) log						CCIRM staffs at the higher levels	
1.1.6 Validating, Clarifying, and Refining						CCIRM staffs at the higher levels	Intelligence staff must resolve discrepancies between the IRs and intelligence capabilities. (asking for clarification if not understanding IR or notifying commander immediately if can't meet IR)
1.1.7 Priority Assessment		Determine its importance and urgency	Commander's PIRs	Rejected or accepted	If rejected, customer will be informed	CCIRM staffs at the higher levels	

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.2 Planning Collection Effort	The commander's PIR have been identified.			Whether intelligence staff can meet the requirement by tasking their own assets.	IRs are converted into tasking		- Collection Coordination and Intelligence Requirements Management (CCIRM) is the methodology developed to make the collection Plan and to manage its conduct. - CCIRM function should also include the management of production and dissemination of intelligence product to users, verification of customer satisfaction, etc.
1.2.1 Searching existing database and publication		To ensure that the answer is not already extant in existing records					
1.2.2 Determining if requirements can be met by tasking organic assets					Request For Information (RFI)	CCIRM staffs at the customer headquarters	

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.2.3 Passing the request through the chain of command	Answer is not extant	To identify and task the source or agency, at higher, lower or adjacent levels, that will best provide the answer.				CCIRM staffs at the customer headquarters	Requests for intelligence support from other national agencies and from allied agencies are routed through National Defence Command Centre Security Intelligence (NDCC 2), although, once these links are established, the Joint Task Force Commander (JTFC) may liaise directly with these agencies.
1.3 Issuance of Orders and Requests to Collection Agencies			IRs			CCIRM staffs at the higher levels	The nature of the indicators that intelligence staffs select will drive the choice of sources and agencies that will be tasked to collect the information and intelligence they require.
1.4 Maintenance of a Continuous Check on the Productivities of Such Agencies							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.0 Collection	Orders and request for IRs	Collect information to meet commander's information and intelligence requirements	- IRs - Detailed capabilities of all the sources and agencies that are likely to be available to intelligence staff - Reliability and productivity of the sources and agencies that they are using.	- Selecting appropriate sources and agencies. - Selecting appropriate delivery ways of information	Information collected by sources and agencies	Intelligence staff	The Collection Plan must be seen as a continuous process in that it will task sources and agencies, and react, by re-tasking or by tasking different sources and agencies, to changes in the information and intelligence requirements. These will emerge as the operation progresses and in some cases, will result from the information and intelligence derived from the original tasking.
2.1 Exploitation		Select the appropriate source or agency for a particular collection task	Factors to be considered while selecting a source or agency: security, capability, suitability, risk, battlespace environment, multiplicity and balance				Sources and agencies can be grouped under three headings: controlled, uncontrolled and casual.
2.1.1 Exploitation of sources by collection agencies							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.1.2 Exploitation of sources and agencies by intelligence staff							
2.2 Delivery of Information	Necessary information has been collected	Be able to deliver the information or intelligence which it has collected in as short a time as possible	- Response time - Reporting time - The Latest Time Information is of Value (LTIOV)				
2.3 Maintenance of a check on collected Information		To ensure that the right information is actually being collected					

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.0 Processing	The information has been collected in response to the direction of the commander	Convert information to intelligence	- collected information - common sense - life experience - military knowledge covering both adversary and friendly forces - existing information and intelligence	- grouping information - evaluate reliability and credibility of the information - identifying significant facts - deducting from comparison - integrating and interpreting - confirmation	Intelligence in various formats and types	Fusion Center including representation from some or all of the following: Air, Aviation, EW, Reconnaissance, Special Operations Forces (SOF), Artillery, Targeting and BDA, HUMINT Organization, SIGINT Organization, CI Specialists, Single source intelligence such as MASINT, Intelligence Analysts, Open source intelligence, Representatives of other agencies for example, CSE, CSIS, CCRA, DFAIT, RCMP, DFO, Coast Guard, etc	- Processing is a structured series of actions which, although set out sequentially, may also take place concurrently. - Processing is carried out at a number of points in the information and intelligence chain. It may range from the initial processing carried out within a collection agency which usually involves nothing more than changing raw data into an intelligible form, to the processing carried out at the strategic level of intelligence which has been passed up the chain of command.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.1 Collation		A step in the processing phase of the intelligence cycle in which the grouping together of related items of information or intelligence provides a record of events and facilitates further processing	Factors affecting collation: - standardization, - common subject - headings and sub-headings - the importance of cross references (recording (entry) into the system should be cross referenced with receiving (original report) - visual presentation - urgency and speed of reaction - restriction on the volume of records - pragmatism - prioritization				At the basic levels of command, collation may involve no more than the maintenance of a log and a marked map or chart. However, as the sophistication of the headquarters increases, becoming more automated involving IT systems, visual displays, closed circuit TV briefing system, electronic database and high speed, automatic data transmission. As a basic principle, graphical displays of information and intelligence should be used whenever possible.
3.1.1 Receiving							
3.1.1.1 allocating an identifying number to each piece of information							
3.1.1.2 registering the receipt of each piece of information							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.1.2 Grouping			Must be related to the formation's Area of Intelligence Responsibility (AIR) and to the type of operations which are to be conducted. They must also be based on: a. The commander's intelligence requirements. b. The intelligence requirements of the Intelligence and Operations staffs. c. The volume of information and intelligence that is expected to pass through the system.				
3.1.3 Recording							Can recording be linked to receiving?
3.1.3.1 Logging							
3.1.3.2 Marking on a map or chart							
3.1.3.3 Filling or card indexing							
3.1.3.4 Entry into an electronic database							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.2 Evaluation	Information collated	- Provide a universally understood shorthand assessment of information. - Over a period of time, it gives an indication of the capabilities of various sources and agencies and aids the selection of those best suited for particular tasks.	- subjective judgment - experience of other information produced by the same source - Knowledge of the accuracy of the particular sensor system.	An assessment of how reliable the source is and how credible information is.	Alphanumeric rating to each piece of information or intelligence	Intelligence Evaluator	The reliability of the source and the credibility of the information, the two factors in the overall assessment of the information must be considered independently of each other. This is to ensure that the rating allocated to the reliability of the source does not influence that given to the credibility of the information, or vice versa.
3.2.1 Appraisal of reliability of information							
3.2.2 Appraisal of credibility of information							
3.3 Analysis	Collected and evaluated information	To identify significant facts for subsequent interpretation,	- Database of information and intelligence which is common throughout a level of command and which is disseminated throughout that level of command - PIRs			Intelligence Analyst, Joint staff and component staffs Intelligence and operations staffs	Informs Situation Awareness (SA)

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.3.1 Scanning for significant facts							
3.3.2 Relating to known facts			Knowing facts				
3.3.3 Deducting from comparison			Past experience Analyst's skills				
3.4 Integration		Analysed information or intelligence is selected and combined into a pattern in the course of the production of further intelligence	A wide knowledge of the adversary's tactics, equipment and organization, a depth of tactical experience on the part of the analyst and the possession and the application of large doses of common sense coupled with the ability to make reasoned deductions.				This aspect of processing is almost totally cerebral and is the critical point in the intelligence cycle where there is, as yet, no substitute for the experience and judgement of the analyst.
3.4.1 Drawing together of the deductions							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.4.2 Identification of a pattern of intelligence, a sequence of events or a picture of an individual					- a pattern of intelligence - a sequence of events - a picture of an individual		There are no rules or guidelines that can be set out to govern or assist the analyst in his task. However, in common with many other routines involving the use of personal judgement, the analyst's skills will improve with practice
3.5 Interpretation	Information that has been collated, evaluated, analysed and integrated	New information is compared with, or added to, that which is already known giving rise to fresh intelligence	- common sense - life experience - military knowledge - existing information and intelligence	the significance of information or intelligence is judged in relation to the current body of knowledge	Output: intelligence (new information)	Intelligence Analyst	the analyst must be sure that the piece of information has been wrung dry of all its possible deductions
3.5.1 Identification		To consider all the implications of the presence of that unit or piece of equipment at that particular point in time and space.		Who is it? What is it?			
3.5.2 Activity		Whether there is any change in the pattern of activity		What is it doing?			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.5.3 Significance				- What do the answers to the first two questions mean? - What is their significance? - Do they have any relevance to the combat indicators, which have been established? What is its likely role therefore? Supplement answers with the question "So what?"			
3.6 Confirmation	deductions and conclusions already made			Confirm or refute?	A requirement for further information		

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
4.0 Dissemination		The timely conveyance of intelligence, in an appropriate form and by any suitable means, to those who need it including flanking or neighbouring formation. A clear differentiation between facts and the interpretation of them. In written material interpretation should be preceded by the word "Comment." In oral communication, interpretation should be emphasized by statements such as "The conclusion to be drawn from this…" or "We believe this means that…" Reports must be as brief as possible (Visual presentations impart information quickly)		- Timeliness - Appropriateness	Dissemination formats: - verbally - in writing, - graphically - as electronic data.	- Commander - Intelligence staff - Communication staff (communication systems, electronic publishing capability)	Analyst-to-analyst exchange is a form of 'skip-echelon' support.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
4.1 Confirming that Timescale to Deliver Answers can be Achieved	Latest Time Information Is of Value (LTIOV)					CCIRM staff	
4.2 Later Delivery Acceptable							
4.3 Task Should be Cancelled							
4.4 Releasing Assets for Other Tasks						CCIRM staff, Sensor Management Cell	

Appendix C.3
Format for an Intelligence Estimate

Unit/HQ:

Place/Location:

DTG & Zone:

Maps/Charts and other documents:

1. **Review of the Situation.**
    a. Adversary Forces.
    b. Friendly Forces.
    c. Commander's Mission.
    d. Adversary's wider aims and courses.
    e. Commander's Priority Intelligence Requirements.
2. **Adversary Aim.**
3. **Factors.**
    a. Terrain (approaches, axes, routes, obstacles, effect on own/adversary forces).
    b. Adversary (disposition, equipment, activity, vulnerabilities).
    c. Relative Strengths (allocations, reinforcements, committed/reserve forces, combat effectiveness).
    d. Time and Space.
    e. Assessment of Tasks.
    f. Weather.
    g. Logistics.
    h. Local Population/Refugees.
    i. Air Situation.
    j. Deception.
    k. Security and Surprise.
    l. Personalities.
    m. Morale.
    n. Weapons of Mass Destruction.
    o. Adversary Capabilities.
4. **Summary of Deductions.**
5. **Adversary Courses of Action.**
    a. Course A

1) Advantages.

2) Disadvantages.

b. Course B

1) Advantages.

2) Disadvantages.

c. Course C

1) Advantages.

2) Disadvantages.

6. Adversary's Most Probable Course of Action.

7. Adversary's Probable Plan.

a. Mission.

b. Execution.

8. Summary of Adversary Vulnerabilities.

9. Information Requirements.

a. Gaps in knowledge.

b. Priorities for collecting/requesting intelligence.

……...…….. Signature

……....Rank and Appointment

Appendix C.4
Intelligence Annex Format

1. **SITUATION.**

    a. **General.** With this paragraph the planner should explain the aim of the Annex and provide the basic guidance on the conduct of Intelligence in support of the Operation

    b. **Military Threat.** This paragraph provides a summary of the key points of the risk/threat assessments that are normally described in detail, for each phase of the operation, in Appendix 1 (Risk Assessment)

    c. **Enemy/Adversary/Parties Course(s) of Action (COA).** Likely courses of action of the enemy/adversary or involved parties and factions are to be described in this paragraph, in order of probability, underlining, in particular, the most dangerous.

    d. **Area of Intelligence Responsibility (AIR).** The Area of Intelligence Responsibility will be designated by the superior command to meet the requirements of the mission. It will normally focus on the operational area defined to the Commander and will be limited by the capabilities of the means at his disposal to conduct the Intelligence effort.

    e. **Area of Intelligence Interest (AII).** The Commander's AII must be defined at each level of command to comprise those areas beyond the assigned AIR where factors and developments are likely to impact upon the Commanders current or future operations. It may include nations, states or factions outside the immediate operation area. Intelligence on the AII normally exceeds the capabilities of the means at disposal of the commander and is to be requested to superior and lateral commands.

2. **PRIORITY INTELLIGENCE REQUIREMENTS (PIRs)**

Critical requirements, for which the Commander has an anticipated and stated priority in his task of planning and decision-making, are to be listed in this paragraph as PIRs. They are derived from the Commander's Critical Information Requirements (CCIRs) listed by the J2 and will be approved by the Commander.

3. **INTELLIGENCE TASKS.** Within this subtitle the planner has to define:

    a. Tasks assigned to subordinate HQs/Commands.

    b. Contributions requested from supporting HQs/Commands.

4. **INTELLIGENCE STRUCTURE.** This paragraph details the intelligence organization to be employed with related systems and connectivity, with particular reference to the following:

    a. **Intelligence Systems Architecture**. Detailed instructions are provided in Appendix 2.

    b. **Collection, Co-ordination and Intelligence Requirements Management (CCIRM).** Detailed instructions are provided in Appendix 2.

    c. National Intelligence Cells (NICs).

d. **Target Intelligence (TARINT)**. Detailed instructions are provided in Appendix 4.

e. **Human Intelligence (HUMINT).** Detailed instructions are provided in Appendix 5.

f. **Imagery Intelligence (IMINT).** Detailed instructions are provided in Appendix 6.

g. Signals Intelligence (SIGINT). Detailed instructions are provided in Appendix 7.

5. COUNTER INTELLIGENCE AND SECURITY (CI & Sy). This paragraph must address the significant CI & Sy requirements. The full details are contained in Appendices 8 and 9.

6. COMMUNICATIONS REQUIREMENTS.

a. **Use of Hardware and Software.** This paragraph provides guidance on the employment of Hardware and Software, based on the equipment that can be provided by the participating nations and organizations.

b. **Secure Communications.** This paragraph lists the secure communications that are required, as a minimum, and the level down to which they are to be established, it must contain a clear reference for coordination instructions provided in the CIS Annex (Q).

7. **REPORTS AND DISTRIBUTION.** Reporting and distribution advice will be laid out in Annex CC of the respective COP/OPLAN/OPORDER. However, the reports are to be completed in accordance with the Bi-SC Reporting Directive and/or supplementary directives. For NATO operations the following reports are mandatory:

a. The Intelligence Summary (INTSUM)

b. The Intelligence Report (INTREP)

c. The Counter-Intelligence Summary (CI-INTSUM)

d. The Counter-Intelligence Report (CI-INTREP)

e. Target Status Assessment Report (TSAREP)

8. OTHER INSTRUCTIONS.

a. **Documents.** The appropriate national and NATO references for Intelligence Operations should be available.

b. **Intelligence Staff.** If required, this section defines any constraints for the manning of the intelligence staff.

c. **Geographic Support.** This paragraph should provide basic indications of the geographic support information required to complete, from the Intelligence perspective, Annex T, Environmental Support.

d. **Maritime Intelligence.** If required by the operation, this paragraph should contain appropriate instructions that can be amplified by an Appendix 10.

e. **Release/Exchange of Information/Intelligence with non-NATO Contributors.** This paragraph should provide instructions on the release exchange of information/intelligence. These instructions must be based on the pre-operations

policy decisions taken by the NATO Military Committee, after agreement with nations on a case by case basis, and comply with Reference I.

f. Measures for the intelligence exploitation of PWs, captured documents, and captured equipment including associated technical documents.

APPENDICES:

1. Risk Assessment
2. Intelligence Systems Architecture and CCIRM
3. Global Geospatial Information and Services
4. Target Intelligence
5. Human Intelligence
6. Imagery Intelligence
7. Signals Intelligence
8. Security
9. Counter-Intelligence
10. Maritime Intelligence

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Annex D:
CF Operations

Appendix D.1
Campaign Planning (OPP) Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.0 Campaign Planning		Develop a campaign plan, i.e. a series of related plans or orders aimed at accomplishing a strategic or operational objective within a given time and space.	Doctrine B-GJ-005-500/FP-000, CF Operational Planning Process.				Greater detail on campaign planning is found in doctrine B-GJ-005-500/FP-000, CF Operational Planning Process.
1.1 Operational Planning Process (OPP)		- Develop/Issue plans to achieve an assigned mission and produce a desired end-state.			Plans(draft, advance, and final) include: - Operations Order (OP O) or OPLAN. - Contingency Operations Plan (CONPLAN) - Standing Defence Plan (SDP) - Supporting Plan (SUPLAN) - Campaign Plan	CDS, DCDS, TFC	- OPP mirrors NATO Bi-SC Guidance on Operational Planning.
1.1.1 Initiation							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
1.1.2 Orientation							
1.1.3 Course of Action (COA) Development							
1.1.4 Plan Development							
1.1.5 Plan Review							

Appendix D.2
Lessons Learned Process Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.0 Lessons Learned Process		- Improve the CF's ability to plan and conduct operations by capturing lessons learned at the strategic military level; when directed at the operational level.				- J7 (Joint Training) LL Staff - Sectioned within the DG Joint Force Development / DCDS Gp at NDHQ, in coordination with, - Joint and environmental staffs	
2.1 Data Collection		- Collect lessons learned data relating to military strategic-level planning, mounting, deployment, employment and redeployment issues;					

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.1.1 Develop data collection plan		- Collect information from all appropriate sources	Appropriate sources may include: - TFC's report - J Staff and TF questionnaires; - Situation Reports (SITREPs); - Notes collected by J7 LL staff from: meetings, operational briefings, discussions and mission de-briefs.	- Determine appropriate sources of information to collect.		J7 LL Staff	- Primary method of collecting data is via questionnaires which are fine-tuned and modified to suit each situation. The actual form and content of these questionnaires are not outlined in this doctrine. Also, this doctrine does not provide any reference to where such information may be found.
2.2 Analysis		- Aggregate and analyse the data to extract issues for further detailed staffing within the joint and environmental staffs.			Lessons Learned Staff Action Proposal	J7 LL Staff, J Staff agencies and commanders.	

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.2.1 Aggregate Information into key issues		- Aggregate information into a number of key issues.			Key Issues	J7 LL Staff	No further detail is provided within CFOPS doctrine which outlines how information aggregation is carried out in this context.
2.2.2 Research/propose permanent solutions to those issues.		- Research each key issue. - Propose permanent solutions for each key issue.		- Propose Offices of Primary Interest (OPIs) and their assisting Offices of Co-lateral Interest (OCIs) from within the J Staff who will be responsible for those issues through the follow-on action step.	Lessons Learned Staff Action Proposal	J7 LL Staff , J Staff agencies and commanders	

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.3 Validation	Lessons Learned Staff Action Proposal is submitted to all participants.	- Each participant reviews and validates the proposal's content. - Use comments regarding proposal's content to prepare Lessons Learned Staff Action Directive.		Validate proposal's content: - Does the proposal provide correct and clear descriptions of key issues? - Does the proposal provide accurate information? - Are the proposal's recommendations pertinent? - Are OPIs appropriate?	Lessons Learned Staff Action Directive.	- J7 LL Staff Participants include: - Contingent; - Environmental Staffs; - Operational HQ Staffs; - J Staff	
2.3.1 Review/validate Lessons Learned Staff Action Proposal		- Each participant reviews and validates the proposal's content.			Comments on proposal's contents		
2.3.2 Develop Lessons Learned Staff Action Directive.	Comments	- Use comments to prepare Lessons Learned Staff Action Directive.			Lessons Learned Staff Action Directive.		

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.4 Follow-on Action	The Lessons Learned Staff Action Directive is sent, under the authority of the DCDS (J3), to previously identified OPIs responsible for coordinating the staff action required to address the key issues.	- J7 LL section monitors the progress of action to implement the Action Plan through quarterly progress reports provided by OPIs. - OPIs produce quarterly progress reports.	The Lessons Learned Staff Action Directive: comprises an Action Plan which lists the validated solutions determined in functions 2.2 and 2.3.	- Target dates are agreed and assigned under the authority of the DCDS.	- OPIs produce quarterly Progress Reports. - J7 LL section publishes semi-annual status reports in March and September.	- DCDS (J3; Joint Operations) Staff - J7 LL Staff - OPIs	
2.4.1 Create Progress Report for each key issue.		- Format the progress report in accordance to the following areas: Issue statement, description, source, follow-on action, and status of follow-on action.			OPIs		
2.4.1.1 Issue a clear statement of the key issue.			Statement formulated from: - Data collection function 2.1 - Analysis function 2.2				

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
2.4.1.2 Provide a description of depth/scope for each key issue.							
2.4.1.3 Define source of information							
2.4.1.4 Follow-on Action		- Draft directive follow-on action statements which define requisite action items to solve a particular problem and the OPI responsible for coordinating that action.		Define requisite action items		OPIs	
2.4.1 Status of Follow-on Action Implementation		- Draft statements which correspond directly to the Follow-on Action statements.			Updates provided by the OPI to J7 LL staff		
2.5 Lessons Learned		- Complete follow-on action, i.e. all action items; - Change doctrine, procedures and equipment to reflect follow-on action.	All action items				

Appendix D.3
Intelligence Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.0 The Intelligence Cycle (IC)			For more detailed information see B-GJ-005-200/FP-000, Joint Intelligence Doctrine.				The IC Describes activities whereby information is collected, collated, fused and converted into intelligence and made available to users. For more detailed information see B-GJ-005-200/FP-000, Joint Intelligence Doctrine.
3.1 Direction		- Determine intelligence requirements, and - Provide direction to intelligence staff.		- What needs to be known and by when.		Commanders	The form of that direction is not detailed.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.2 Collection	Intelligence requirements are known.	- Directed collection of information. - Exploit sources to collect information - Keep collection agencies aware of the operational situation, importance to relay information and responsibility to inform their tasking authority if unable to carry out assigned tasks.	- Existing databases.			- Intelligence staffs - Collection agencies	
3.3 Processing							A five-step sequence that converts information into intelligence.
3.3.1 Collation	Incoming information	- Register, record and sort incoming information into related groupings to facilitate systematic processing.					This would be a link whereby products outlined in other doctrine enters the Intelligence Cycle.
3.3.2 Evaluation		- Determine the reliability of a source. - Determine the credibility of the information provided.					

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
3.3.3 Analysis		- Identify salient facts from information received; - Draw conclusions based on those facts.					
3.3.4 Integration		- Develop an overall pattern of knowledge from the sum of analysed information.					This doctrine does not detail how to develop an overall pattern of knowledge.
3.3.5 Interpretation		- Assess what the processed information means.					
3.4 Dissemination		- In a timely manner, disseminate intelligence in appropriate formats to those who need it by any suitable means.		- Intelligence products must be disseminated with the following principles in mind: clarity, brevity, regularity, standard terminology, appropriate security and	Intelligence in appropriate formats.	Intelligence staff	No further detail is provided on the characteristics of those appropriate formats, nor who those people are.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
4.0 The Intelligence Estimate		- Use an adversary's point of view to formulate an intelligence estimate. - Base considerations on the best available intelligence;		:	An intelligence estimate: an analysis of available intelligence to a specific situation or condition.	Intelligence staff	- CFOPS does not sufficiently detail how the required information is aggregated to form an intelligence estimate. - Regarding the format of an intelligence estimate; see B-GJ-055-200/FP-000, Joint Intelligence Doctrine, Chapter 4, Annex A. - Outputs or products relate to CFOPP function Course of Action Development, for an adversary.
4.1 Consider factors/assessments							
4.1.1 Consider current situation							
4.1.2 Consider mission goals							
4.1.3 Consider adversary's situation, activities, and capabilities;							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
4.1.4 Consider terrain, waters and weather.							
4.1.5 Consider political and economic situation as they impact the adversary's operations.							
4.1.6 Consider assessment of adversary's Centre of Gravity.							
4.1.7 Consider the adversary's high value targets (key assets which are mission critical).							
5.0 Intelligence Planning			See B-GJ-055-200/FP-000, Joint Intelligence Doctrine, Chapter 4, Annex B for the Intelligence Annex format.		Intelligence Plan	Intelligence staff	The intelligence plan is generally provided as an Annex to the TFC's plan. This probably links with CFOPP function (5.0) Plan Development.

Appendix D.4
C4ISR Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Comments
6.0 C4ISR		- Ultimately, Command & Control, Communications, Computing, Intelligence, Surveillance & Reconnaissance (C4ISR) is about how the people, processes and equipment are integrated to deliver effective and synergistic C4ISR support to command. - Manifest a system of systems (C4ISR) which integrates and synchronizes the collection and synthesis of information from sensors, information handling processes and databases, to support collaborative planning efforts, and to allow a decentralized operations based on					- Crucial to the success of the C4ISR effort will be the convergence of supporting technology to enable the collection and synthesis of information. To this end, operational networks and information systems are to converge on the classified domain at the secret level. - How IAAs, e.g. the synthesis of information/data fusion, are performed within the context of C4ISR is not detailed within CFOPS doctrine (unclassified). - Future work: C4ISR should be

		mission-oriented orders from commanders.					the spine from which this project stems; apply CWA approach.

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Annex E:
Non-Combatant Evacuation Operations

Appendix E.1
Non-Combatant Evacuation Operations Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
1.0 Processing		Processing, collection, collation and dissemination of information Processing - timely, efficient and tailored to the situation		For each evacuee, confirm identify and eligibility for evacuation, assign a priority for transfer and movement and allocate to an evacuation stream Inform and facilitate the handling and movement functions – classification of evacuees, production of nominal rolls, provision of special information handling, tracing of groups and individuals Provide evacuee to information to	Information relating to the custody, status, condition, location and expected movements of evacuees Evacuation Plan			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
				the command element in order to meet all other information requirements of the evacuation				
1.1 Screening		Admit to or eliminate from the evacuation chain each person who seeks entry into it			Assign potential evacuees into 2 groups: General Stream: identity and eligibility confirmed, do not pose a threat Special Stream: identity and eligibility confirmed, assessed as posing a threat Identify and collect initial information on ineligible participants			Commence at assembly point and completed at evacuation center
1.1.1 Identification, Eligibility and				Potential evacuees identity and	Evacuee is classified to assign priority			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
Priority (IEP)				eligibility for evacuation is confirmed	for transfer and movement			
1.1.2 Security			Prior knowledge of the individual (i.e. criminal record) and indications at the time of screening	Identify individuals who may pose a threat to the safety of other evacuees and members of the evacuation organization				
1.1.3 Medical				Identify individuals who are sick or have medical conditions that may pose a threat				
1.2 Detailed Processing	Conducted for evacuees who have been screened and admitted into the chain							Occurs at the evacuation center
1.2.1 Health				Identify health conditions or problems that require immediate or eventual attention during the evacuation process	Specific medical treatment, avoidance of certain activities or stresses, or special diets			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
					Identify follow-on requirements			
1.2.2 Handling				Identify conditions or problems that require special provisions during the evacuation	Identify evacuees with limited mobility, limited sight and hearing, parents with young children. Arrangements can be made			
1.2.3 Welfare				Identify conditions or problems related to an evacuees personal circumstances beyond his or her immediate situation in the chain Process claims and complaints	Issues such as family and home in Canada, property in host nation, swift return to host nation			
1.2.4 Debriefing				Interview of all or selected evacuees	Information concerning the host nation			
1.2.4.1					Last known whereabouts			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
Immediate					of unaccounted evacuees, conditions in the area			
1.2.4.2 General					Evacuee's knowledge and experiences of host nation Useful perspectives on the general situation			
2.0 Evacuation Plan			Estimated number of evacuees Time available to effect evacuation Manning and skill levels of the processing organization Risk of infiltration into the chain of ineligible participants Threat levels and consequent degree of urgency in removing evacuees	Relevant Questions: When and where will processing take place? What processing will take place? (i.e. degree of detail)				

Appendix E.2
Canadian Standard Question List

1.0 SITUATION

Environment

1. Will this be a permissive, uncertain or hostile NEO? If the crisis is a natural disaster, what conditions threaten the evacuees and the conduct of evacuation operations? If the evacuation is permissive, is obstruction or interference expected? If so, will this be undertaken by unorganized individuals and crowds, or by organized groups? What form will it take: passive resistance or other forms of civil disobedience, physical intimidation? If the evacuation is uncertain or hostile, what form will hostile actions against evacuees or CF elements take, and by whom will it be taken? What is the likelihood of transition, that is, from permissive to hostile, or *vice-versa*?
2. What is the current situation in the host nation: In the area of the embassy or high commission? Near concentrations of host nation (HN) citizens?
3. What concurrent operations are presently underway in the host nation? What is the Canadian involvement in these? What is the relationship of Canadian elements in a concurrent operation to the embassy or high commission?

Host Nation Elements

4. What cultural nuances and customs should be known by the CF Task Force (TF) to avoid friction and confrontation with the local populace?
5. Who are the key host nation country personnel and what are their attitudes towards the evacuation?
6. Where are host nation military forces and facilities?
7. Where are host nation police forces and facilities?
8. Where are host nation fire and emergency services and facilities?
9. Where are host nation hospitals and other health services and facilities?
10. What host nation administrative support is expected to be available and to what degree? Ground transport? Feeding and water? Utilities, buildings and works? Amenities? Labour?

Canadian and Other Evacuation Activities and Operations

11. What form will the Canadian response in the host nation take? Department of Foreign Affairs and International Trade (DFAIT)-conducted with assistance from other Government departments (OGD), including the Department of National Defence (DND) and Canadian Forces (CF)? Inter-Governmental Department (IGD) task organization in the host nation, including CF assistance? DFAIT evacuation with a CF NEO? What role is anticipated for commercial carriers (sea, land, air)?
12. What is the anticipated CF role: provision of limited assistance or a formal NEO?
13. What actions are other states taking with respect to their nationals? Will other national forces be operating in the area? What is the prospect for multi-national operations, ranging

from separate but coordinated operations to formal combined operations? If multiple evacuations remain national and separate, what arrangements are in place or are required to affect co-ordination, particularly de-confliction?

2.0 CF NEO

1. How soon is the employment phase of the NEO anticipated?
2. What preparatory operations are anticipated? Supporting operations?
3. What other tasks are anticipated in addition to the evacuation? Consular protection? VIP close protection? Hostage rescue?
4. What is the chain-of-command for the CF TF?
5. What is the relationship of the CF TF to CF elements in related operations?

3.0 THE EMBASSY OR HIGH COMMISSION

1. What is the status and nature of Canadian consular representation in the host nation? Is the ambassador or high commissioner resident in the host nation? If not, who is accredited to represent the Canadian Government and what powers or authority does the resident representative normally possess or had had delegated from the accredited ambassador or high commissioner?
2. Who is the senior Canadian Government official in charge of the overall evacuation operation? What is the diplomatic chain-of-command? What channels of communication does that official possess, including those with other embassies and diplomatic missions, and the host nation government? What is the relationship with the Joint Task Force Commander (JTFC)?
3. Who is the in-country official with the authority to initiate the evacuation operation? Who will give the TF permission to complete the evacuation and to leave the area of operations (AO)? Who are the alternative authorities and what arrangements are in place or required to make them effective?
4. Does the embassy or high commission have a Consular Emergency Contingency Plan (CONPLAN)? Is it up to date?
5. Does the embassy or high commission maintain a Register of Canadians Abroad (ROCA)? Is it up to date?
6. Does the embassy or high commission operate a warden system?
7. Is there an information and notification dissemination system in place in the host nation for Canadian Entitled Personnel (CEPs)? What type (for example, Internet, telephone answering service, information desk, broadcast)?
8. Who is the primary point-of-contact within the embassy or high commission to work with the CF TF force on details of the operation? What other channels-of-communication and direct liaison (DIRLAUTH) are authorized?
9. Is there a Personnel Safety Contingency Plan for the embassy or high commission? Will all officials be departing? If not, who will remain? What action should be taken if an embassy

or high commission official refuses evacuation? What is the plan for non-diplomatic employees, particularly those who are host nation nationals?

10. Is there any sensitive information or materiel that will need to be evacuated or destroyed? What special access and custody restrictions apply in either case (for example, special clearances)?

4.0 EVACUATION CHAIN

1. What is the total number of Canadian national evacuees to be evacuated? Number of VIPs, sensitive cases, or unaccompanied children.
2. What is the total number of designated third nation nationals to be evacuated? Number of VIPs, sensitive cases, or unaccompanied children.
3. What action should be taken concerning Canadian evacuees not on the list for evacuation but who meet the criteria of CEPs? What action should be taken for third nation nationals not on the list for evacuation but who meet the criteria of designated evacuees?
4. Is there an estimate of the number of non-entitled persons who may seek evacuation?
5. What is the policy regarding the evacuation of host nation dependents and household members of eligible evacuees?
6. Have the primary and alternate evacuation facilities and routes been verified and surveyed?
7. What is the present notification stage?
8. What will be the handover procedure when evacuees arrive at the Disembarkation Site (DS)? Who will assume custody of the evacuees at the DS?

5.0 COMMAND & CONTROL/COMMAND SUPPORT

1. Does the CF TF have permission to drop sensors and insert special operations forces?
2. Does the CF TF have permission to insert a Forward Command Element (FCE) and other advanced party elements? Do any special restrictions apply to these elements (for example, no wearing of uniform, limitations on movement)?

Communications

3. What information will the HOM require from the TFC and what information does the TFC require from the HOM to facilitate planning and execution of the NEO?
4. What communications and information systems support will be available from the embassy or high commission? How will the communications architecture be set up to support the operation (for example, networks, frequencies, secure equipment availability, relays)?
5. Does the ambassador or high commissioner and staff require specialist military advisors or resources? In particular, what are the embassy or high commission's requirements for command support expertise and resources (for example, national rear link communications, communication with evacuation facilities)?

Intelligence

6. What non-routine sources are available to provide intelligence and information on all aspects of the host nation and area of operations (AO)? Are there Canadian Government officials, CF members or Canadian civilians available who have recently visited the host nation?
7. What intelligence support is required by other nations conducting evacuations?
8. Is there a requirement to question evacuees to obtain information related to conditions and unaccounted evacuees?

6.0 RULES OF ENGAGEMENT

1. What are the rules-of-engagement of HN security forces assigned to protect the evacuation? Of other national forces conducting national evacuation operations?

7.0 LEGAL

1. What will be the status of Canadian forces in the host nation? Is a Status of Forces Agreement (SOFA) in force between Canada and the HN? If not, what legal device will provide for the status of Canadian forces in the host nation?
2. Are there procedures to handle claims against members of the CF TF?
3. Are there procedures to handle claims against CEPs being evacuated?
4. What action should be taken if a non-eligible person asks for political asylum? Non-host nation national? HN national?
5. What arrangement will be made for host nation or other ineligible persons who seek protection at Canadian evacuation facilities? Will there be containment areas? Is there a local evacuation plan to remove such persons from the immediate area to a place of safety? To whom can they be handed over?

8.0 PUBLIC AFFAIRS

1. What is the Canadian Government's public affairs (PA) direction for this operation? What is DFAIT's PA strategy? What are the CF messages for this operation?
2. Will the host nation's media support the NEO? If so, what coordination has taken place? What degree of coordination can be established between CF PA, HN media and Canadian media?
3. Is it intended to provide support from the CF TF to Canadian media (that is, access to communications link, provision of transport, etc)?
4. Will Canadian media representatives be evacuated?
5. Are there restricted access areas that exclude media representatives?
6. Will PA support be required at AP/EC/ES/DS?

9.0 CIVIL-MILITARY CO-OPERATION

1. What role will CIMIC play in the evacuation?

2. Will interpreter support be available from the host nation or the embassy or high commission?

10.0 SECURITY

1. Will the HN government be providing any security for evacuation facilities? If so, what are the details of such security (for example, location, time, description of security)?
2. QUESTION 2 NOT LISTED IN DOCTRINE.
3. What is the legal status of CF personnel *vis à vis* evacuees? Of CF personnel in general? Of security and military police (SAMP) in particular?
4. Will it be necessary to search the baggage and personal property of all evacuees for weapons and explosives?
5. What will constitute "contraband" among evacuee personal effects and baggage? What action will be taken concerning confiscation and disposition of contraband?
6. What is the policy regarding bomb, sniper and similar threats and immediate action drills for evacuees in the evacuation chain? Who will provide explosive ordnance disposal (EOD) capability?
7. What discipline problems are expected from the evacuees? Who are the potential troublemakers? What action should be taken if there is an outbreak of violence among evacuees?
8. What arrangements are required to deal with criminal activity among evacuees in the course of the evacuation (for example, threats and intimidation, black market dealing)?
9. What is the policy concerning evacuees with contraband and the disposition of that contraband?
10. Who will be available to physically search females?
11. What is the policy for detaining host nation or third nation persons who penetrate the evacuation chain with a view to harming evacuees or otherwise disrupting the evacuation?
12. Is special support required to ensure that the initial screening process filters out undesirable persons such as criminals, subversives and opportunists (for example, Royal Canadian Mounted Police, Canadian Security and Intelligence Service, Citizenship and Immigration Canada)?
13. Will security personnel be permitted to have weapons, non-lethal weapons and ammunition? If not, is there a plan to deliver such weapons and ammunition if required?
14. Is a general security operation required with a dedicated element to defend evacuation facilities, secure vital points on which the evacuation chain is dependent and provide a quick-reaction force?

11.0 MARSHALLING

1. Will search parties be required to seek out and recover evacuees not yet in the evacuation chain?

2. What is the action if someone refuses evacuation?

12.0 PROCESSING

1. What proof of citizenship is acceptable in establishing evacuee eligibility?
2. Who will conduct the initial screening to determine eligibility? DFAIT or CF? DFAIT with CF support?
3. Is a detailed processing instruction in effect? Does the embassy or high commission or the CF TF have all the required documents and equipment?
4. Who will conduct processing in general? Are there evacuees who can assist in processing (for example, wardens)?
5. Can detailed processing be postponed until evacuees are embarked?
6. Is a list of evacuees available?
7. Will the embassy or high commission be able to assign evacuation priorities before they schedule evacuation?
8. Are there any changes in the standard priorities for evacuation?
9. What is the policy concerning a listed mandatory evacuee refusing evacuation? A discretionary evacuee?
10. What is the policy concerning seriously ill, injured and wounded evacuees? Will they be given precedence over all other evacuees?
11. Will animals (pets) be transported?

13.0 HANDLING

1. What Is The General Physical Condition Of Evacuees?
2. What essential administrative support is required to support evacuees – location, time, and quantity: accommodation, feeding (including special diet requirements), water, transport, health services, and amenities?
3. Do any special health threats exist, for example, biological or chemical? Are protective inoculation, gear and/or apparatus required?
4. What arrangements are required to handle evacuees with special needs (for example, non ambulatory, limited mobility)?
5. Is psychological and emotional support required (for example, stress counseling, chaplain services)?

14.0 MOVEMENT

1. Will host national terminals be functioning? Will the CF TF be required to conduct expedient terminal operations in addition to passenger movement functions?
2. What transportation means – CF and civilian -- are available? What is the capacity rate for each? What is the sortie rate for any aircraft?

3. Is aeromedical evacuation required?
4. If transfer of animals is permitted what special requirements are needed? Have restrictions concerning animals been identified at the safe haven location?

15.0 ADMINISTRATION

1. What are the service support requirements of the evacuation chain? What are the personal needs of both the evacuation organization personnel and the evacuees (for example, accommodation, feeding, water, medical support, hygiene &sanitation)? What are the materiel requirements (for example, buildings and works repair and/or improvement)? Transport requirements within the host nation?
2. In the event of an evacuee death, what is the policy for disposition of the remains?

Note: These questions should form the basis of the Commander's Critical Information Requirements.

Appendix E.3
Sample Diplomatic Mission Task Force Link Up Checklist (Pg.4B-1)

This checklist is intended for use by the diplomatic mission as a means of gathering key information essential to the task force commander (TFC) and staff during early link-up and planning.

1.0 KEY QUESTIONS

1. Names, titles and description of duties of key officials in the diplomatic mission. Name, title and contact information of the Canadian official in charge of the evacuation.
2. Canadian officials remaining behind: (attach list with names, means of contact).
3. Diplomatic mission officials available to assist in the processing and evacuation: (attach list, including name, probable location, means of identification, means of contact, probable function).
4. Where and at how many stations will the military be conducting screening and/or detailed processing of evacuees? Who will assist the military?
5. Is the environment permissive, uncertain, or hostile?
6. Perimeter security requirements (state them). Assembly Points (APs), Evacuation Centres (ECs) and Embarkation Sites (ES) (state them).
7. What security will the HN government or controlling authority provide?
8. Are alternate AP/EC/ES sites available if required?
9. Where is the diplomatic mission's contingency plan (CONPLAN) and supporting documentation for an evacuation operation held and who has custody of them?
10. Could unauthorized persons forcibly attempt to join the evacuation? If so, what action does the diplomatic mission recommend?
11. What action does the diplomatic mission propose if someone asks for political asylum?
12. Will the diplomatic mission's officer-in-charge vouch for the baggage of personal property of all or some evacuees or should a search for weapons and explosives be conducted?
13. Does the diplomatic mission want the military to physically search those evacuees the diplomatic mission cannot vouch for?
14. If it becomes necessary to physically search a woman, who can conduct the search?
15. If the evacuation priority is different than stated in the diplomatic mission's CONPLAN, what is the modified priority?
16. Will food be required? (State total meals required.)
17. Is potable water available? (State quantity of bottled water available.)
18. Does the diplomatic mission anticipate there will be Canadians who refuse evacuation?
19. What is the diplomatic mission's policy on evacuees taking pets? If pets are allowed to be transported, have requirements such as customs and quarantine restrictions been considered

to ensure the pets will be allowed into the safe haven? If pets are not allowed to travel, what will happen to the pets evacuees bring with them to the EC?

20. Does the diplomatic mission anticipate that military personnel will be needed to search for missing evacuees? If so, in which areas are evacuees likely to be located. (Give telephone numbers and/or radio call sign frequencies, if known.)
21. Would a search party meet armed resistance?
22. Will the diplomatic mission require assistance to destroy sensitive materials and/or equipment?
23. What portable communications devices (categorized as mobile telephones and radios) are available to assist in the assembly, transfer, and control of evacuees? (State in terms of how many sets and, for radios, frequency ranges.)
24. Who will prepare evacuee rolls and evacuee passenger manifests? The diplomatic mission? The military? (State identity.)
25. What details are known about the following:
    a. travel restrictions, curfews, and road blocks;
    b. local security forces activities;
    c. political or security factors affecting evacuation;
    d. public information considerations; and
    e. Canadian media in the host nation.
26. If interpreters are required, can the diplomatic mission provide them?
27. Is the diplomatic mission prepared to provide copies of the CONPLAN, particularly details of the evacuation plan, communications annex, service annexes (that is, supplies, transportation, medical, etc.), evacuation reference materials (for example, imagery, maps), and all information related to potential evacuee numbers, categories and priorities, and identity and residence?
28. How many evacuees are:
    a. wounded, injured, or ill – litter cases;
    b. wounded, injured, or ill – ambulatory; and
    c. pregnant?
29. What medical assistance (including special equipment) will be required?
30. What is the breakdown of evacuees by age and sex?

SEX	0-7 YEARS	8-16 YEARS	17-20 YEARS	21+ YEARS
Male				
Female				

31. Will doctor(s) and nurse(s) be among the evacuees?
32. Will any influential religious or community leaders be among the evacuees?

33. What is the weight and volume of any sensitive materials or equipment requiring evacuation?
34. Will sufficient public affairs (PA) staff be available to the TF to assist with media and CF requirements in the host nation (HN) during the NEO?

2.0 KEY INFORMATION

1. The diplomatic mission should be prepared to provide an intelligence estimate of the local situation and HN military status. In addition, the following information should be fully prepared in advance of an evacuation.

Evacuation Facility (AP, EC, ES):

1. Date this information was prepared.
2. Type and designation of evacuation facility.
3. Location –

	CIVIC ADDRESS	UTM GRID REFERENCE	LATITUDE - LONGITUDE (GPS)	REFERENCE POINTS
Primary Site				
Alternate Site				

4. Size and estimated capacity.
5. Shelter. (Describe enclosures, such as a building. For a building, describe heating and ventilation characteristics.)
6. Feeding –
    a. cooking facilities;
    b. food stocks (estimate person/days on hand);
    c. water (estimate person/days on hand).
7. Latrine and shower facilities.
8. Security considerations.
9. Control point location.
10. Telephone number. Radio call sign (as per diplomatic mission evacuation plan).
11. Access and choke points.
12. Nearest police station.
13. Nearest medical facility.
14. Emergency power supply.
15. Distances and routes to adjoining evacuation facilities and the diplomatic mission.
16. Helicopter Landing Zone (if available): give designation and location (as per No.3, above).
17. Name, appointment, and contact information of the person who prepared this report.

18. Attachments:

SUPPORTING INFORMATION	*YES*	*NO*
Sketch		
Site and/or Floor Plan		
Photographs		
Videotape		
Other (Describe)		

Routes

1. Date this information was prepared.
2. Route designation.
3. Purpose of route. (Example: connection between AP [Designation] and EC [Designation]. Describe in terms of main flow of evacuees, that is, *from* X *to* Y.)
4. Description. (Include distance, directions, critical points, landmarks and reference points.)
5. Condition.
6. Bridges, overpasses, etc. State load limits and conditions.
7. Hazards, including choke points.
8. Bypasses.
9. Name, appointment and contact information of the person who prepared this report.
10. Attachments:

SUPPORTING INFORMATION	*YES*	*NO*
Sketch		
Map (General)		
Map (Strip)		
Photographs		
Videotape		
Other (Describe)		

Helicopter Landing Zone (HLZ)

1. Date this information was prepared.
2. HLZ designation.
3. Purpose of HLZ. (Example: to support EC [Designation], or MEDEVAC [Hospital].)
4. Location –

	CIVIC ADDRESS	*UTM GRID REFERENCE*	*LATITUDE – LONGITUDE (GPS)*	*REFERENCE POINTS*

HLZ				

5. Reference points.
6. Dimensions.
7. Surface.
8. Obstacles.
9. Recommended air approach(es).
10. Recommended ground approach(es).
11. Distance and route to supported facility.
12. Comments.
13. Name, appointment and contact information of the person who prepared this report.
14. Attachments:

SUPPORTING INFORMATION	*YES*	*NO*
Sketch		
Map (General)		
Photographs		
Videotape		
Other (Describe)		

Airfield Survey

1. Date this information was prepared.
2. Airfield name and evacuation plan designation.
3. Purpose of airfield in evacuation plan. (Example: main air extraction site.)
4. Location –

	CIVIC ADDRESS	UTM GRID REFERENCE	LATITUDE - LONGITUDE (GPS)	REFERENCE POINTS
Airfield				

5. Elevation.
6. Runway(s) – Length and width.
7. Runway(s) – surface composition and estimated single wheel loading factor, and condition.
8. Available parking area.
9. Largest aircraft that can be accommodated.
10. Material and passenger handling equipment.
11. Instrument approach facilities and navigation aids.
12. Aircraft obstacles.

13. Are runway(s) and taxiway(s) lighted?
14. Communications – frequencies and call signs used.
15. Physical security.
16. Is the airfield under civilian or military control?
17. Key contacts – names, appointments, telephone numbers or radio call signs (and net information).
18. Distances and routes from evacuation facilities (primary and alternate in each case) and diplomatic mission. (See "Routes", above.)
19. On-site holding area capability and capacity. (See report for the ES for that site. If there is no ES at the airfield itself, prepare an evacuation facility report as if for an ES.)
20. Name, appointment and contact information of the person who prepared this report.
21. Attachments:

SUPPORTING INFORMATION	*YES*	*NO*
Sketch		
Map (General)		
Airfields and Seaplanes of the World Entry		
Photographs		
Videotape		
Other (Describe)		

Seaport Survey.

1. Date this information was prepared.
2. Seaport name and evacuation plan designation.
3. Purpose of seaport in evacuation plan. (For example, main surface extraction site.)
4. Location –

	CIVIC ADDRESS	*UTM GRID REFERENCE*	*LATITUDE - LONGITUDE (GPS)*	*REFERENCE POINTS*
Seaport				

5. Entrance restrictions and minimum anchorage.
6. Channel depth (by season).
7. Tide (by season).
8. Navigational aids.
9. Port or beach obstacles.
10. Are pilots required? Are pilots available?

11. Jetties, wharves, quays. (Describe in terms of length, width, type of construction, features such as sheds or cranes.)
12. Fuel availability and type.
13. Availability of small craft and/or lighters for ferrying between ship and shore.
14. HLZ. (See "Helicopter Landing Zone", above.)
15. Physical security features.
16. Key contacts – names, appointments, telephone numbers or radio call signs (and net information).
17. Distances and routes from evacuation facilities (primary and alternate in each case) and diplomatic mission. (See "Routes", above.)
18. On-site holding area capability and capacity. (See report for the ES for that site. If there is no ES at the airfield itself, prepare an evacuation facility report as if for an ES.)
19. Name, appointment and contact information of the person who prepared this report.
20. Attachments:

SUPPORTING INFORMATION	*YES*	*NO*
Sketch		
Map (General)		
Nautical Chart		
Port Entry Information		
Photographs		
Videotape		
Other (Describe)		

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Annex F:
Information Operations

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
1.0 Create tasking to gather/obtain required information for mission planning.	Receive planning task.	Identify information requirements needed for mission planning.		- Decide which IOCC staff members to notify for planning requirement. - Identify information requirements needed for mission planning.	Tasking to gather/obtain required information for mission planning.	Information Operation Coordination Cell (IOCC) assigned personnel which may includes: - Joint Staff Action Team (JSAT), - Joint Planning Team (JPT), and - Target Coordination Cell (TCC) Links with J-6 (comm.) staff, CSE, CSIS and RCMP.	Output links with CFOPP tabular task analysis function 1.3 - Gather Planning Tools (initiation stage).
1.1 Notify IOCC members of planning requirement							
1.2 Identify information requirements needed for mission planning							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
2.0 Develop/Issue Information Operations (IO) planning guidance		IOCC will assist in development of TFC's IO planning guidance to support overall operational planning guidance.			Planning guidance for Information Operation	IOCC, TFC and TFC Staff	Possible links to CFOPP for receipt of 'planning guidance for IO' from IOCC staff: - Conduct mission analysis (2.1), Prepare mission analysis brief (2.1.5), Receive additional guidance from commander (2.1.5.6). - Develop/issue commander's planning guidance and warning order (2.2).
2.1 Conduct mission analysis							
2.2 Attend mission analysis briefing							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
2.3 Develop/issue offensive IO guidance		Identify an adversary's vulnerabilities, devise required tasks and sub-tasks, and identify the methodologies to exploit these vulnerabilities in order to achieve the desired objective.					
2.3.1 Template IO planning and assessment against an adversary			See Figure 7				
2.3.1.1 Determine adversary's and our domain of influence		Determine how the adversary and we work, i.e. political, military, economic, social)					
2.3.1.2 Determine adversary's and our supporting information infrastructure technology		- Identify/Obtain required information - Determine what information technology is on the market, both commercial and their/our-unique.	- Map of information, info-based processes, and info systems that support how the adversary/we work.				

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
2.3.1.3 Determine/Categorize adversary's and our vulnerabilities		Determine/categorize the vulnerabilities of each (2.3.1.2): - Exploit - Manipulate - Deny					
2.3.1.4 Determine adversary's and our capabilities to exploit those vulnerabilities.		Determine our/their capabilities to take advantage of those vulnerabilities.					
2.3.1.5 Determine access to technology in the field which could deliver a capability.		Determine access to technology in the field which could deliver a capability.					
2.3.1.6 Identify adversary's and pour options to vulnerabilities and access to technology.		Identify options (combinations of vulnerabilities and access to technology) at our/their disposal.					
2.3.1.7 Determine results/impact of those options		Determine results/impact of those options.					
2.3.1.8 Determine adversary's and our motivations/ circumstances for using those options.		- Determine circumstances they/we would use particular options. - Consider adversary's and our motivations.		- Identify motivations and circumstances which lead the adversary to carry out particular measures.		IOCC	

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
2.3.1.9 Develop an IO plan from probable and acceptable options.		- Determine - Determine acceptable countermeasures how ROE relate to the probable option(s).					
2.3.2 Identify an adversary's strategic and operational centers of gravity.							
2.3.3 Intelligence preparation of a battlespace (IPB)		Develop dynamic tools to exploit information requirements.	Access to systems; installation schematics, physical and virtual connectivity; psychological profiles and infrastructure models.			J2 staff; intelligence community	
2.4 Develop/issue defensive IO guidance		Identify and provide guidance on protecting the critical friendly information centers of gravity at the TFC operational level and those at the strategic level.					

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
3.0 Course of Action development		Support the development of intelligence, operations and communications staff estimates.			IO portion of staff estimates	IOCC, TFC and TFC Staff	Possible links to CFOPP for receipt of IO portion of staff estimates for intelligence, operations and communications include: - Develop initial own COAs (3.4), integrate and synchronize ideas in terms of principles of joint warfare (3.4.2).
3.1 Support development of staff estimates							
3.1.1 Intelligence staff estimate.							- Develop initial enemy COAs (3.3), synthesize accumulated intelligence (3.3.1).
3.1.2 Operations staff estimate.							
3.1.3 Communications staff estimate.							

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
3.2 Analyze factors							- Staff analysis (3.2), analyze factors and make deductions (3.2.1) - COA validation (3.7), continue staff checks and analyses of own COAs (3.7.3).
3.3 Attend information brief							
4.0 Decision				Commander decides on COA		IOCC, TFC and TFC Staff	
4.1 Assist in transforming staff estimates into TFC's estimate					IO portion of overall plan approved as required.		Possible links to CFOPP for receipt of IO portion of overall plan approved as required: - Commander selects COA (4.3). IOCC staff assist in transforming staff estimates into the TFC's Estimate.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
4.2 Assist in the IO aspect of TFC's Concept as required.		- How does the commander visualize the execution of IO from beginning to termination? - How will IO support the commander's mission? - What are the concepts for supervising and terminating IO?				IOCC	- Concept of operations (4.4). IOCC staff assist in the IO aspect of TFC's Concept as required is an example of aggregating expert advice towards a CONOPS.
5. Plan Development		Develop, Coordinate, seek approval, issue plan.			Approved offensive and defensive appendices with element tabs, completed supporting plans, and inclusion of IO requirements in TFMT.		
5.1 Develop/Approve/Issue offensive appendices with element tabs							Integrates at functions Develop plan for branches and sequels if required (5.5) and plan wargame (5.6), e.g. gather tools, materials and data (5.6.1).

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Links to CFOPP
5.2 Develop/Approve/Issue defensive appendices with element tabs							Integrates at function plan wargame (5.6), e.g. gather tools, materials and data (5.6.1).
6.0 Plan Review		Plan review, plan evaluation, reveal decision briefing (if required).			Approved offensive and defensive IO appendices.		- Output enters CFOPP at function conduct detailed exercise/wargaming (6.3).
6.1 Plan evaluation							
6.2 Reveal decision briefing (if required)							
6.3 Modify/refine plan	Request/order to modify/refine plan.						

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Annex G:
Psychological Operations

Appendix G.1
Psychological Operations Tabular Task Analysis

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
1.0 Climate and Weather Analysis		Analysis of weather's effects on PSYOPS media and dissemination	Wind direction, speed, and seasonal changes		Climate and weather that may affect PSYOPS planning			
2.0 Demographic Evaluation and target audience evaluation				Analysis of demographics, social, cultural, economic, political, religious, and historical factors Examine vulnerabilities and credible communicators	Target audience analysis	PSYOPS planners Commander must balance available resources against expected results for each target audience		Also analyze opponent's propaganda and consider counter PSYOPS techniques

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
3.0 Operational Area Evaluation (OAE)		PSYOPS study of the Area of Operations (AO) Product Development Center (PDC) is a PSYOPS sub-unit that develops and produces print, audio, audio–visual and other media products based on campaign objectives		PSYOPS personnel add intelligence data for specific PSYOPS missions Analyze data about accessible and effective targets within and outside the Area of Operation (AO) with regard to possible target groups, credible leaders, preferred media, and possible PSYOPS issues.	A matrix of the AO identifying possible target groups, credible leaders, preferred media, and possible PSYOPS issues.	PSYOPS personnel Product Development Center (PDC)		
4.0 Geospatial analysis		Consider how the area's geography affects the culture, population density, and product dissemination	Info on mountain ranges, valleys, river systems, etc.		Study of the terrain			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
5.0 Database integration		Integration of all studies and analyzed data into a database		Event templating and matrix development. The template and matrix focus on expected results of friendly, opposed to and non-belligerent third-party actions		After the PDC examines the effects of a specific theme or action, it recommends target audiences.		Target audiences can be classifies as High-Value Targets (HVT) – boosts the credibility of the message, or High-Payoff Targets (HPT) – advances coalition/national goals

Appendix G.2
PSYOPS Estimate (B1-1)

1. MISSION

a. Supported Commander's Mission & Planning Guidance
   1) Mission
   2) Initial Intent
   3) End State and Criteria for success

b. PSYOPS Mission

c. Initial PSYOPS Objectives (PO)

d. Restrictions

2. SITUATION AND CONSIDERATIONS

a. Political situation

b. Areas of Conflict/International Disputes

c. Opponent Military Key Factors
   1) Strengths and Dispositions
   2) Capabilities

d. Non-belligerent Third Parties and Alliance
   1) Neutral Countries
   2) International/Non-Governmental Organizations (IO/NGO)
   3) Alliance

e. Media Situation
   1) International Media Coverage
   2) Hostile Psychological Activities

f. Assumptions
   1) Political
   2) Military

g. PSYOPS Situation
   1) Psychological Situation
      a) Possible Target Audiences (PTA)
         I. Ultimate TA
         II. Intermediate TA
         III. Unintended TA

IV. Apparent TA

b) Conditions

c) Vulnerabilities

d) Assessment (Susceptibility)

e) Assumed Psychological Impact of Operations

2) Communications Environment

a) Communications Infrastructure

b) Media Usage

c) Assessment (Receptivity)

3) PSYOPS Organization

a) PSYOPS forces available for planning

b) Initial PSYOPS Force Requirements

h. Other Factors or Considerations

1) Limitations

2) Constraints

(Full Estimate :)

3. ANALYSIS OF OWN COAs

a. Impacts on the PSYOPS Situation

b. Advantages and Disadvantages for conducting PSYOPS

4. COMPARISON OF OWN COAs

a. Advantages and Disadvantages

b. Methods of Overcoming Disadvantages

5. CONCLUSIONS

a. Significant Disadvantages that make a COA less desirable or unsupportable

b. Significant Anticipated PSYOPS Problems

c. COAs that can be supported from a PSYOPS Standpoint

PSYOPS PLANNING GUIDANCE (if required)

Appendix G.3
PSYOPS Annex (B2-1)

REFERENCES:

TASK ORGANIZATION:

1. **SITUATION**
    a. General
    b. Specific
    c. Assumptions
        1) Political
        2) Military
2. **MISSION**
3. **EXECUTION** *(*Paragraphs that form PSYOPS CONOPS, if developed separately)*
    a. Commander's Intent*
    b. Psychological End State(s)*
    c. PSYOPS Concept of Operations*
        1) Outline
        2) Target Audience(s)
        3) PSYOPS Objectives
        4) Phasing
    d. Tasks
        1) PSYOPS Units/Forces Assigned
            a) Theatre Level (CJPOTF)
            b) Tactical Level (PSE)
        2) PSYOPS Staff & Liaison Elements
    e. Co-ordination Instructions
        1) Campaign Synchronization
        2) Intelligence
        3) Indigenous Assets
        4) Other Agencies
    f. Approval Authority
        1) Operational Level PSYOPS
        2) Tactical Level PSYOPS

4. ADMINISTRATION & LOGISTICS
    a. Stocking & Delivery
    b. PSYOPS-unique Supply & Maintenance
    c. Controlling & Maintaining Indigenous Assets
    d. Budget Co-ordination
    e. Personnel Matters (indigenous personnel)
5. COMMAND & SIGNAL
    b. Command
        1) Attachment of PSYOPS Forces
        2) PSYOPS Internal Command
    c. Signal
        1) PSYOPS Broadcast Requirements
        2) PSYOPS C4 Systems
        3) PSYOPS Reporting

APPENDICES

1 – PSYOPS Objectives and Themes to Avoid

2 – Approval Process

3 – Request for PSYOPS Support (Format)

Appendix G.4
The PSYOPS Supporting Plan (SUPLAN) (B3-1)

1. **MISSION**
    a. Supported Commander's Mission
    b. PSYOPS Mission
2. **OBJECTIVES**
    a. Supported Commander's Objectives
    b. PSYOPS Objectives
3. **EXECUTION**
    a. Target Audiences
    b. PSYOPS Programs
        1) Specific Programs (in support of Joint Force Operations) (Each Program:)
            a) Themes and Objectives
            b) Products and Actions
                I. Explanation of Method
                II. Phasing
                    I. Key Dates
                    II. Main Effort
                    III. Execution
                III. Product Design
        2) Additional Programs (in support of Joint Force objectives)
    c. Co-ordination
        1) Product Approval/Staffing Requirements
        2) Dissemination Plan
        3) Coordination and Liaison (i.e. Joint Coordination Board, INFO OPS)
4. CAMPAIGN CONTROL & EFFECTIVENESS
    a. PSYOPS Priority Intelligence Requirements
    b. Pre-/Post-Testing Procedures
    c. Measures of Effectiveness (MOE)

ANNEXES:

A – Task Organization and Apportionment

B – PSYOPS Execution Matrix

C – PSYOPS Impact Indicators

D – PSYOPS Special Reporting Requirements

E – Production/Action Worksheet (Format)

F – PSYOPS Approval Sheet (Format)

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Annex H:
Risk Management

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
1.0 Identify Threats	A plan is devised.	Identification of real and potential threats	Experience, common sense and risk management tools help identify threats		Prevent: 1) mission degradation, 2) personal injury or death, 3) property damage			Source of danger – any opposing force, condition, source or circumstance with a potential to have a negative impact on the accomplishment of the mission or will degrade mission capability Threat identification is the foundation of the entire risk management process; if a threat is not identified it cannot be controlled for.
1.1 Analyze Mission								
1.1.1 Review operation plans and orders describing the mission								
1.1.2 Define requirements and conditions to accomplish the tasks								

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
1.1.3 Construct a chart or list depicting the major phases of the operation normally in time sequence								
1.1.4 Break the operation down into "bite-size" chunks								Break operation into bite size chunks
1.2 List Threats	Identification of threats		Threats are identified based on the mission and associated vulnerabilities Examine friendly centers of gravity for critical vulnerabilities	Listing the threats associated with each phase of the operation; stay focused on the specific steps of the operation and limit list to "big picture" threats	Summary of inherent threats or adverse conditions		Threats may be tracked on paper or in a computer spreadsheet/data base system	Look at big picture threats for each step of the operation

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
1.3 List Causes	List of threats	Although a threat may have multiple causes it is paramount to identify the root cause(s). Risk controls may be more effective when applied to root causes	List of threats	Make a list of associated root causes	List			
2.0 Assess the Threat	Identification of threat(s) and causes	Assess each threat for probability of occurrence and severity			Prioritization of threats based on risk			Priority listing is a guide and not absolute.
2.1 Assess Threat Severity		Determine expected consequence of an event		Determine potential impact on the mission, exposed personnel, and exposed equipment	Qualitative measure of the worst credible outcome resulting from external influence			Severity Categories: Catastrophic Critical Marginal Negligible
2.2 Assess Threat Probability		Estimate of the likelihood or probability that a threat will occur and cause an impact on the mission	Experience based estimates Research, analysis and evaluation of historical data from similar missions and systems	Probability that threat will occur causing a negative event				Probability Categories: Frequent Likely Occasional Seldom Unlikely

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
2.3 Determine Level of Risk for Each Threat and Overall Mission Risk		Complete risk assessment		Combine severity and probability estimates to form a risk assessment for each threat	Prioritized list of threats – risk assessment matrix			
3.0 Develop Controls and Make Risk Decisions	Each threat is assessed	Develop controls that either eliminate the threat or reduce the risk associated with it according to the commander's risk guidance			Controls			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
3.1 Develop Controls and Determine Residual Risk			Criteria for effective controls: Suitability (removes or mitigates threat) Feasibility (able to implement control) Acceptability (cost-benefit) Explicitness (who, what, where, when, why and how) Support (resources) Standards (guidelines and procedures) Training (knowledge and skills) Leadership (effective leaders) Individual (self-disciplined individuals)	After controls are determined, determine residual risk associated with each threat and overall residual risk for the mission	Avoidance (different COA, changing time) Delay (delay task), Transference (transferring a portion of the mission to another unit), Redundancy (redundancy in resources)			Residual risk is the risk remaining after controls have been identified, selected and implemented for each threat. Controls are often applied until the level of residual risk matches the commander's guidance or cannot be further reduced.

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
3.2 Make risk decision		Determining if the risk is justified		The balance between the risk and the mission's potential gain is compared.		The commander alone decides if controls are sufficient and acceptable and whether to accept the resulting residual risk.		
4.0 Implement Controls	Risk control decision is made	Assets made available to implement controls		Informing personnel in the risk management system of results and subsequent decisions	Risk communication and the rational process behind risk management decisions			
4.1 Make Implementation Clear		Roadmap for implementation, a vision of the end state, description of successful implementation		Control presented so that audience will receive it positively	To make directive clear use examples, pictures, charts, job aids etc.			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
4.2 Establish Accountability		Clear assignment of responsibility for implementation of risk controls				The accountable person is the one who makes the decision (approves the control measure), therefore the right person (appropriate level) must make the decision		
4.3 Provide Support		Command must support risk controls		Provide personnel and resources necessary to implement controls Sustainability Feedback mechanism	Feedback mechanism that will provide information on whether the control is achieving the intended purpose			

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
5.0 Supervise and Review		Effectiveness of risk controls		1) Monitoring the effectiveness of controls 2) Determining the need for further assessment of either all, or a portion of, the operation due to an unanticipated change 3) capturing lessons learned – both positive and negative				
5.1 Supervise		Monitor the operation			Identify changes that require further risk management			
5.1.1 Controls implemented correctly, effectively, and remain in place								

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
5.1.2 Changes requiring further risk management are identified								How do they do this? Through a feedback loop?
5.1.3 Action taken to correct ineffective risk controls and reinitiate the risk management process in response to new threats								

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
5.1.4 Risk controls are re-evaluated any time the personnel, equipment, or mission tasks change, or new operations are anticipated in an environment not covered in the initial risk management analysis								
5.2 Review		Review must be systematic		Compare the preliminary assessments to the present risk management assessment	Review to see if the risks and mission are in balance			The preliminary risk score matrix for a COA is the tabulated number of threats at each level of risk
5.2.1 Identify whether the actual cost is in line with expectations		Determine what effect the risk control had on mission performance		Focus on the aspect of mission performance the control measure was designed to improve		Commanders must identify whether the actual cost is in line with expectations		

Function	Trigger/Stimulus	Goals	Info requirements	Key decisions	Key outputs or products	Responsible Staff	Automation	Comments
5.2.2 Measurements		Evaluations of how effectively controls eliminated threats or reduced risks			After Action Reports (AAR), surveys, in-progress reviews			
5.3 Feedback		Ensure that the corrective or preventative action was effective and that any newly discovered threats during the mission were analyzed and corrective action taken	When errors occur in an analysis, use feedback (briefings, lessons learned, benchmarking, or database reports) to identify and correct those errors	Decisions about accepted risks should be recorded so that when a negative consequence occurs, the decision process can be reviewed to determine where errors did occur	Feedback will help determine if the previous forecasts were accurate, contained errors or were completely incorrect.		Paper documentation allows for review of the risk decision process	Risk analysis will seldom be perfect the first time

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Annex I:
Civil-Military Cooperation

Appendix I.1
CIMIC Supporting Plan

_____

(Classification)

Copy _____of _____copies

_____

(Date)

_____

(Alphanumeric Designation)

_____

(Team Name)

CIMIC SUPPORTING PLAN to _____CAMPAIGN PLAN: (Number and Code Name)

References: (Maps, charts and other relevant documents). Time Zone Used Throughout the Plan:_____

1. Situation
    a. General. (Description of the theatre and unit area of operations)
    b. Belligerent Forces/FWF or Enemy (warfighting) Threat
        1) Military
        2) Political
        3) Economic
        4) Social and Cultural
        5) Informational
    c. Friendly Missions and Capabilities
        1) Military, MILOBS, UNCIVPOL
        2) Civilian agencies
        3) Political
        4) Economic
        5) Social and Cultural

6) Informational

d. CIMIC Elements

2. Mission. (Restated CIMIC theatre or campaign mission)

3. Execution

a. Commander's Intent. This plan coordinates military involvement in Canadian political, economic, informational and sociological and cultural activities in the theatre/area of operations.

b. Concept of Operations. Strategic CIMIC objectives are listed in the appropriate paragraphs below.

1) HNS.

2) Humanitarian assistance.

a) Humanitarian and civic assistance.

b) Military civic action is usually coordinated at the operational level and executed at the tactical level. However, if strategic level civic actions are specified by the TFC, those actions are included in this paragraph.

3) Civil defence.

4) Populace and resources control.

a) Dislocated civilian operations.

b) Non-combatant evacuation operations.

c) Other.

5) Support to civil administration.

6) Engineer resources. Combat engineers, construction engineers, geomatics support personnel, fire protection services personnel and equipment, including HN civil and military engineers and equipment. As well, some NGOs are mandated to improve housing and provide construction materials while others are able to provide general engineering services, such as the IRC. These resources must be considered in the TFC's planning and coordination efforts.

7) Employment of CIMIC elements.

c. Phases of Operations. The purpose of this paragraph is to relate the CIMIC concept of support to the military campaign phases. Campaign plans generally have four phases: preparation, deployment, employment and redeployment. A general outline of the phasing activities is depicted below. The phases of the specific plan support are identified in paragraph 3 of the campaign plan.

1) Phase I. (Preparation)

a) Concept. Include specific CIMIC operational objectives and timing of this phase.

b) Tasks of subordinate units.

c) Supporting PSYOPS.

d) Non-military support employed, i.e. HNS, OGDs and agencies, IOs and NGOs.

2) Phase II. (Employment)

a) Concept. Include specific CIMIC operational objectives and timing of this phase.

b) Tasks of subordinate units.

c) Supporting PSYOPS.

d) Non-military support employed, i.e. HNS, OGDs and agencies, IOs and NGOs.

3) Phase III. (Redeployment or exit if mandate is not renewed)

a) Concept. Include specific CIMIC operational objectives and timing of this phase.

b) Tasks of subordinate units.

c) Supporting PSYOPS.

d) Non-military support employed i.e. HNS, OGDs and agencies, IOs and NGOs.

e) Coordination and transfer of tasks and responsibilities to follow on forces, if required.

4) Sustainment. Specify assumptions, if any.

a) Reception aspects.

b) Supply aspects (civilian supply and property control).

c) Maintenance and modification.

d) Medical/public health.

e) Transportation (public transportation).

f) Base development.

g) Personnel (civilian labour).

h) Host nation support (HNS).

i) Government.

j) Lines of communication.

k) CF responsibilities.

l) Sustainment priorities and resources.

m) Coordinate the supply, maintenance and repairing of military engineer materiel.

n) Inter-agency responsibilities.

o) Protection priorities.

5) Command and Signal

a) Command. State the command relationship for CIMIC elements and the civil-military relationships with civilian agencies deployed in the area of operations, which will be employed in the campaign activities. Indicate any shifts of command or changes in operational control contemplated during the campaign. Indicate time of the expected shift. Give location of TFC and command posts.

b) Signal. (Include liaison instruction)_____

(Classification)

NOTE: This annex is extracted from FM 41-10, Appendix E and the CF Operations Manual, chapter 23.

Appendix I.2
Periodic CIMIC Report

_____

(Classification)

PERIODIC CIMIC REPORT

(Omit paragraphs and sub-paragraphs not applicable)

_____

(Date)

_____

(Alphanumeric Designation)

_____

(Name)

PERIODIC CIMIC REPORT NO._____

Period covered: Date and time to date and time.

References: Maps (series number, sheet(s), edition, scale) or charts.

1. General Statement on the Situation at the End of the Period. Location of CIMIC elements and major activities of each; any important changes in CIMIC operational zones or areas; principal incidents and events since last report. Indicate on map or overlay annex, where possible.
2. Government Functions. Use annexes as necessary.
    a. Public Administration.
        1) Screening-removal, appointment of officials.
        2) Political intelligence activities.
    b. Legal.
    c. Public Safety.
    d. Public Health.
    e. Public Welfare.
    f. Public Education.
    g. Labour.
    h. Public Finance.

i. Civil Defence.

3. Economic Functions. Use annexes as necessary; arrange in tabular form, when practicable.
    a. Economics and Commerce.
    b. Food and Agriculture.
    c. Property Control.
    d. Civilian Supply.
4. Public Facilities
    a. Public Works and Utilities.
    b. Public Transportation.
    c. Public Communications.
5. Special Functions
    a. Freedom of Movement.
    b. Civil Information.
    c. Civil Compliance.
    d. Dislocated Civilians. (Refugees, IDPs, evacuees, stateless persons.)
    e. Cultural Affairs.
    f. Humanitarian Aid.
    g. Meetings.
    h. Civic Action Projects.
    i. Elections and Political Activity. Elections are usually conducted under OSCE auspices.
    j. Other Points of Interest. Indicate any special recommendations, requests or other points of interests, such as existing CIMIC personnel problems, requisitions for additional units, recommendations for lifting of controls and restrictions, recommendations for troop indoctrination, and other matters not properly covered in paragraphs above.
6. Theatre level CIMIC related Activities. Appointments, events, high level meetings...
7. Areas of Concern and Assessment.

_____

Commander

Authentication.

Annexes.

Distribution:

_____

(Classification)

NOTE: This annex is extracted from FM 41-10, Appendix C (Modified) with elements of the IFOR/ARRC MAIN and SFOR daily CJ9 CIMICREP formats. It should be updated, as required, with elements listed at chapter 5, annex B.

Appendix I.3
Civil-Military Cooperation Operations Estimate

CIVIL-MILITARY COOPERATION OPERATIONS ESTIMATE

_____

(Classification)

_____

(Date)

_____

(Alphanumeric Designation)

_____

(Team Name)

CIVIL-MILITARY COOPERATION OPERATIONS ESTIMATE NO._____

References: Maps, charts or other documents.

1. **Mission**. The restated mission as determined by the commander.
2. **Situation and Considerations**
    a. Intelligence Situation. Include information obtained from the intelligence officer. When the details make it appropriate and the CMO estimate is written, a brief summary and reference to the intelligence document or an annex of the estimate may be used.
        1) Characteristics of the Area of Operations. Physical features: climate; and basic political, economic and psychological factors.
            a) Attitudes of the population (cooperative or uncooperative).
            b) Availability of basic necessities (food, clothing, water, shelter and medical care). Include civilian capabilities of self-support.
            c) Availability of local material and personnel to support military operations.
            d) Number of dislocated civilians in the area.
            e) Amount and type of war damage suffered by the economy (particularly in the transportation, public utility and communication fields).
            f) Status and character of civil government.

g) State of health of the civilian populace.

h) Engineer capabilities available and required to carry out the full range of engineer tasks. This estimate must assess civil and military materiel, including problem areas.

2) Belligerent Forces/FWF or Enemy (warfighting) strength and dispositions.

3) Belligerent Forces/FWF or Enemy Capabilities. Consider sabotage, espionage, subversion, terrorism and movement of dislocated civilians.

a) Affecting the mission.

b) Affecting CMO activities.

b. Tactical Situation. Include information obtained from the commander's planning guidance and from the operations officer.

1) Present dispositions of major tactical elements.

2) Possible courses of action to accomplish the mission. These courses of action are carried forward through the remainder of the estimate.

3) Projected operations and other planning factors required for coordination and integration of staff estimates.

c. Personnel Situation. Include information obtained from the personnel officer.

1) Present dispositions of personnel and administration units and installations that have an effect on the CMO situation.

2) Projected developments within the personnel field likely to influence CMO.

d. Logistic Situation. Include information obtained from the logistics officer.

1) Present dispositions of logistic units and installations that have an effect on the CMO situation.

2) Projected developments within the logistic field likely to influence CMO.

3) Status of LOCs which may require construction and/or repair.

e. Engineer Requirements - Civil and Military. Requires an assessment of engineer tasks versus resources, prioritization of tasks in consultation with civil authorities and agencies, and the efficient coordination and management of resources to prevent duplication of efforts and wastage among stakeholders. Further engineer considerations and guidelines can be found in B-GG-005-004.AF-015, Military Engineer Support to CF Operations, chapter 8.

f. CMO Situation. In this sub-paragraph, the status is shown under appropriate sub-headings. In the case of detailed information at higher level of command, a summary may appear under the sub-heading with reference to an annex to the estimate.

1) Disposition and status of CIMIC elements and related significant military and non-military elements, to include all stakeholders (IOs, NGOs, UN agencies, MILOBS, OGDs and agencies) mandates, functions, responsibilities and capabilities and resources, relevant to the CMO.

2) Current Problems Faced by the Command. Estimate the impact of future plans of the supported unit operation pertinent to the CMO mission.

3) Projected impact of civilian interference with military operations.

4) Government Functions

   a) Public administration.

   b) Public safety.

   c) Public health.

   d) Labour.

   e) Legal.

   f) Public welfare.

   g) Public finance.

   h) Public education.

   i) Civil defence.

5) Economic Functions

   a) Economics and commerce.

   b) Food and agriculture.

   c) Civilian supply.

   d) Property control.

6) Public Facilities Functions

   a) Public works and utilities.

   b) Public communications.

   c) Public transportation.

7) Special Functions

   a) Dislocated civilians.

   b) Arts, monuments and archives.

   c) Cultural affairs.

   d) Civil information.

g. Assumptions. Until specific planning guidance becomes available, assumptions may be required for initiating planning or preparing the estimate. These assumptions are then modified as factual data becomes available.

3. **Analysis of Courses of Action.** Under each sub-heading (para 2e) for each course of action, analyze all CMO factors indicating problems and deficiencies.

4. **Comparison of Courses of Action**

    a. Evaluate CMO deficiencies and list the advantages and disadvantages of each proposed course of action.

    b. Discuss the advantages and disadvantages of each tactical course of action under consideration from the civil-military operations standpoint. Those that are common to all courses of action or are considered minor should be eliminated from the list. Include methods of overcoming deficiencies or modifications required in each course of action. Priority will be given to one major CIMIC activity that most directly relates to the mission, such as preventing civilian interference with tactical and logistical operations, providing and/or supporting the functions of civil government, community relations, military civic action, military participation in a populace and resources control programme, military support of civil defence, or consolidation of psychological operations.

5. **Conclusions/Recommendations**

    a. Indicate whether the mission set forth in paragraph 1 can be supported from the CMO standpoint.

    b. Indicate which course(s) of action can best be supported from the CMO standpoint.

    c. List primary reasons why other courses of action are not favoured.

    d. List the major CMO problems that must be brought to the commander's attention. Include specific recommendations concerning the methods of eliminating or reducing the effect of these deficiencies.

NOTE: The CMO estimate is also known as the CIMIC estimate within NATO. Same format.

_____

Designation of staff officer or Originator

Annexes: As required.

_____

(Classification)

NOTE: This annex is extracted from 96th Civil Affairs Battalion - Leader's Reference Book.

Appendix I.4
CIMIC Area Study and Assessment Format

CIMIC AREA STUDY AND ASSESSMENT FORMAT

1. The following format is extracted and updated from the US manual, *FM 41-10, Civil Affairs Operations.* It provides a guide to preparing an area assessment, but is subject to modifications based on the mission and assigned tasks. In failed States, the majority of the functions listed will be non-existent. Reliance will be on the military force to contain and stabilize the country as well as cooperate and coordinate their efforts with IOs, NGOs and UN agencies to provide essential services and begin the rehabilitation and reconstruction of the country. Area study files may already exist and contain information on a designated area. The area study is updated, as required, through the area assessment.

_____

(Classification)

CIMIC AREA ASSESSMENT FORMAT

_____

(Date)

_____

(Alphanumeric Designation)

_____

(Team/Officer's Name)

CIVIL-MILITARY COOPERATION AREA ASSESSMENT NO._____

References: Maps, charts or other documents.

1. General

a. geography;

b. history;

c. people;

d. cultural and ethnic differences;

e. Canadian national interests.

2. Civil Defence

a. organization, plans and equipment;

b. HN, OGDs and civil agencies.

3. Labour

a. organization;

b. labour force i.e. skilled, unskilled;

c. agencies, institutions and programmes;

d. wages and working standards.

4. Legal

a. system of law;

b. the administration of justice i.e. the judicial system in place or lack thereof (failed States).

5. Public Administration

a. general system of public administration;

b. structure of the national Government and political parties;

c. structure of other levels of Government;

d. armed forces, militias, paramilitaries;

e. international affairs involvement;

f. support to ministries/departments and agencies;

g. elections' planning and monitoring.

6. Public Education

a. organization, general conditions and problems;

b. agencies, institutions and programmes i.e. schools and universities;

c. influence of politics on education.

7. Public Finance

a. organization, general conditions and problems;

b. monetary system, applicable laws and regulations.;

c. budgetary system and current budget;

d. sources of Government income;

e. financial institutions;

f. foreign exchange, balance of trade, balance of payments, controls and restrictions;

8. Public Health

a. organization, general conditions and problems;

b. agencies and institutions i.e. hospitals, health clinics and morgues;

c. medical personnel, equipment and supplies;

d. diseases, communicable or not, carried by humans and/or animals;
e. environmental sanitation i.e. animal and agricultural inspections;
f. sewage treatment systems and garbage disposal;
g. access to clean water.

9. Public Safety

a. general conditions and problems i.e. type of crimes, crime rate;
b. mine clearance and explosive ordnance disposal (EOD) resources;
c. police system, secure prisons and reliable penal institutions and system;
d. organized crime, criminal gangs;
e. fire fighting and fire protection;
f. obstacles to demobilization and social reintegration of local armed forces;
g. extremist elements i.e., act of intimidation, violent demonstrations or terrorist acts.

10. Public Welfare

a. organization, general conditions and problems;
b. agencies, institutions and programmes;
c. relief to displaced persons and returnees i.e. food, shelter;
d. secure food distribution system - food insecurity is a source of social disorder.

11. Civilian Supply

a. general conditions and problems;
b. storage, refrigeration, processing facilities and distribution channels;
c. dietary and clothing requirements and customs;
d. production excesses and shortages.

12. Economics and Commerce

a. general conditions, problems and statistics;
b. description of economic system;
c. structure, key officials and business leaders;
d. resources and rationing;
e. opening markets;
f. goals and programs;
g. exports/imports and internal movement of goods;
h. industries, commerce and foreign trade;
i. agencies, institutions and programmes;
j. wages and price controls;

13. . Food and Agriculture

a. general conditions and problems;
b. agricultural geography;
c. agricultural products, practices and processing;
d. fisheries;
e. forestry;
f. agencies, institutions and programmes;
g. applicable laws and regulations governing food and agriculture.

14. Property Control

a. general conditions and problems;
b. agricultural and industrial property;
c. property laws, land holding system and reform programs;
d. domestic and foreign ownership.

15. Public Communications

a. general conditions and problems
b. postal system;
c. telecommunications (telephone, telegraph and broadcasting (radio and television));
d. applicable laws governing communications systems.

16. Public Transportation

a. general conditions and problems;
b. functioning roads, streets, bridges, seaports, airports, railroads;
c. vehicular transportation;
d. water transportation i.e. waterways;
e. air transportation;

17. Public Works and Utilities

a. general conditions;
b. public works and utilities i.e. power, water, sewage, dams and pipelines;.

18. Engineer

a. UN Technical Report/NATO strategic estimate;
b. SOFA and scope of civil tasks;
c. HN, allies and regional infrastructure to support engineer tasks;
d. range of engineer resources required (materiel, augmentees...);
e. the “mission creep” factor;

f. inter-agency cooperation and coordination in areas of operations;

g. sustainment.

19. Arts Monuments and Archives

a. general conditions and problems;

b. arts, monuments and archives.

20. Civil Information

a. general conditions, problems and stage of development;

b. newspapers, periodicals and publishing firms;

c. other means of communications i.e. Internet, satellite.

21. Cultural Affairs

a. religions and religious beliefs in the area of operations;

b. clergy;

c. places of worship;

d. relationship between religion and motivation of indigenous people;

e. relationship between religion and cross-cultural communication;

f. socio-economic influence of religion;

g. interrelation with Government (church and state);

h. religious schools.

22. Dislocated Civilians

a. existing dislocated civilian population, if any;

b. potential population dislocation;

c. care and control of dislocated civilians.

23. Disaster Preparedness and Relief

a. disaster preparedness;

b. organization, emergency procedures and relief facilities;

c. toxic waste/toxic material sites or dangerous materials considered health hazards;

d. disaster relief;

e. HN point of contact (POC) by position and telephone numbers.

24. Host Nation Support

a. command and control;

b. combat service support;

c. mobility and survivability;

d. medical;

e. impact of Canadian presence on the HN economy.

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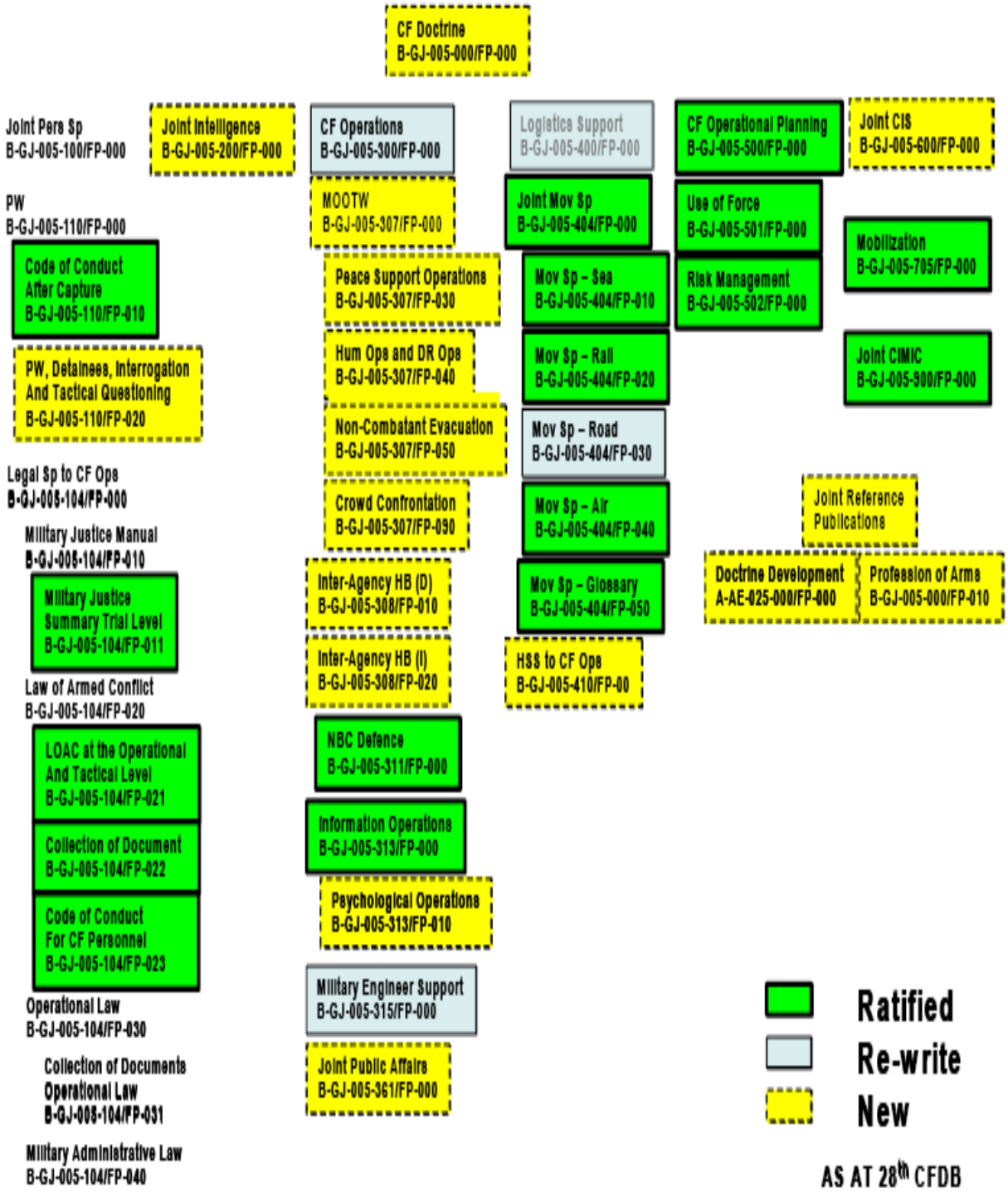
Annex J:
CF Doctrine Hierarchy


CF Doctrine
B-GJ-005-000/FP-000
Joint Pers Sp
B-GJ-005-100/FP-000
Joint Intelligence
B-GJ-005-200/FP-000
CF Operations
B-GJ-005-300/FP-000
Logistics Support
B-GJ-005-400/FP-000
CF Operational Planning
B-GJ-005-500/FP-000
Joint CIS
B-GJ-005-600/FP-000
PW
B-GJ-005-110/FP-000
MOOTW
B-GJ-005-307/FP-000
Joint Mov Sp
B-GJ-005-404/FP-000
Use of Force
B-GJ-005-501/FP-000
Mobilization
B-GJ-005-705/FP-000
Code of Conduct
After Capture
B-GJ-005-110/FP-010
Peace Support Operations
B-GJ-005-307/FP-030
Mov Sp – Sea
B-GJ-005-404/FP-010
Risk Management
B-GJ-005-502/FP-000
Hum Ops and DR Ops
B-GJ-005-307/FP-040
Mov Sp – Rail
B-GJ-005-404/FP-020
Joint CIMIC
B-GJ-005-500/FP-000
PW, Detainees, Interrogation
And Tactical Questioning
B-GJ-005-110/FP-020
Non-Combatant Evacuation
B-GJ-005-307/FP-050
Mov Sp – Road
B-GJ-005-404/FP-030
Legal Sp to CF Ops
B-GJ-005-104/FP-000
Crowd Confrontation
B-GJ-005-307/FP-090
Mov Sp – Air
B-GJ-005-404/FP-040
Joint Reference
Publications
Military Justice Manual
B-GJ-005-104/FP-010
Inter-Agency HB (D)
B-GJ-005-308/FP-010
Mov Sp – Glossary
B-GJ-005-404/FP-050
Doctrine Development
A-AE-025-000/FP-000
Profession of Arms
B-GJ-005-000/FP-010
Military Justice
Summary Trial Level
B-GJ-005-104/FP-011
Inter-Agency HB (I)
B-GJ-005-308/FP-020
HSS to CF Ops
B-GJ-005-410/FP-00
Law of Armed Conflict
B-GJ-005-104/FP-020
NBC Defence
B-GJ-005-311/FP-000
LOAC at the Operational
And Tactical Level
B-GJ-005-104/FP-021
Information Operations
B-GJ-005-313/FP-000
Collection of Document
B-GJ-005-104/FP-022
Psychological Operations
B-GJ-005-313/FP-010
Code of Conduct
For CF Personnel
B-GJ-005-104/FP-023
Military Engineer Support
B-GJ-005-315/FP-000
Operational Law
B-GJ-005-104/FP-030
Joint Public Affairs
B-GJ-005-361/FP-000
Collection of Documents
Operational Law
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Military Administrative Law
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(U) The operational effectiveness of the Canadian Forces (CF) depends on being able to make timely and appropriate decisions. Decision making can benefit from full knowledge of all variables involved in the decision. However in a practical setting, especially under time constraints, an individual rarely has access to all relevant information or may find it difficult to judge the reliability of all the information. To manage the information demands that arise out of complex situations, expertise is often divided among several people who are knowledgeable in their field, and therefore can contribute only what they know about a situation. Hence, information must be combined from several sources to compose the big picture before an appropriate decision can be reached. Good aggregation methods allow each expert to express their opinions and appropriately weigh each option to produce the final aggregated decision.

The Canadian Forces (CF) actively engages in information aggregation related activities. In situations of peace, conflict and war, the CF carries out a series of sub activities performed by experts, automated systems, and groups representing a variety of disciplines. Successful mission accomplishment is dependent on aggregating the outcomes of these sub activities and executing accordingly to achieve strategic goals. Although CF operations exhibit information aggregation related activities, there is a lack of information regarding the aggregation methods currently used by the CF. In order to bridge gaps in knowledge, this report examines information aggregation and its related activities from two CF perspectives: the Intelligence Cycle (IC) and the Operational Planning Process (OPP). Accordingly, a doctrinal review and Subject Matter Expert (SME) interviews were conducted. The purpose of the doctrinal review was to identify CF procedures that were rich in information aggregation related activities and to describe those activities. The purpose of the SME interviews was to develop an understanding about how information aggregation practices are carried out in actuality.

Overall, it was concluded that doctrine reflects a rational approach to the process of aggregating information while the SME interviews indicated a more intuitive approach. This difference in approach suggests that information aggregation is a hybrid of both intuitive and rational processes that relies on hypothesis testing. Hypothesis testing involves the Commander communicating to his Staff a set of queries and targets that will either verify, refute or modify his vision of the operation. Consequently, the Staff begin collecting required information as set out by the Commander, as well as other relevant or interesting information. Collected information is then rationally or intuitively integrated with the individual's knowledge base to form a picture of the situation. Individual are given the opportunity to share and compare individual pictures in group meetings. The separate pieces of information that emerged form the group meeting are centralized, grouped and synchronized to inform the coherent big picture. From this, new queries and targets are identified to deal with conflicting or sparse information. Information aggregation is therefore iteratively performed by both the Commander and Staff to inform the big picture and subsequent decision making.

(U) L'efficacité opérationnelle des Forces canadiennes (FC) est tributaire de leur capacité de prendre des décisions opportunes et éclairées. La connaissance de toutes les variables à tenir compte dans la décision peut améliorer la démarche décisionnelle, mais, dans la pratique, et particulièrement en présence de contraintes de temps, le décideur a rarement accès à tous les renseignements pertinents ou peut avoir de la difficulté à juger de la fiabilité de toutes les informations. L'expertise permettant de gérer les besoins

d’information propres à des situations complexes est souvent partagée entre plusieurs personnes, dont chacune connaît très bien son domaine mais ne peut apporter à la démarche que ce qu’elle sait de la situation. Il faut donc combiner des renseignements de sources diverses pour former une image d’ensemble et prendre une décision éclairée. Le recours à de bonnes méthodes d’agrégation permet à chacun des experts d’exprimer son opinion et de donner un poids approprié à chaque option pour en venir à produire la décision agrégée finale.

Les FC s’adonnent à des activités liées à l’agrégation d’informations. En temps de paix, de conflit et de guerre, elles exercent une série de sous−activités qu’elles confient à des experts, à des systèmes automatisés et à des groupes représentant une gamme de disciplines. La réalisation fructueuse des missions dépend de l’agrégation des résultats de ces sous−activités et de l’exécution, en conséquence, d’activités permettant de réaliser les buts stratégiques établis.

Bien que les opérations des FC englobent des activités liées à l’agrégation d’informations, il subsiste un manque d’information sur les méthodes d’agrégation actuellement employées par elles. Pour combler les lacunes de cette connaissance, le présent rapport étudie l’agrégation d’informations et ses activités connexes depuis deux des points de vue des FC : le cycle du renseignement (CR) et le processus de planification opérationnelle (PPO). Une étude de la doctrine et des entrevues avec des experts en la matière (EM) a été menée dans ce but. L’étude de la doctrine visait à faire ressortir les procédures des FC riches d’activités liées à l’agrégation de l’information et à décrire ces activités. Les entrevues avec les EM visaient à élaborer une compréhension de la façon dont sont réellement utilisées les pratiques d’agrégation de l’information.

On en est venu à la conclusion, dans l’ensemble, que la doctrine reflète une approche rationnelle de la démarche d’agrégation de l’information, tandis que les entrevues avec les EM ont mis en évidence une approche plus intuitive. Cette différence d’approche permet de croire que l’agrégation d’informations est une forme hybride de processus intuitifs et rationnels qui repose sur la vérification des hypothèses. Cette vérification se déroule ainsi : le commandant communique à son état−major un ensemble de demandes d’information et de cibles et l’état−major confirme, réfute ou modifie la vision qu’a le commandant de l’opération. L’état−major, partant de là, entreprend la collecte de l’information voulue, telle qu’établie par le commandant, ainsi que d’autres renseignements intéressants ou pertinents. L’information recueillie est alors intégrée, rationnellement ou intuitivement, à la base de connaissances de l’intéressé afin qu’il se fasse une image de la situation. Les intervenants ont la possibilité de partager et de comparer leurs images lors de réunions. Les divers éléments d’information qui émergent de ces réunions sont centralisés, regroupés et synchronisés afin de donner une assise d’information à une image d’ensemble cohérente. Partant, de nouvelles demandes de renseignements et de nouvelles cibles sont identifiées afin de résoudre les instances d’information conflictuelle ou rare. L’agrégation d’informations est donc exécutée par itérations par le commandant et par l’état−major afin de donner une assise d’information à l’image d’ensemble et au processus décisionnel faisant suite à la formation de cette image.

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(U) Information aggregation; Intelligence; Operations; CF doctrine