



PLANS SERIES

# JOINT MILITARY APPRECIATION PROCESS

ADFP 5.0.1



AUSTRALIAN DEFENCE FORCE PROCEDURES

**Edition 2 AL3**



## PLANS SERIES

### ADFP 5.0.1

## JOINT MILITARY APPRECIATION PROCESS

Australian Defence Force Procedures (ADFP) 5.0.1—*Joint Military Appreciation Process*, edition 2 is issued for use by the Australian Defence Force and is effective forthwith. This publication supersedes ADFP 5.0.1 edition 1.

A handwritten signature in black ink, appearing to read 'A. Campbell', is located to the left of the official portrait.

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General  
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15 August 2019



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## PREFACE

1. Military doctrine is the description of the fundamental principles that guide actions by military forces to achieve their objectives. While authoritative, it requires judgement in application.
2. Following from the broad definition of doctrine, joint doctrine describes principles that guide the employment and operational effectiveness of a joint force. Joint doctrine publications are designed to concisely describe these principles, and so promote coordinated actions in support of missions and the commander's intent.
3. Australian Defence Doctrine Publications (ADDPs) and Australian Defence Force Procedures (ADFPs) are authorised joint doctrine for the guidance of operations. ADDPs are pitched at the philosophical and application levels, and ADFPs are pitched at the procedural level.
4. The content of this publication has been derived from general principles and doctrine contained in other relevant joint and single-Service publications, Defence manuals and allied publications and agreements. Every opportunity should be taken by users of this publication to examine its contents for applicability and currency. If deficiencies or errors are found, amendments must be made. The Joint Doctrine Directorate invites assistance from you, the reader, to improve this publication.
5. **Aim.** The aim of ADFP 5.0.1—*Joint Military Appreciation Process* is to provide guidance for planning ADF campaigns and operations.
6. **Level.** This publication is for use by commanders and staff at the operational level. It is also suitable for use by members of other government departments, whose input is integral to the planning and conduct of operations, to assist them in developing a knowledge of ADF planning processes.
7. **Audience.** This publication provides application and procedural level doctrine on joint planning at the operational level. It details the steps and sub-steps of the Joint Military Appreciation Process (JMAP) and explains how to conduct the process to plan campaigns and operations. This publication is designed to assist commanders and staff in operational level planning, and to contribute to ADF education and training.
8. ADFP 5.0.1, edition 2 contains a number of changes from edition 1 with regard to the publication's structure and focus. Significant changes are as follows:
  - a. This edition has been reclassified to UNCLASSIFIED so that it can be referred to easily during planning involving members of other government departments and/or military staff from other nations. It is fully interoperable with the latest editions of the equivalent planning doctrine publications of key military allies.
  - b. Detailed discussion of the Joint Intelligence Preparation of the Operational Environment (JIPOE) has been removed from this publication and is now located in [ADFP 2.0.1—Intelligence Procedures](#). Although a summary of JIPOE has been kept for ease of reference, this change allows for flexibility in updating future editions of both publications.



- c. The JMAP has been expanded from four steps to five, with a new first step titled Scoping and Framing. This new step encompasses what was Preliminary Scoping, which occurred before JMAP in the previous edition, but now includes Framing, a cognitive approach that ensures staff have identified the correct problem before detailed planning commences.
  - d. The conceptualisation of 'operational art' and the accompanying concepts 'operational design' and 'arrangement of operations' have been updated and comprehensively expanded. The iteration of these concepts in this edition of ADFP 5.0.1 facilitates easier interoperability with key allies and addresses contemporary planning needs of ADF operational level headquarters.
  - e. Deeper design work is done during the second step of JMAP, Mission Analysis (MA). MA now draws in elements of planning that previously occurred later in the process and includes the derivation of campaign or operation objectives, decisive points, and the development of lines of operation in a design schematic. The third step, Course of Action Development, then provides options to progress successfully along the lines of operation until the campaign or operation objectives are achieved and the desired end state is reached. This change moves several aspects of planning to the MA step of JMAP, allowing for more detailed situational understanding to be developed earlier in the process.
  - f. Centre of gravity (COG) analysis has been retained, however the methodology employed to conduct this analysis has been revised to take into account recent theoretical developments. Furthermore, COG analysis has been de-emphasised to better enable the planning process to be applied during unopposed as well as opposed campaigns and operations.
  - g. A single hypothetical example has been used throughout the publication for illustrative purposes. This example presents the publication's core subject matter in an alternative way, to assist in maximising comprehension of the theoretical concepts. However, it is not supposed to be regarded as a prescriptive template for the conduct of operational planning and, like some of the quotes, has the occasional lighter counterpoint to the seriousness of the primary material.
9. ADFP 5.0.1, edition 2 AL1 contains amendments designed to improve understanding and reinforce planning connections. The more prominent updates include:
- a. a new paragraph included in Chapter 1 distinguishing between a line of operation (LOO) and course of action (COA)
  - b. more detail in Chapter 3 with respect to determining and describing operational objectives
  - c. clearer explanation of types of effects
  - d. expansion of the task verbs annex in Chapter 3, and rationalisation of the definitions

- 
- e. comprehensive restructure of Chapter 4 to better assist planning staff create separate COA from the original design LOO
  - f. a refined definition of 'course of action' in the glossary, and slight amendments to the definitions of 'critical capability', 'critical requirement' and 'critical vulnerability'.
10. ADFP 5.0.1, edition 2 AL2 contains updated operational risk management terminology in Annex 1C, and refinements to Mission Analysis in Chapter 3. The main amendment has been inclusion into the glossary of those revised and improved task verb definitions from AL1 articulated in Annex 3B, which means they can be sourced from the Australian Defence Glossary.
11. ADFP 5.0.1, edition 2, AL3 contains changes to two annexes. Annex 1C, 'Operational risk management', has been updated to bring it into alignment with the latest standard, AS ISO 31000:2018 *Risk Management—Guidelines*. Annex 3B, 'Key task verbs', has been changed to reflect North Atlantic Treaty Organization definitions and to include a wider range of verbs. Changes from both annexes have been included in the Glossary.
12. ADFP 5.0.1 should be read alongside other joint doctrine including:
- a. [ADDP—D—Foundations of Australian Military Doctrine](#)
  - b. [ADDP 00.1—Command and Control](#)
  - c. [ADDP 00.9—Multiagency Coordination: Defence's Contribution to Australian Government Responses](#)
  - d. [ADFP 2.0.1—Intelligence Procedures](#)
  - e. [ADDP 3.0—Campaigns and Operations](#)
  - f. [ADDP 5.0—Joint Planning](#)
  - g. any other joint or single-Service doctrine publications that may assist in planning for particular types of campaigns and operations. For further details of available joint doctrine publications, refer to the [Joint Doctrine Library](#) on the Defence intranet.

## AMENDMENTS

Proposals for amendment of ADFP 5.0.1, edition 2 AL3 may be sent to:

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Amendment number	Amendment	Amendment type	Effective date
AL1	Review, new	Ch 1-5, glossary	25 Feb 16
AL2	Review, new	Annex 1C, Ch 3, glossary	02 Aug 16
AL3	Review, new	Annex 1C, Annex 3B, glossary	15 Aug 19

## DOCTRINE PUBLICATION HIERARCHY

The hierarchy of ADDPs and ADFPs, and the latest electronic version of all ADDPs and ADFPs, are available on:

*Defence Protected Network [Joint Doctrine Library](http://drnet/vcdf/FID/CITE/doctrine/Pages/home.aspx)*  
(<http://drnet/vcdf/FID/CITE/doctrine/Pages/home.aspx>)

and

*Defence Secret Network [Joint Doctrine Library](http://collab.defence.gov.au/vcdf/org/FDD-FID-MSCD/CITEB/doctrine/SitePages/Joint%25Doctrine%25Publications.aspx)*  
(<http://collab.defence.gov.au/vcdf/org/FDD-FID-MSCD/CITEB/doctrine/SitePages/Joint%25Doctrine%25Publications.aspx>)



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## CHAPTER 1

# JOINT PLANNING

### Executive summary

- The process used for joint campaign and operation planning within the Australian Defence Force is the Joint Military Appreciation Process.
- This publication details the Joint Military Appreciation Process and its constituent steps. It provides instructions for completing each step and guidance on adapting the process to different types of situations.
- The Joint Military Appreciation Process consists of five steps:
  - Scoping and Framing
  - Mission Analysis
  - Course of Action Development
  - Course of Action Analysis
  - Decision and Concept of Operations Development.
- The Joint Military Appreciation Process encapsulates operational design and arrangement of operations, which together constitute the contemporary practice of operational art.
- Commanders and planners should approach planning by thinking critically about the situation they are seeking to understand.
- The Joint Military Appreciation Process is a linear process but, if required by the circumstances, it may need to be applied in a less rigid fashion, with steps repeated, re-ordered or omitted.
- The Joint Military Appreciation Process may be adapted to plan for situations in which there is no adversary force.
- Management of operational risk is part of the arrangement of operations and flows throughout planning.

*Don't panic.*

**Douglas Adams**  
***The Hitchhiker's Guide to the Galaxy***  
**1979**

## INTRODUCTION

1.1 The Joint Military Appreciation Process (JMAP) is used for joint campaign and operation planning within the Australian Defence Force (ADF). The JMAP produces a concept of operations (conops) that can subsequently be used to form the basis of an operation plan. This publication provides details about JMAP, including each of its constituent steps and their sub-steps. It also provides

instructions on how planners may successfully complete each step and provides guidance on adapting the process to different situations.

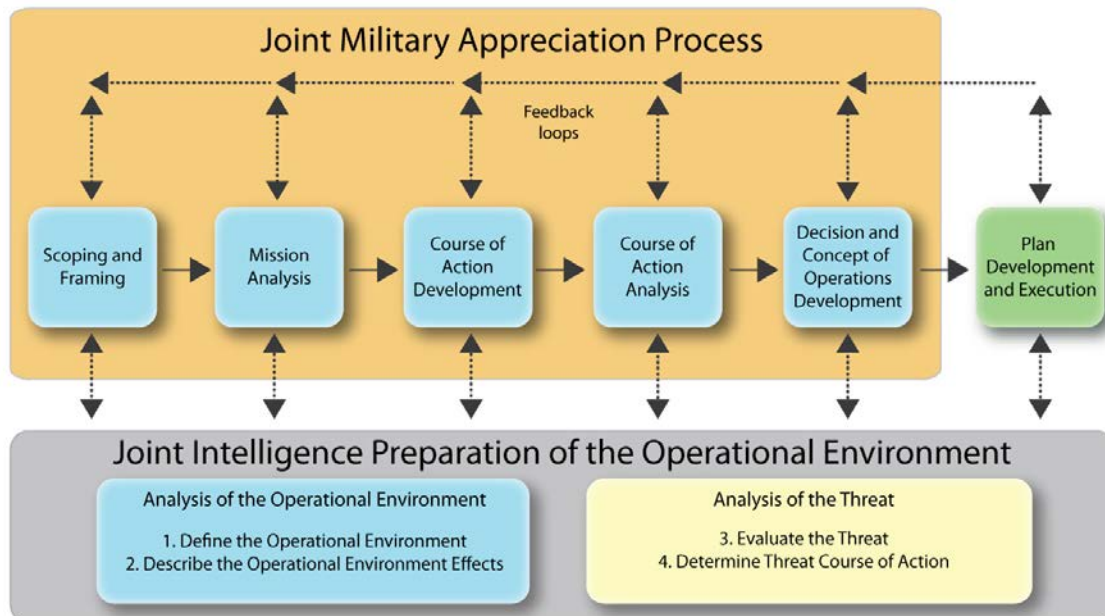
1.2 Foremost in the minds of commanders and planning staff should be that JMAP simply assists and promotes critical thinking rather than being an end in itself. It is not supposed to be used as a formulaic checklist that, once completed, will automatically provide the best solution to a problem. Creativity and flexibility of thought lie at the centre of sound planning practice, with the JMAP framework providing guidance and a measure of structure.

1.3 The JMAP consists of five steps:

- a. Scoping and Framing
- b. Mission Analysis
- c. Course of Action (COA) Development
- d. COA Analysis
- e. Decision and Conops Development.

1.4 The JMAP and its relationship with the Joint Intelligence Preparation of the Operational Environment (JIPOE) and plan development and execution is diagrammatically represented in Figure 1.1.

**Figure 1.1: The Joint Military Appreciation Process and its relationship with other processes and products**



1.5 Each step includes a number of sub-steps that facilitate detailed planning by breaking down the overall process into manageable pieces. Additionally, JMAP is supported by JIPOE, which assists commanders and staff to develop and maintain situational understanding. Plan development and execution, although not part of

JMAP itself, is necessary to implement plans developed using JMAP and is therefore elaborated within this publication.

**1.6 Publication structure.** This publication is structured as follows:

- a. Chapter 1 introduces JMAP and related concepts including operational art, operational design and arrangement of operations. It highlights the need for critical thinking and discusses ways JMAP may be adapted to various circumstances—for example, to planning operations where there is no adversary. It also discusses operational risk management and assessment, two concepts that flow throughout planning.
- b. Chapters 2, 3, 4, 5 and 6 provide details of each of the five steps of JMAP. Each step is discussed in a stand-alone chapter and each chapter discusses the inputs, sub-steps and outputs for that particular step. Each of these chapters also provides guidance to planning staff about how to successfully complete each step of JMAP.
- c. Chapter 7 discusses the post-JMAP actions required to initiate the execution of a plan. These actions include the development of supporting plans and issuing of orders.

**1.7 Use of a hypothetical example.** A common hypothetical example is used throughout Chapters 2, 3, 4, 5 and 6 to help illustrate how each of the sub-steps of JMAP may be completed by planning staff. As the example flows through each chapter, it should not be regarded as a blueprint for conducting JMAP, but is provided as an additional way to explain how JMAP is applied to create desired planning products and outcomes.

## OPERATIONAL ART

*[I]n industrial conditions, the dual dimensions of tactics and strategy had to be intellectually connected by an 'intermediate member'—or operational level of war. Only at the operational level could combat actions be forged into an ensemble and so provide the creative tactical material for extensive operations united by strategy.*

**Dr Michael Evans, 2004<sup>1</sup>**

**1.8** Operational art links available resources (means) and tactical actions (ways) to the attainment of national and military strategic end states and objectives (ends), while taking into account possible costs (risk). A thorough expression of operational art is essential to the successful conduct of joint planning. This is developed primarily through diverse operational experience and comprehensive professional military education (PME).

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<sup>1</sup>. Dr Michael Evans, *The Continental School of Strategy: The Past, Present and Future of Land Power*, Study Paper No. 305, Australian Army Land Warfare Studies Centre, June 2004, p. 50.

**Operational art:** The skilful employment of military forces to attain strategic goals through the design, organisation, sequencing and direction of campaigns and operations.

Notes:

1. Operational art translates strategic into operational and ultimately tactical actions.
2. It requires a commander to:
  - a. identify the military conditions or end state that constitute the strategic objective
  - b. decide the operational objectives that must be achieved to reach the desired end state
  - c. order a sequence of actions that lead to fulfilment of the operational objectives
  - d. apply the military resources allocated to sustain the desired sequence of actions.

1.9 The key elements of operational art constitute a collection of ideas about how best to link discrete tactical actions to achieve overarching strategic objectives. These elements are divided into two broad categories: operational design; and arrangement of operations.

### Operational design

1.10 Operational design produces a schematic that articulates the contemporary application of operational art. It constitutes a synthesis between classical notions of operational art, developed during the late nineteenth and twentieth centuries when armed conflict was dominated by large industrialised forces, and selected aspects of complex adaptive systems theory that have emerged during the early twenty-first century. In application, operational design promotes flexibility while maintaining simplicity and practicality. The symbiotic relationship between operational design and more traditional means of applying operational art through planning is perhaps best summarised by US Marine Corps General James N Mattis.

*Design does not replace planning, but planning is incomplete without design. The balance between the two varies from operation to operation as well as within each operation. Operational design must help the commander provide enough structure to an ill-structured problem so that planning can lead to effective action toward strategic objectives. Executed correctly, the two processes always are complementary, overlapping, synergistic, and continuous.*

**General James N Mattis, 2009<sup>2</sup>**

1.11 Operational design either draws from or produces:

- a. framing
- b. desired end state

---

<sup>2</sup>. General James N Mattis, US Marine Corps, Commander, US Joint Forces Command, *Memorandum for US Joint Forces Command: Vision for a Joint Approach to Operational Design*, dated 6 October 2009, Attachment (1), pp. 7-8.

- c. operational objectives
- d. centre of gravity (COG) analysis
- e. decisive points (DP)
- f. effects<sup>3</sup>
- g. line(s) of operation (LOO).

1.12 These planning aspects form the basis of JMAP steps one and two, the output of which is the commander's operational design in schematic form represented by a line or lines of operation. Discussion of these steps elaborates the nature of each, and explains how staff should derive and implement the operational design components into JMAP. For further information, see Chapters 2 and 3.

### **Arrangement of operations**

1.13 Arrangement of operations adds additional depth and flexibility to the broad outputs of operational design by developing a number of alternate COA that each achieve the desired end state, and is the focus of the remaining JMAP steps. This vital detail allows commanders and planners to ensure that effects and activities are ordered to efficiently progress towards achieving the end state, and determine the best COA to develop into the conops.

1.14 The specific elements of the arrangement of operations are:

- a. risk
- b. culminating points
- c. operational reach
- d. sequencing
- e. phasing
- f. main effort
- g. branches and sequels
- h. assessment.

1.15 Two of these elements, risk and assessment, should be considered from commencement of planning and are elaborated later in this chapter. The remainder form the basis of JMAP steps three, four and five.

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<sup>3</sup>. The ADF does not subscribe to 'Effects Based (Approach to) Operations'. The term 'effect' should be understood in its broad, generic sense.

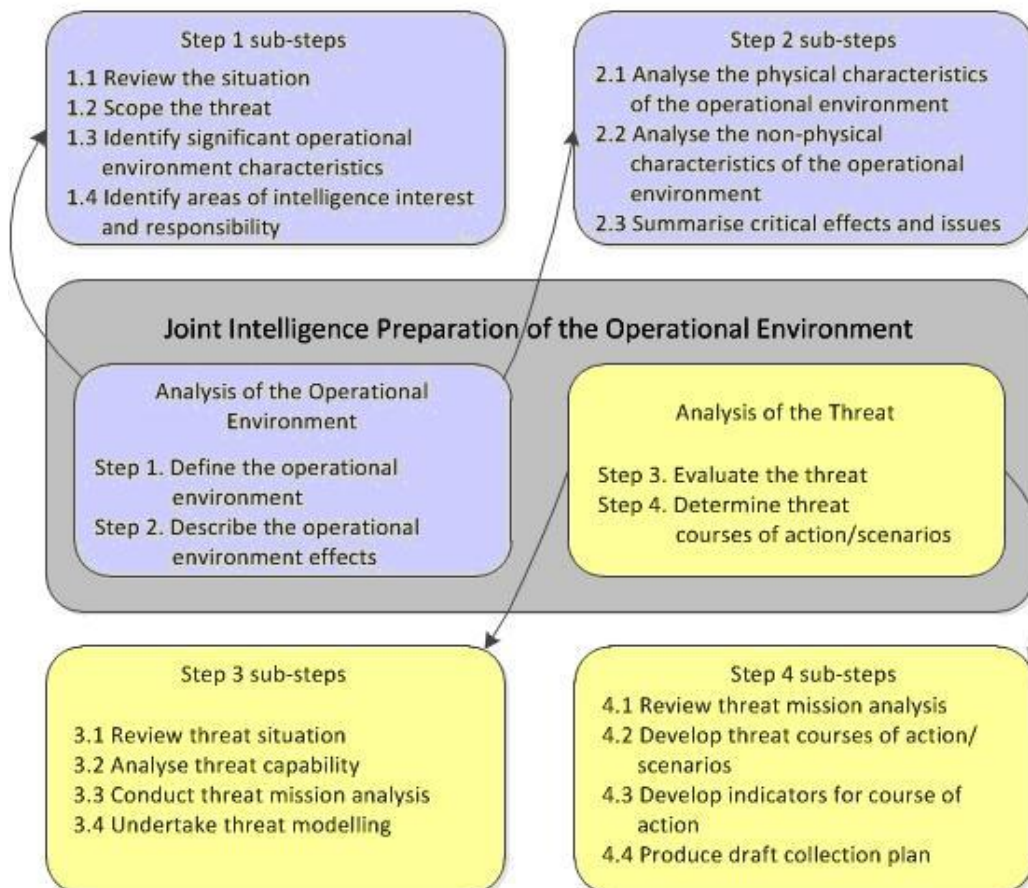
## Deconflicting terminology: line of operation vs. course of action

1.16 It is important to recognise the difference between LOO and COA, which are not interchangeable terms. The commander's understanding of the circumstances and solution to the problem is expressed as a schematic in the form of LOO, including those effects and higher-level tasks (in the form of DP) required to achieve the LOO objective or desired end state. COA are viable, discrete plans, based on the operational design LOO, that achieve the objective or desired end state; they are differentiated by a number of key factors determined during arrangement of operations. The most effective COA is selected for development into a conops, after which the JMAP is concluded.

## JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL ENVIRONMENT

1.17 The JIPOE is a component of joint operations planning and provides specific inputs to JMAP. Importantly, JIPOE and JMAP are mutually supportive. The purpose of JIPOE is to gain and maintain situational understanding for the commander and staff and to provide indications and assessments of future threat activity likely to adversely affect the mission or friendly force. Although not always practical, as much of JIPOE as possible should be conducted before a joint planning group convenes. The reality will more likely be an evolving intelligence flow that continually informs joint planning and helps refine the products. The JIPOE is shown in Figure 1.2 below.

**Figure 1.2: Joint Intelligence Preparation of the Operational Environment steps and sub-steps**





1.18 The JIPOE is a four-step process, with each step comprising a number of sub-steps. Some JIPOE outputs will constitute the intelligence inputs to JMAP. The five steps of JMAP each receive inputs from one or more steps of JIPOE. The inputs and outputs can be either physical products or enhanced situational understanding.

1.19 The JIPOE applies the overarching term ‘threat’ in preference to ‘adversary’. A threat can come from operational, occupational and environmental conditions that result from the capability to cause harmful effects either by their nature, or from a conscious choice to cause harm. Threats are contextual and can be influenced by many factors, including ideology, cultural, social and religious values, political objectives and geography. Some threats are enduring while others are temporary.

1.20 **Operational threats.** Operational threats are threats posed to Defence assets (personnel, equipment, facilities and information) by the adversary. Operational threats may include conventional military adversaries as well as criminals, issue motivated groups and civil disturbances.

1.21 **Occupational threats.** Occupational threats are threats posed to Defence assets by friendly personnel, actions, procedures, systems or equipment. They include biological, chemical, physical, psychosocial and human factors. They also include the risks posed by individual actions, conditions and characteristics. Occupational threats are conditions and hazards that result from choices most often made without the intent to cause harm.

1.22 **Environmental threats.** Environmental threats are threats posed to Defence assets by fauna, flora and other natural elements. They equally affect all parties in the joint force area of operations (JFAO) and include severe climate phenomena, geophysical activity, and infectious communicable disease. When threats such as these have no COG or clear COA, JIPOE provides scenarios that describe the possible impact of the threat situation on friendly forces.

1.23 Steps one and two of JIPOE together constitute an analysis of the operational environment and provide an input to Scoping and Framing (JMAP step one). The product is a detailed description of the operational environment, and an analysis of the effects of operational and environmental threats on the mission and friendly forces. Steps three and four of JIPOE together provide an assessment of the threat. Key products from these steps are detailed threat COA and scenarios that are used to analyse friendly COA, usually through war gaming.

1.24 Full details of JIPOE are contained in [Australian Defence Force Publication \(ADFP\) 2.0.1—Intelligence Procedures](#). For ease of reference, each of the steps and sub-steps of JIPOE are summarised in Annex 1A.

## COMPLEMENTARY PLANNING FACTORS

1.25 Planning in general, and JMAP in particular, involves certain nuances, which should be recognised and adapted as planning unfolds.

### A suitable tool for both campaign and operation planning

1.26 The JMAP is suitable for both campaign and operation planning. The scale of the process varies: for a campaign, JMAP may be used to identify and link the operations that together constitute the campaign; for an operation, JMAP may be

used to directly identify and link tactical actions in the JFAO. In each case, planners must be aware of, and avoid, the temptation to get too detailed—that is the role of tactical planning undertaken by joint task force (JTF) headquarters (HQ) and its constituent components or force elements (FE).<sup>4</sup> Staff at an operational level HQ, such as HQ Joint Operations Command (JOC), should focus more on the broad span of issues, which may incorporate certain tactical aspects, and predominantly attend to strategic and operational aspects of the situation.

### **Nesting the Joint Military Appreciation Process in strategic planning**

1.27 The JMAP is a campaign and operation-planning tool that is nested within less prescribed strategic planning. Consequently, the campaign or operation end state can be conceived as roughly aligning with a strategic objective. Because achieving all objectives leads to achieving the end state, multiple campaigns or operations may need to be conducted before the strategic end state is reached; in such a situation, the campaign and/or operational end state for each campaign or operation would constitute a strategic objective. In other circumstances, a single operation may be all that is required to reach the strategic end state. In this instance, the operation end state is the only strategic objective and is therefore, by default, also the strategic end state.<sup>5</sup>

1.28 For further information about strategic planning see [ADDP 5.0—Joint Planning](#).

### **Staff structure**

1.29 Typically the ADF uses the North Atlantic Treaty Organization based common joint staff system (CJSS) to structure its HQ staff. This enables interoperability with key allied HQ staff and ensures that staff functions and roles are clearly defined. The CJSS is explained further in Annex 1B.

### **The importance of critical thinking during planning**

*No one is thinking if everyone is thinking alike.*

**Usually attributed to General George S Patton, Jr.<sup>6</sup>**

1.30 ‘Critical thinking’ is defined by the American Foundation for Critical Thinking as ‘the art of analyzing and evaluating thinking with a view to improving it’.<sup>7</sup> Critical

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<sup>4.</sup> HQJTF may conduct either tactical or operational level planning, depending on the circumstances within the JFAO. Further information about the requirements of JTF planning at both levels, see [ADDP 5.0—Joint Planning](#).

<sup>5.</sup> For further information about determining end states and objectives, see respectively Chapter 2 and Chapter 3.

<sup>6.</sup> This quote is actually is the title of the 29th principle included in: Porter B Williamson, *General Patton’s Principles for Life and Leadership*, Tucson, AZ: Management and Systems Consultants, 1988, p. 151.

<sup>7.</sup> USA Foundation for Critical Thinking, ‘Critical Thinking: Where to Begin’, available online, accessed 23 May 2014, URL: <http://www.criticalthinking.org/pages/critical-thinking-where-to-begin/796>.

thinking is an important skill for planners to develop and exercise because it enables them to challenge accepted norms, to determine the right questions to ask and to answer those questions with an intellectual rigour that might otherwise lack depth. This results in the development of astute and comprehensive concepts that identify and address the problem(s) they plan to overcome more effectively than if considered in limited or professionally stovepiped ways.

1.31 The JMAP is, as the name states, a process. Although it is robust and adaptable, it is nevertheless subject to some inherent limitations that stem from its linear nature and formulaic structure. It will not foster critical thinking by itself. The inclusion in this edition of JMAP doctrine of a step that includes Framing recognises these limitations. This step bolsters what was 'Preliminary Scoping' in the previous edition, which sat outside JMAP, and ensures that the right cross-section of key staff will convene from the outset and begin to thoroughly analyse the problem and environment.

1.32 Staff develop sound critical thinking skills through PME. While this doctrine publication provides comprehensive guidance for planners, PME should fuse doctrinal knowledge with experience to enhance the practice of sound thinking and operational art such that commanders and staff can better comprehend the current circumstances, and adapt JMAP to meet their specific requirements. Since JMAP is simply a tool for structured analysis and the drawing of conclusions to create a conops, it can be shaped to fit the immediate situation and experience of the commander and staff. It behoves commanders to allow their staff the freedom to think critically and creatively about solving the right problem within the most appropriate planning construct.

### **Planning and the need for circularity**

1.33 As has been stated, JMAP tends to encourage linear thinking. This is inevitable because of the need to start somewhere, finish somewhere, and be able to logically progress in a broadly structured way. Conversely, the world is inherently non-linear, fluid and complex. A situation will not usually unfold in a linear way. Furthermore, planners will not necessarily have to hand all the information about the situation. Therefore, JMAP should be harnessed linearly only up to the point of diminishing utility. Beyond this, planners may need to re-visit some steps and complete them more than once. Whatever the imperatives, the process is adaptable and flexible. The JMAP diagram (see Figure 1.1) illustrates this by the 'feedback loops' which remind staff that planning pauses, times to reframe the situation or assess new information should be built in to counter a checklist-oriented drive for the final conops.

1.34 The need to alter the approach to planning is at the discretion of the commander and the planning staff. Implementation of the process should be carefully considered prior to and during planning.

### **Using the Joint Military Appreciation Process when there is no adversary**

1.35 Several ADF operations during the last few decades, including peacekeeping, humanitarian operations and the provision of Defence assistance to the civil community, have been undertaken without an adversary present in the JFAO. In these cases JMAP may still be used as a planning tool. However, the

aspects of it relating to the adversary may not need to be applied. An own force COG analysis is still required, however planning may focus on threats to the mission that are not adversarial (such as reputational aspects, environmental conditions or benign actors). In such situations, JIPOE describes possible scenarios given the information known about activities in the JFAO.

## OPERATIONAL RISK MANAGEMENT

1.36 Operational risk involves a simple question (Clausewitz's assertion that 'everything in war is very simple, but the simplest thing is difficult' should be borne in mind here)<sup>8</sup>: is achieving the objective worth the possible price (in whatever form) that may have to be paid? If the answer is 'yes', then those threats, hazards and risks during operations are worth mitigating and/or accepting. The JMAP is a decision-making tool that focuses on achieving objectives, while identifying and analysing associated potential hazards and applying risk mitigation strategies in reaching a more refined answer to this question. Progression through JMAP identifies the possible costs of various actions (or inaction), and embedded within the planning process is the calculation of residual operational risk.

1.37 The ADF currently employs a conventional risk management model.<sup>9</sup> Risk management in this sense is achieved by the systematic application of procedures and practices to the tasks of identifying, analysing, evaluating, treating and monitoring risk.

1.38 This process, however, needs to be contextualised within dynamic and often intrinsically hazardous operational environments to reach an honest assessment of cost versus gain. This can be quite different to the largely static and benign assessment of risk in non-operational, day-to-day settings. Achieving the desired end state is the goal that drives planning, and operational risk management provides understanding and treatment of the hazards presented by adversaries in the JFAO. Despite the difference between this conceptualisation of risk and that of the conventional risk management model, the latter does at least provide a framework that can be adapted to suit operational planning requirements, and be harnessed during each stage of planning. For further details about how this is achieved see Annex 1C.

1.39 Potential hazards and risks should be identified during campaign and operation planning and highlighted to the commander, who will determine the acceptable level of residual risk for any activity or task after due consideration of the mitigation strategies.<sup>10</sup> A commander may have to elevate approval of certain activities to a superior commander, based on the residual risk present within the final conops.

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<sup>8</sup>. Major General Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret, Princeton, NJ: Princeton University Press, 1989, p. 119.

<sup>9</sup>. Defence complies with the Australian/New Zealand Standard AS/NZS 31000:2018 *Risk Management—Guidelines*.

<sup>10</sup>. Potential hazards include: hostile elements; natural environment; man-made environment; organisational complexity; resources; personnel; time and space; human nature; legal and media; and reputation considerations. These are described in detail in Annex 1C.

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## OPERATIONAL ASSESSMENT

1.40 Assessment is an intrinsic element of operational design and review, specifically prompting new COA development and contingency planning. As objectives, DP, supporting effects and activities are derived, assessment measures are developed for each to benchmark and track operational success. Equal focus is given to the identification of potential unintended effects. What criteria and how to measure them are incorporated into the operational plan from the beginning. Associated data gathering uses JTF and higher-level resources, and planning includes intentions for what is to be gathered, when, and by whom.

1.41 A comprehensive and integrated assessment plan is developed, linking assessment activities and measures of performance and effectiveness at all levels. Assessment of results at the tactical level assists in determining operational progress at the JTF level and campaign progress at HQJOC. Generally, the level at which a campaign, operation, or task is conducted should be the level at which it is assessed. This provides a focus for assessment and allows the efficient use of collection assets. The assessment plan focuses on progress toward achieving operational objectives and the desired end state. Based on assessment results, planning is revised and adjusted and resources reallocated accordingly. However, at various times during execution, focus may shift to a particular LOO, specific operational objective, geographic area or particular critical action.

1.42 Assessment includes analysis of all available information to determine whether the adversary is actually reacting, or showing indications of reacting, in the way that is intended at that stage of the operation. This is particularly relevant where the emphasis is on changing the attitudes of protagonists rather than on the destruction of an adversary. Procedures need to be flexible enough to allow analysis of unintended effects. It should be noted that assessing whether attitudes or bias in a populace has shifted is difficult to measure accurately, may never be truly gauged at all, and may well take a protracted period of data gathering to produce meaningful results.

1.43 To ensure that assessment is conducted within a defined framework that provides relevant and useful information to the commander, the following is considered:

- a. **Responsibilities.** FE responsible for conducting each phase of the assessment, including collection of data, assessment and reporting, are clearly identified.
- b. **Assessment cycle.** The method of assessment and frequency is determined. The assessment cycle is likely to vary in accordance with the operational tempo.
- c. **Baseline the data.** An agreed baseline data set or standard is developed to provide a comparison. The comparison between the baseline and future assessments is used to determine the progress or otherwise of the operation.
- d. **Collection of data.** The data required to conduct assessment comes from a broad range of friendly force and intelligence sources, including after action reports, battle damage assessment, collateral damage assessment, combat

assessment, operations security survey reports, psychological operations profiling and post-testing reports, other operational reports, and intelligence and counterintelligence reports (including command and control analysis, social network analysis and human factors analysis).

- 1.44 Assessment planning is based on:
- a. what needs to be assessed and in what detail
  - b. the balance between formal and informal assessment
  - c. how assessment is to be used to support decision-making
  - d. what specific data is needed
  - e. how that data is to be collected.

### **Deriving measures of performance and effectiveness**

1.45 Measures of performance and effectiveness should provide succinct indications of change, effect and execution of the desired impact. These are articulated and developed within DP matrices (using the DP narrative for guidance) such that as the campaign or operation unfolds, achievement of the DP can be monitored.<sup>11</sup> However, apart from early targeting assessment, absolute, unequivocal measurement is rarely achievable. In particular, information operations, which often seek to realise subtle psychological effects, sometimes over protracted periods, may frustrate this goal. Imagination and a thorough appreciation of the context are required. While lessons from previous operations can provide a useful starting point, there is no guarantee that different situations will follow similar patterns.

1.46 For further information about assessment techniques see [ADFP 3.14.1—Targeting Assessment Procedures](#).<sup>12</sup>

### **Annexes:**

- 1A Steps of the Joint Intelligence Preparation of the Operational Environment
- 1B Common joint staff system
- 1C Operational risk management

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<sup>11</sup>. For more on the content of DP matrices see Chapter 3.

<sup>12</sup>. Relevant examples of how to gather data and assess the effectiveness of operational activities are also given in: UK Development Concepts and Doctrine Centre, Joint Doctrine Publication 3-00—*Campaign Execution* (3rd ed., October 2009), Annexes 5A-D.



## ANNEX 1A

## STEPS OF THE JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL ENVIRONMENT

1. The Joint Intelligence Preparation of the Operational Environment (JIPOE) is a component of joint operations planning and provides specific inputs to the Joint Military Appreciation Process (JMAP). For planners' information, a summary of JIPOE steps and key outputs is given below.
2. JIPOE consists of two parts, each having two steps. Part one is analysis of the operational environment (AOE), which constitutes a definition of the operational environment (OE) (step one) and a description of environmental effects (step two). Part two is an analysis of the threat, which consists of an evaluation of the threat (step three), and a determination of threat courses of action (COA) or scenarios (step four). Further information can be found in [Australian Defence Force Publication \(ADFP\) 2.0.1—Intelligence Procedures](#).

### Step one: define the operational environment

3. This step involves methodically researching all significant characteristics of the OE within the geographical confines and non-physical context of the environment within which the commander and staff expect the operation to be conducted. The geographical confines will normally be the same as the joint force area of operations (JFAO). However, non-physical characteristics may extend beyond geographical boundaries.
4. The JFAO used to be closely linked with the intelligence-generated area of intelligence responsibility (AIR). Since the commander could not guarantee control of organic intelligence beyond the AIR, it would carry greater risk to operate outside the AIR, and so the AIR became synonymous with the JFAO. Now that the AIR concept has been retired, defining the JFAO is less tied to direct control of collection assets (although still important) and has become instead a J5 decision following discussion with J2 staff as the JIPOE commences. Between planning staff, military strategic and civilian agencies (including government), sensible boundaries are determined that permit operational objectives to be met, incorporating political and military prerogatives. For more information on considerations when defining the JFAO, see 3.39.
5. **Step 1.1: review the situation.** This is a quick assessment of the circumstances that created the requirement for a JIPOE and the planning activities it will support. The intelligence staff determine:
  - a. time available to develop JIPOE
  - b. the level of JIPOE detail achievable within time constraints and the level of detail expected by the commander and the joint planning group (JPG)
  - c. guidance from the commander and/or superior commander
  - d. availability of collection and analytic assets

e. priority intelligence requirements (PIR).

6. **Step 1.2: scope the threat.** A brief assessment of the operational and environmental threats is necessary to provide context for subsequent research of the OE and to determine any limitations on operations.<sup>13</sup> This assessment includes a broad description of the threats and, where an operational threat may exist, its intentions. A set of statements regarding the threat may be provided on completion of this sub-step, enabling increased understanding of the analysis required for JIPOE steps three and four.

7. **Step 1.3: identify significant operational environment characteristics.**

This is the most involved part of JIPOE step one and requires comprehensive research of the physical and non-physical domains in which, or through which, military activity is expected to take place. The domain characteristics are extensive and include:

- a. maritime, land, air and space—for example, topography, hydrography, transport infrastructure, built environment, vegetation and weather
- b. human—for example, culture, population, government and economy
- c. information—for example, electromagnetic spectrum, social media and cyberspace activity/capability.

8. **Step 1.4: defining areas of intelligence interest.** The intelligence staff, in consultation with the commander and JPG, will seek to focus collection operations to specific areas, or aspects, as soon as possible. The JFAO provides the initial focus for intelligence staff. The intelligence system is, however, responsible for the provision of intelligence on threats from the OE, which may extend beyond the JFAO. Where threats are identified or are possible outside the JFAO, the intelligence staff seek support from external agencies. The following intelligence related areas are defined in order to support and enable the commander and intelligence staff to focus their intelligence effort:

- a. **Area of intelligence interest.** The area of intelligence interest (All) is the area in which a commander requires intelligence on aspects of the environment and threats likely to affect the outcome of current and future operations. The All is likely to extend beyond the JFAO and include threats from the non-physical domains, such as cyber threats and adversary information activities. As the commander is unlikely to be able to acquire all of this intelligence through assigned collection capabilities, the intelligence staff request support from external organisations such as coalition forces and strategic assets.

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<sup>13.</sup> The term 'threat' rather than 'adversary' is used to imply the full range of hazards that may adversely affect the friendly plan, whether to personnel, materiel, mission, environment and reputation. It includes both individuals and organisations in the JFAO that are adversarial in nature, as well as environmental threats that include geophysical, climatic or health factors, for example. Generally, 'operational threats' will be adversaries who have objectives and courses of action to achieve them.

- b. **Named area of interest.** A named area of interest (NAI) is where information is gathered to satisfy specific intelligence requirements, which will confirm or deny threat intentions or presence. NAI are determined in subsequent JIPOE steps to focus attention on areas where a threat must appear for a particular COA or scenario. NAI provide an objective basis for the conduct of collection operations.
  - c. **Target area of interest.** A target area of interest (TAI) is where key adversary capabilities are vulnerable to targeting by friendly forces. These capabilities are generally high value targets (HVT). Planning and targeting staff then decide which HVT that are, or will be, in the TAI can be acquired and engaged by friendly forces. Of those, the targets that need to be affected to support the friendly commander's objectives are designated high pay-off targets. This designation directly contributes to the targeting planning process. For more information on the targeting process see [Australian Defence Doctrine Publication 3.14—Targeting](#).
9. **Key products.** The key products of JIPOE step one are:
- a. A JIPOE brief to include time constraints, guidance available, collection and analytic assets available, PIR and a brief assessment of the threat situation.
  - b. A portfolio of:
    - (1) **Graphical overlays.** Geospatial products that indicate restrictions to maritime, land, and air movement. Examples of specific factors that may warrant separate representation are: sea state, aviation infrastructure—for example, landing grounds, special terrain features, lines of communication, service infrastructure, maritime routes, air corridors, operating bases or demographics.
    - (2) **Human factors.** Understanding the human factors of an AO is central to counterintelligence (CI) and counterinsurgency operations—for example, a group's culture, demographics or behaviour and an individual's values, beliefs or intentions.
    - (3) **Psychological effects analysis.** An analysis of the psychological spectrum of the OE will require the development of basic and special psychological operations studies.
    - (4) **Normalcy graphics.** These include tables and charts depicting specific activities in a certain location and time period. These graphics identify patterns, profiles and deviations from usual activity. An example of a normalcy graphic topic might be threat aircraft sorties in a specific area over a certain timeframe.
    - (5) **Environmental graphics.** These graphics may depict historical or forecasted climatic or weather conditions such as temperature, visibility, wind, precipitation, cloud cover and humidity. Environmental graphics may also be used to depict oceanographic issues such as swell, surf, salinity and water column characteristics.

- (6) **Combination graphics.** Key environmental factors that may affect operations may be combined in the one graphic for further illustrative purposes.

c. Intelligence responsibilities and All represented in relation to the JFAO.

### **Step two: describe the operational environment effects**

10. Intelligence staff make deductions about how the OE, defined in step one, affects friendly and threat operations in detail. The procedure is to divide the OE into a number of characteristics—for example, land, human and weather, and predict what effect each will have on a set of operational factors such as mobility, logistics and personnel. These effects are displayed using a set of physical effects overlays, psychological effects briefings, normalcy graphics, weather effects matrices, and combination graphics as appropriate from step one. Use of standard symbology assists decision-makers and planners to interpret planning products, which are often produced by different staff elements. USA Department of Defense Interface Standard—Joint Military Symbology MIL-STD-2525D (issued 10 June 2014) contains the applicable symbology conventions.

11. **Step 2.1: analyse physical characteristics of the operational environment.** Intelligence staff predict or model behaviour of environmental threats and make deductions about the impact of these factors and elements on operations or friendly forces. To conduct analysis, staff sub-divide the OE into the following domains and elements:

- a. **Maritime.** This factor may include hydrographic, oceanographic, littoral (beaches, ports, obstacles), acoustic, navigational or maritime logistical data derived from charts, tables, imagery and other sources, which could impact operations, most notably maritime operations.
- b. **Land.** This factor may include vegetation and elevation data, which might be obtained from maps or imagery sources. It also includes analysis of human-made features, including urban areas, factories, railways, logistical nodes such as petroleum, oils, and lubricants storage sites or ammunition dumps, roads and other land infrastructure and lines of communication.
- c. **Air.** This factor may include data relating to airports, petrol, oil and lubricants availability, aircraft, maintenance and manufacturing facilities, air navigation and air traffic control, that can be obtained from a variety of imagery products, charts and other sources.
- d. **Space.** Space-based capabilities include position, navigation, timing, earth observation and communications. Situational understanding of satellite health and availability are critical to contemporary military activity.
- e. **Weather.** Meteorological information, including forecasts and climatic data, which could affect operations.
- f. **Other environmental effects.** These incorporate all other natural phenomena, such as natural disasters, state of sanitation, disease or famine that might affect operations and constitute an environmental threat.

12. **Step 2.2: analyse non-physical characteristics of the operational environment.** This sub-step includes an analysis of the effects of the following on friendly forces and mission:

- a. **Human factors.** A detailed description of the human domain of the OE focused on operational threats. Key to understanding this environment is the mindset of friendly forces to increase own force cultural competence and therefore ability to comprehend the cultural environment of the JFAO. Some relevant human domain elements within the JFAO include:
  - (1) the United Nations and other multinational organisations, including their mission, and assessment of the way which these organisations might achieve their mission
  - (2) non-governmental organisations
  - (3) displaced persons.
- b. **Information.** This domain involves analysis of communications, media and information technology, which govern the distribution and use of information to a population. It may include threat information activities where a capability and intent may exist.

13. **Step 2.3: summarise critical effects and issues.** The intelligence staff will next summarise the impact of critical characteristics analysed in sub-steps one and two above on friendly and threat operations within the OE. These deductions should be expressed in terms of how they affect the following key operational aspects:

- a. mobility
- b. military capability (friendly and threat), including:
  - (1) weapon systems and tactics
  - (2) collection and analytical capability components
  - (3) command and control
  - (4) logistics
  - (5) personnel.

14. **Key products.** The key products from step two are:

- a. physical characteristics graphics
- b. descriptions of applicable non-physical characteristics of the OE
- c. summary of critical effects and issues describing the impact of the physical and non-physical characteristics of the OE on key operational aspects.

15. Step two completes the initial AOE, which is then updated subject to events, time and resources. Completion of JIPOE steps one and two produces an AOE,

which provides an analysis of environmental threats and a description of operational threats to be further analysed in subsequent JIPOE steps.

### **Step three: evaluate the threat**

16. Step three requires intelligence staff to analyse the operational threat environment to establish an understanding of threat capacity and risk to own force mission. The analysis covers operational threat capabilities, dispositions and intentions, assessment of strengths and weaknesses, and appreciation of the threat's normalcy patterns. Importantly, the threat analysis considers ideal conditions and limited constraints. Step three of JIPOE comprises a number of sub-steps as outlined below:

17. **Step 3.1: review threat situation.** Operational threat dispositions will be determined and portrayed via a recognised maritime picture (RMP), recognised air picture (RAP), and when in combination, recognised air and surface picture (RASP).

18. **Step 3.2: analyse threat capability.** The intelligence staff develop an operational threat structure (order of battle (orbat) for a conventional threat) list for all threat component services, other government departments or affiliated organisations that contribute to a threat's military capability or non-conventional threat support infrastructure. Where relevant, an operational threat's intelligence and CI capabilities should also be thoroughly assessed as the basis for operations security, deception, collection, protective security and force protection planning. The same considerations should be applied in the case of non-conventional threats although these threats may not have a defined intelligence or CI capability.

19. **Step 3.3: conduct threat mission analysis.** The intelligence staff assess operational threat intentions at the operational level. Given strategic guidance and knowledge of selected strategic level indications and warning, the intelligence staff attempt to determine the motives of the operational threat commanders or leaders, the individuals of greatest interest to the friendly force commander. This sub-step should be undertaken based broadly on the requirements for the friendly force Mission Analysis (MA) with the exception of drafting commander's guidance. Specifically, the intelligence staff should determine:

- a. the operational threat entity faced by the friendly commander, that is, the adversary commander or leader who is capable of targeting the friendly force centre of gravity (COG) and its vulnerabilities
- b. the threat wider aims and intentions, including strategic objectives and strategic end state
- c. the likely intent of threat commander/leader, mission and likely specified, implied and essential tasks required to carry out the mission
- d. those limitations thought to be imposed on the operational threat
- e. any critical facts and assumptions.

20. **Step 3.4: undertake threat modelling.** At this point, the intelligence staff identify and analyse the threat's operational level COG, recording the result as a COG analysis matrix. An associated master target list (MTL) and an initial HVT list



are also developed to facilitate the Australian Defence Force targeting process as follows:

- a. Intelligence staff conduct a COG analysis to determine the operational level critical factors (CF) that constitute the COG. All CF (including critical capabilities, critical requirements and critical vulnerabilities (CV)) are portrayed on the COG analysis matrix.
  - b. The COG analysis allows the commander and staff to pinpoint relative strengths and weaknesses of the threat, such that the HQ planning staff can develop COA that exploit the threat CF with an economy of effort. Some of the information from this analysis may be used by the planning staff to formulate decisive points (DP) during JMAP MA.
  - c. Intelligence staff should extract a comprehensive list of all potential targets existing in the JFAO from integrated databases. This 'cut' will form the MTL for the operation. The integrated effects teams will use it for deliberate targeting.<sup>14</sup>
  - d. Threat CV identified are related to the MTL to develop an HVT list.
21. The resulting CF matrix, MTL and HVT list assist the intelligence and operations staff when war gaming during JMAP COA Analysis.
22. It is important for the intelligence staff to understand how an operational threat has historically conducted operations or activities to predict future action. The intelligence staff should research threat war fighting doctrine or modus operandi likely to be applied during the impending operation. The staff should prepare a summary of expected threat capabilities and activity profiles and patterns, and prepare a brief on the important tenets of threat procedures or doctrine where available.
23. **Key products.** The key products that should be generated during step three are as follows:
- a. JIPOE brief as required
  - b. RMP, RAP and RASP showing adversary force element dispositions
  - c. orbat matrices and other capability listings including intelligence collection and CI capabilities
  - d. threat MA including adversary mission statement (purpose, method, end state), objectives, tasks and limitations
  - e. adversary COG analysis matrix including COG and CF
  - f. MTL
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<sup>14</sup>. For further information about targeting see [ADFP 3.14.2—Targeting Procedures](#).

- g. initial HVT list
- h. threat doctrine statements.

**Step four: determine threat courses of action**

24. The final step in JIPOE combines a comprehensive AOE compiled in JIPOE steps one and two, and the analysis of the operational threat from step three to develop a number of threat COA or scenarios, ranging from the most likely COA to the most dangerous COA, from the friendly force viewpoint. At least two threat COA (most likely and most dangerous) are required, but if planning time permits more should be developed. The approach to developing the COA is the same as that used in JMAP. Detailed threat COA and supporting DP, commander's decision point (CDP), and synchronisation matrices must be completed prior to JMAP COA Analysis. Scenarios are developed when an operational threat, including an adversary, cannot be clearly identified; or there is the potential for unexpected events to have a significant impact on operations. Scenarios are based on key environmental aspects of the OE and stakeholder analysis.

25. **Step 4.1: review threat mission analysis.** The intelligence staff should apply their collective appreciation of the environment and threats to predict future threat activity in the OE. This sub-step is undertaken to validate the threat MA undertaken in step three to ensure subsequent sub-steps proceed within the appropriate context and that threat COA and scenarios reflect environmental realities and the threat, rather than the friendly force, mindset.

26. **Step 4.2: develop threat course of action/scenario.** The intelligence staff should review the friendly CF analysis matrix prepared by the planning staff during JMAP MA. Armed with an understanding of friendly strengths and weaknesses, the environmental effects on operations and assessed threat mission, the intelligence staff should develop a number of detailed adversary COA/scenarios.

27. A range of broad COA/scenarios are developed based primarily on the friendly CF analysis matrix and threat MA that include:

- a. DP that support the broad situation.
- b. Lines of operation (LOO) using those DP.
- c. Identification of branches and sequels that support each LOO as applicable and development of CDP to support each branch and/or sequel, including identification of additional NAI to support CDP.
- d. Detailed COA/scenarios by applying time lines, phases, associated tasks and considered risks. Scenarios are developed as broad, text-based narratives. The detailed COA/scenario should, at a minimum, include the most likely and the most dangerous versions.

28. DP, CDP and synchronisation matrices corresponding to each phase of the operation should be developed as the COA/scenario are developed. These are used during JMAP COA Analysis.

29. **Step 4.3: develop indicators for course of action.** Any friendly COA will be unlikely to proceed without incidents, threat interference or other circumstances, which might compel the threat group to deviate from its intended COA. Indicator lists and matrices should be developed for each threat COA/scenario to identify threat indicators such as patterns, profiles, deviations from a norm or model, which may suggest that a specific threat activity is about to take place, or is in progress, that could disrupt the friendly COA. Indicator lists and matrices will be updated during JMAP COA Development and COA Analysis.

30. **Step 4.4: produce draft collection plan.** The intelligence staff prepare a draft collection plan to support the impending operation. The plan identifies PIR and assigns specific collection assets to answer the PIR. Additionally, the plan provides details of NAI that have been identified to support CDP. A collection synchronisation matrix may be produced to more clearly display the association of the collection plan, CDP and NAI.

31. **Key products.** The products from this step of JIPOE are:

- a. a JIPOE briefing
- b. detailed threat COA/scenarios including synchronisation matrices by phase
- c. indicator lists and matrices for each threat COA/scenario
- d. a completed operational intelligence estimate and draft collection plan.

## ANNEX 1B

**COMMON JOINT STAFF SYSTEM**

1. The key to successfully employing a joint task force (JTF) to achieve assigned tasks lies in establishing effective staff structures, with clear divisions of responsibilities, in all headquarters (HQ). The common joint staff system (CJSS) provides such a staff structure.

2. The CJSS has been adapted from the North Atlantic Treaty Organization (NATO) joint (J) staff system. The CJSS supports the commander in achieving the mission and end state. The staff responsibilities include developing policy, preparing and coordinating plans, and monitoring operations. In the CJSS, personnel drawn from the single Services, and other government departments (OGD) and agencies are grouped together into functional divisions. Advantages of the CJSS include:

- a. common functional staff structures at all levels of command
- b. clear divisions of staff responsibilities along functional lines
- c. simplified correspondence distribution
- d. flexibility of inter-HQ command and control
- e. compatibility with allies and potential multinational partners.

3. **Common joint staff system naming protocols.** The CJSS naming protocols are common throughout and are functionally based. Letter designators are used followed by up to three numerals, where the letter identifies a 'joint' or 'component' HQ position and the numerals identify the branch and the function within the branch. For example, J322 is interpreted as follows:

- a. 'J' joint
- b. J(3) branch
- c. J3(2) function within the branch
- d. J32(2) second desk.

4. Other protocols used are:

- a. J0(X) command function
- b. / indicates a combined branch, as in J1/4.

5. **Letter designators.** Letter designators indicate a joint or component HQ position. These are:

- |    |    |  |
|----|----|--|
| a. | C  | combined or coalition <sup>15</sup>    |
| b. | J  | joint                                  |
| c. | N  | naval                                  |
| d. | G  | ground (at divisional level and above) |
| e. | S  | ground (at brigade level and below)    |
| f. | A  | air                                    |
| g. | SO | special operations                     |
| h. | X  | exercise control (used as required).   |

6. **Numeral designators.** Up to three numerals will follow the single letter designator. The first number indicates the branch, the second number relates to the function within the branch and the third is sequential—for example, see Table 1B.1.

**Table 1B.1: Example of numeral designators**

<b>J332 would be:</b>			
<b>J</b> joint	<b>3</b> operations	<b>3</b> current operations	<b>2</b> second desk
<b>G351 would be:</b>			
<b>G</b> army	<b>3</b> operations	<b>5</b> plans cell	<b>1</b> first desk

## Component

7. The size of the HQ will dictate the number of numerals used. Smaller HQ will have no need for the third numeral and need only use two. Additionally, multiple letter designators may be used to further describe staff positions if deemed necessary. These are to be in upper case, follow the last numeral and should be no less than two and no more than four letters. For example: G351 ARTY, J453 TPT.

8. **Headquarter identifier.** To avoid confusion in correspondence between HQ staff (for example Joint Operations Command) an HQ identifier suffix is used—J01 JOC; J35 JOC; J50 NORCOM and J3 JTFXXX.

## Common staff designations

9. The CJSS allocates numbers to designate the branch or cell which will be preceded by a letter designator indicating a joint or component position as described above in paragraph 5. The staff designator numbering system is as follows:

<sup>15</sup>. In multinational HQ, the staff title normally uses both the C and J designators—for example, CJ33.

- a. **J0—Command group.** This staff area includes personal and executive staff responsible directly to the commander. The command group is further sub-divided as follows:
- (1) 00 – commander
  - (2) 001+ – commander’s personal staff
  - (3) 01 – chief of staff (COS)
  - (4) 011+ – COS personal staff
  - (5) 02 – deputy commander
  - (6) 03 – assistant commander
  - (7) 04 – head of coordination
  - (8) 05 – senior resource adviser
  - (9) 06 – senior legal adviser
  - (10) 07 – senior health adviser
  - (11) 08 – senior chaplain
  - (12) 09 – joint science advisor
  - (13) senior gender advisor (no numerical designator).
- b. **J1—Personnel.** J1 staff manage personnel, develop personnel policies, and administer military and civilian personnel and prisoners of war within a joint force area of operations (JFAO). Responsibilities encompass policies for the sustainment of manpower for a JTF and of the personnel that constitute the JTF. This involves manpower accounting, including casualty reporting, prisoner of war management, management of welfare, discipline, and honours and awards. For enhanced synergy, the J1 staff are usually located near the J4 staff.
- c. **J2—Intelligence.** J2 staff coordinate the commander’s intelligence requirements and assess the location, activities, intentions and capabilities of the threat or adversary. They are directed and tasked by the commander, ensuring that their effort is tuned to HQ intelligence requirements. In answering these requirements, the J2 staff integrate information and intelligence from national and allied sources and agencies, with that from assigned force elements (FE).
- d. **J3—Operations.** J3 staff are responsible for ongoing operations. They assist the commander to organise, execute and monitor operations. The J3 staff manage the HQ information flow and disseminate the commander’s orders. The J3 branch is the focal point of the JTF headquarters (HQJTF). It is the lead staff branch and is responsible for the production and issue of an operation order (opord) or operation instruction (opinst) and/or a directive and



the coordination of liaison and operational reporting. The J3 branch is organised into functional specialist branches and/or cells appropriate to the operation, which may include the following:

- (1) **J33—Current operations cell.** The current operations cell monitors the immediate situation. This is usually taken to be the last, and the next, 24 hours, though might extend up to the end of the present phase of activity, out to about 96 hours ahead. It also compiles routine reports and returns and manages incidents. In some HQJTF a J3 coordination cell is established within the current operations cell to act as the COS personal staff branch to enhance the coordination and synchronisation of operations.
- (2) **J35—Current plans cell.** The J35 cell bridges the gap between J3 and J5 and is primarily responsible for converting the operational plans (oplan) and contingency plans produced by J5 into opord or opinst for release to the JTF. It is usual to try and divide the responsibility between J3, J35 and J5 in a logical way, usually in blocks of time forward from the present. For example, J3 manages current operations up to 96 hours; J35, 96 hours out to seven days; and J5, seven days and beyond.
- (3) **Operations support cell.** There are a number of operational support activities that require planning, coordination and management by J3 staff. The core of operations support is aimed at coordinating information operations, targeting (including joint fires), Defence public information and civil-military cooperation (cimic). The cell may also focus on force protection issues. Other specialist J3 capabilities, such as environmental specialists or engineers may also be included within this cell and in time the cell may grow to become a semi-autonomous organisation reporting directly to the COS.
- (4) **Specialist J3 capabilities.** Some force elements, usually highly specialised in nature, provide cross-component capabilities that are not generally delegated to the JTF Component Commander. These may include:
  - (a) **Special operations liaison.** Coordination of operational level SO functions.
  - (b) **Joint force engineers.** An engineer cell ensures a pan-JFAO view, particularly in being able to re-balance engineer resources across components, and for wider benefit to OGD and non-governmental organisations (NGO). Engineer infrastructure experts may be collocated with J4.
  - (c) **Joint helicopter force.** Similar in purpose to engineer capabilities, a helicopter force cell apportions the allocation of scarce battlefield helicopters in accordance with the commander's priorities.
  - (d) **Other scarce capabilities.** The commander may decide to group and accommodate other capabilities, usually scarce, which are not

subordinate to assigned FE but that interface at the operational level.

- e. **J4—Logistics.** J4 staff coordinate all logistic advice, formulate logistic plans and monitor their execution. The J4 is the principal adviser across the broadest definition of logistics, which includes movements. The J4 branch sets priorities for the overall logistics effort and movements within the JFAO, and is the interface with assigned logistics FE. The J4 branch also sets the logistics, medical and health service support policy ensuring this is met throughout the operation. The J4 branch is usually well-staffed and could also contain J1/4 coordination, J1, J4 supply, J4 equipment support and J4 medical.
- f. **J5—Policy and Plans.** J5 staff focus on factors which might have an impact on future operations but for which the commander has little direct control. The staff prepare for future operations by establishing close cooperation with agencies, including NGO, through relevant policy or plans. Their responsibilities can include the development of international agreements at the strategic level, national civil-military agreements at the theatre level and local civic at the tactical level if not dealt with by a J3 operations support cell. The J5 branch is responsible primarily for developing the campaign and/or oplan, the ongoing review of the operational level estimate, and planning for future operations through the development of oplans. The J5 branch coordinates these planning efforts within the HQJTF, with both higher and subordinate formations, as well as with civil authorities. The J5 branch is also responsible for developing contingency plans, especially branches and sequels for the current campaign or operation phase and the J53 works particularly closely with the operations plans cell (J35).
- g. **J6—Communication and information systems.** J6 staff coordinate communication, electronic and other information systems requirements. This includes the development and management of the information architecture.<sup>16</sup> The J6 branch ensures adequate communication and information systems (CIS) support is provided for the operation. J6 is responsible for enabling the information exchange requirement across a JTF, for planning and controlling JFAO CIS architectures, including integration at both the strategic and tactical levels.
- h. **J7—Doctrine and training.**<sup>17</sup> J7 staff develop doctrine and validate procedures. They are responsible for coordinating training to meet readiness requirements and combined and joint interoperability standards. The J7 branch acts as the doctrine focus, organises operational level joint, individual and collective training and validates standards across the JTF. For joint exercises or the lead in to operations, J7 conducts special-to-JFAO and/or in-

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<sup>16</sup>. The management of information within a HQ is the responsibility of all branches and should be coordinated by the J3.

<sup>17</sup>. HQ JOC J7 is titled 'Australian Defence Simulation and Training Centre', which manages joint and combined training and simulation services, and policy and governance.

theatre training to assist the commander in the preparation of the HQ and JTF, and manages the after-action review and evaluation process. On operations, J7 collates joint lessons identified, evaluation and post-operational reports, and contributes to joint doctrine development.

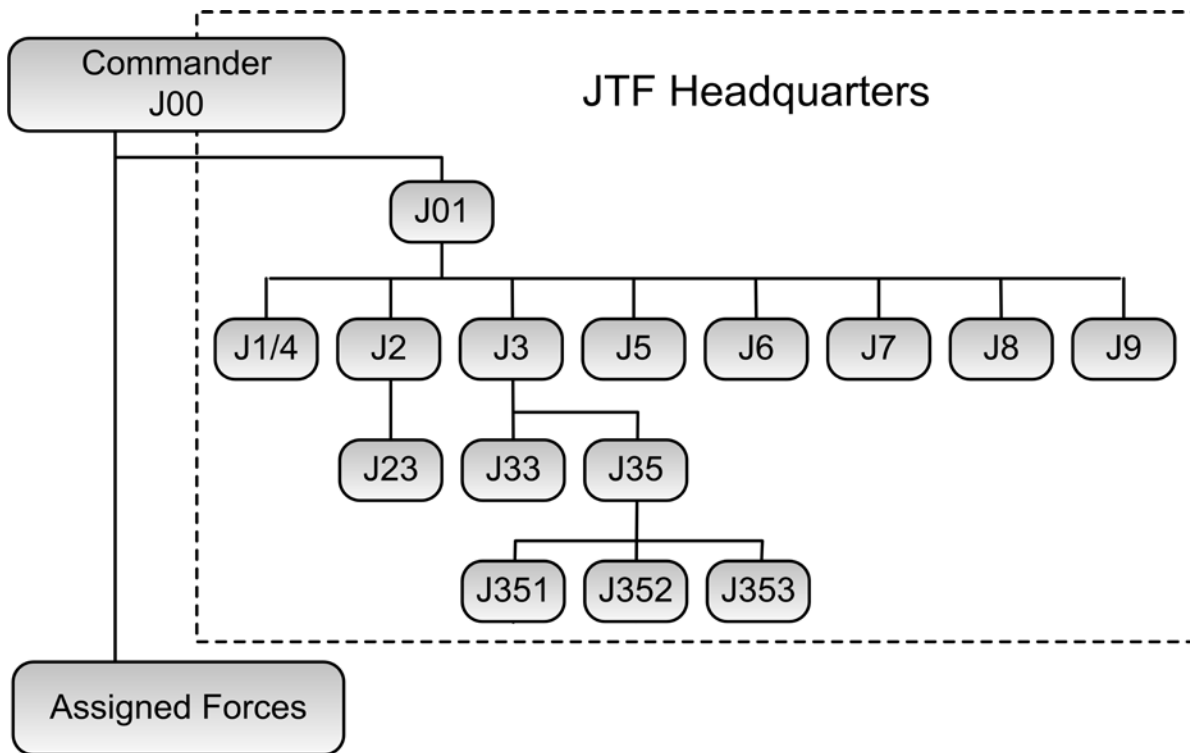
- i. **J8—Force structure and development.**<sup>18</sup> J8 staff are responsible for force structure development, conducting net assessment and analysis of JTF manpower, plans, budgetary programs and strategic capability proposals, including mobilisation. The scale and complexity of the operation will determine whether a separate J8 branch (finance) is required. J8 staff act as the focus for setting up contracts, and for budgetary oversight of all financial activity, even though some budgetary aspects may be delegated.
  - j. **J9—Cimic.** In multinational operations the J9 function may be allocated to cimic if its size and scope requires a dedicated branch.<sup>19</sup> The J9 is responsible for coordinating activities between the JTF, local government, civil population, international organisations, NGO, and other agencies of the countries where the JTF is deployed, employed and supported.
10. The principal advantage of the J staff system is that it provides organisational consistency while enhancing interoperability. Smaller HQ may have a requirement to amalgamate some J functions, such as J1 and J4 (J1/4) or J3 and J5 (J3/5).
11. An example of a joint headquarters structure using the CJSS is shown in Figure 1B.1.

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<sup>18</sup>. NATO titles J8 as 'Resources and Finance'. In HQ JOC, J8 is responsible for assessment, lessons and engagement.

<sup>19</sup>. NATO identifies CIMIC as a J9 function rather than J3.

**Figure 1B.1: Example of a joint headquarters structure using the common joint staff system**



## ANNEX 1C

**OPERATIONAL RISK MANAGEMENT**

1. The key terms to be noted initially are hazard, threat and risk. For the purposes of this annex, a hazard is a situation or thing that has the potential to inflict harm; a threat possesses deliberate intent to inflict harm; risk refers to effect of uncertainty on objectives. The aim of operational risk management (ORM) is force preservation and operational success through the identification, control, treatment and monitoring of threats and hazards relative to the commander's plan and execution of the mission. ORM should allow the commander to maximise operational potential through an objective risk matrix balanced by intuition and experience. The principles can be used at all levels of planning and applied to all activities, from combat operations to off-duty non-operational activities.
2. The broad focus for planning staff at all levels is articulating risks to mission, personnel, capability/equipment, reputation and environment. Overall, operational risk can be captured in a risk management plan and each decisive point (DP) matrix. Other tables, spreadsheets and diagrams can be used to support the articulation of risk. Risk awareness begins in Scoping and Framing and increases in fidelity and detail as the planning process progresses. Generally, hazards and threats are identified and risk analysed in Mission Analysis (MA); risk mitigation strategies developed and outlined in the matrices during Course of Action (COA) Development; and, after further refinement in COA Analysis, residual risk in the selected COA is framed for the commander to either accept or elevate for higher-level approval. Essentially, dealing appropriately with threats, hazards and risks to ensure objectives are achieved is an intrinsic part of joint planning.
3. Throughout every stage of planning, staff must consider the various risks attached to apportioning capabilities and rates of effort to carry out tasks and achieve objectives. By assessing hazards and constantly evaluating the operational environment, the level of risk for each COA can be determined and control measures can be identified which will protect the force while ensuring mission and operational success. However, the application of more formulaic and structured risk management processes presents a paradox, in that an adversary can apply the same principles to reveal more easily likely friendly decisions in response to their actions, knowing that commanders are likely to seek the decision with the lowest risk.
4. Planning is invariably based on the premise that things will go according to plan, and planned activity will have the favourable effects intended. Consequently, risk analysis and management focus on the question 'What if things do not go to plan, or create an unfavourable effect?' An equally important consideration is to determine how a commander can best capitalise on activities or events whose effects are more favourable than anticipated. Risk acceptance is as much about seizing fleeting opportunities as it is about preparing for possible setbacks.
5. This annex provides a summary of the key aspects of ORM and is included here for ease of reference. For further information about ORM, see [Australian Defence Doctrine Publication 3.22—Force Protection](#).

**Operational risk management principles**

6. Planning for operations at all levels involves careful consideration of risks, threats and hazards. Identification, analysis and treatment of risk on operations needs to be framed within the achievement of an end state in which an adversary is actively creating potentially harmful conditions, rather than the relatively static and benign environment of day-to-day, non-deployed activity. In the absence of a formally approved approach to risk on opposed operations, the conventional risk management model provides a logical path that can be adapted to suit operational planning requirements. Effective ORM requires adherence to the following principles:

- a. **Risk management creates and protects value.** ORM contributes to the demonstrable achievement of objectives and may contribute to improvements in force protection, security, legal compliance, public acceptance and reputation management, operations management, and operational efficiency.
- b. **Risk management is an integral part of planning.** ORM should not be considered a stand-alone activity that is separate from the Joint Military Appreciation Process (JMAP). ORM is part of JMAP and should be considered at each step in that process.
- c. **Risk management is part of decision-making.** ORM assists commanders to make informed choices, prioritise actions and distinguish between alternative COA.
- d. **Risk management explicitly addresses uncertainty.** Uncertainty is prevalent in all operations. ORM takes account of uncertainty, its nature and how it can be addressed.
- e. **Risk management is systematic, structured and timely.** A systematic, structured and timely approach to ORM contributes to efficiency and to consistent, comparable and reliable results when planning operations.
- f. **Risk management is based on the best available information.** The inputs to the process of managing risk are based on information sources such as historical data, lessons learned, experience, observation and Joint Intelligence Preparation of the Operational Environment (JIPOE) outputs. Commander's critical information requirements (CCIR) should be used as required to validate uncertainties and assumptions.
- g. **Risk management is customised.** The ORM process applied to planning should be considered in concert with single-service and capability ORM processes.
- h. **Risk management considers human and cultural factors.** ORM recognises the capabilities, perceptions and intentions of personnel external and internal to the operation who can facilitate or hinder achievement of operational objectives.
- i. **Risk management is transparent and inclusive.** Appropriate and timely involvement of stakeholders and decision-makers across all levels ensures that ORM outcomes remain relevant and up to date. Involvement also allows



stakeholders to be appropriately represented and to have their views taken into account in determining, among other ORM issues, risk criteria.

- j. **Risk management is dynamic, iterative and responsive to change.** ORM continually responds to change. As external and internal events occur, context and knowledge change, monitoring and review of risks takes place, new risks emerge, some change, and others disappear.

### **Operational risk management process**

7. Although this annex is based on the Australian/New Zealand Standard AS/NZS 31000:2018 Risk Management—Guidelines, operational imperatives should drive the framing of acceptable risk tolerance during planning.

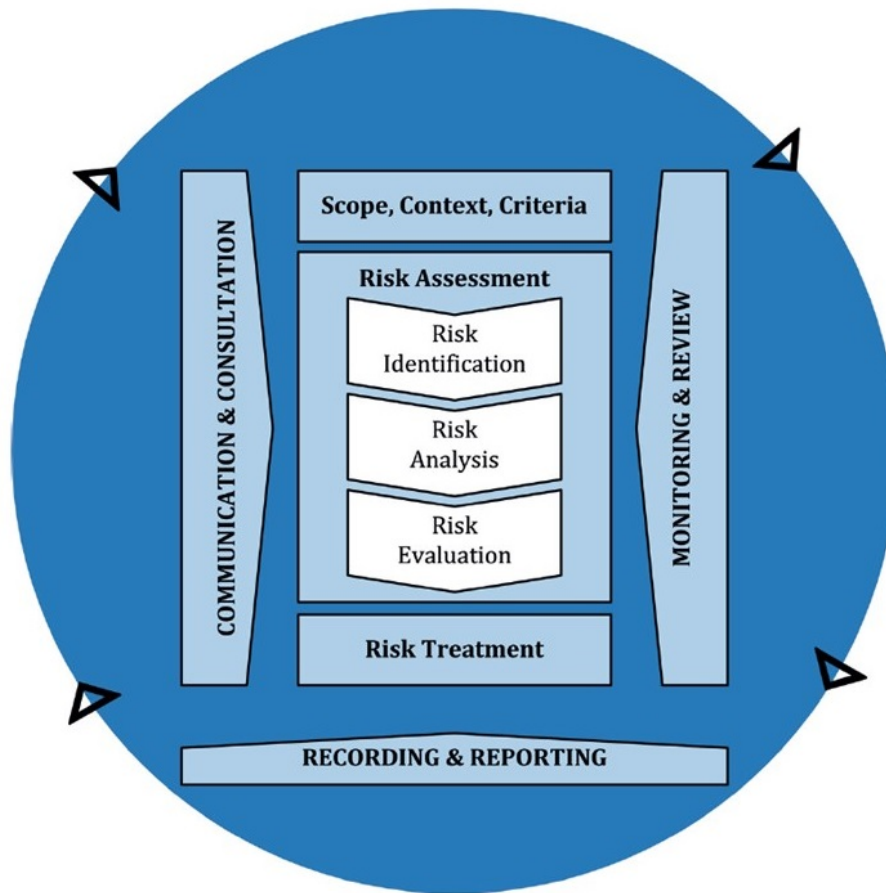
8. It is worth restating that ORM should be an integral part of planning. It identifies threats and hazards, analyses their consequences and likelihoods, evaluates overall risk and then details treatment and mitigation strategies. The outcomes of ORM are informed decisions and an ORM plan.

9. Complex operations can be broken down into several activities clustered according to the level at which risk is being described. These are similar to mission task lists and form a straightforward methodology of analysing risks ranging from those associated with the most tactical of activities to those at the highest strategic desired end states. Through the summation of risk-related values, the most hazardous missions, operations or tasks can be clearly highlighted and transferred to the appropriate commander for approval.

10. **Main elements.** The main elements of ORM are detailed in the following paragraphs and shown in Figure 1C.1:

- a. communication and consultation
- b. scope, context criteria
- c. risk identification
- d. risk analysis
- e. risk evaluation
- f. risk treatment
- g. monitoring and review
- h. recording and reporting.

Figure 1C.1: Operational risk management process



11. **Communication and consultation.** To maximise the benefit of ORM, communication and consultation with stakeholders, both internally within a headquarters and externally including other government departments and non-government organisations both nationally and internationally, should occur continually. As the ORM process progresses, perceptions of risk by stakeholders may change with refinement in the identification and analysis of risks. Communication and consultation allows the appreciation of the benefits of particular controls and the need to support and endorse a risk treatment plan.

12. **Scope, context, criteria.** The purpose of establishing the scope, the context and criteria is to customise the risk management process, enabling effective risk management and appropriate risk treatment. Scope, context and criteria involve defining the scope of the process, and understanding the external and internal context. Context establishes the terms of reference for the application of ORM within planning. It sets the parameters within which the other elements of ORM are applied and establishes the basis for the risk decision. The strategic, operational and tactical significance of the task must be understood, stakeholders identified, the task analysed and the risk criteria established, including the setting of risk levels for subordinate commanders. Indicative risk levels and associated criteria are discussed later in this annex.

13. **Defining risk criteria.** Planning teams should define criteria to be used to evaluate the significance of risk. Some criteria can be imposed by, or derived from, legal and regulatory requirements—for example, rules of engagement. Risk criteria

should be defined at the commencement of planning and be continually reviewed. When defining risk criteria, consider the following:

- a. the nature and types of causes and consequences that can occur and how they will be described
- b. how likelihood measures will be defined
- c. the timeframe(s) of the likelihood and/or consequence(s)
- d. how the risk level is to be determined
- e. the views of stakeholders
- f. the level at which risk becomes acceptable or tolerable
- g. whether combinations of multiple risks should be taken into account and, if so, how and which combinations should be considered.

14. **Risk identification.** A systematic risk identification process appropriate to the nature of the task is essential to ensure risks are not overlooked. A planning group should identify sources of risk, who or what is impacted, events, their causes and potential consequences. The aim of this element of the ORM process is to generate a comprehensive list of risks based on those events that might create, enhance, prevent, degrade, accelerate or delay the achievement of objectives.

15. Risk identification should be conducted throughout the planning and execution phases of any operation. As far as possible, risks owned by those not under the control of the commander should be understood. All aspects must be considered, particularly those factors associated with the mission, equipment, personnel, environment and politics, and any risks are identified, analysed and treated throughout joint planning to leave the residual risk component. Relevant and up to date information from the JIPOE and CCIR data is important in identifying risks. Historical problem areas and risks should be identified from reliable sources.

16. **Risk analysis.** Risk analysis is concerned with developing an understanding of the risk in order to separate acceptable risks from those requiring treatment. This involves consideration of sources of risk, consequences and the likelihood that those consequences will occur. In most circumstances, existing controls are taken into account.

17. There are many approaches available to analyse risk including the following (any or all approaches may be employed):

- a. review of past operations
- b. assessment based on the experience of stakeholders and/or the assessment team
- c. review of wider service practice and experience
- d. review of extant policy on strategic risk (for instance Defence Planning Guidance, Annual and Quarterly Strategic Reviews)

- e. conduct of experiments or trials
- f. modelling or fault/decision analysis
- g. engagement with external specialists and accessing expert analysis.

### **An approach to analyse risk**

18. Risk analysis aims to establish an understanding of the level of risk and its nature. Aside from determining the absolute level of risk, this will help to set treatment priorities and options. The level of risk is determined by combining consequence and likelihood. Suitable scales and methods for combining them should be consistent with the criteria defined when establishing the context. For more technical analysis, the nature of the data and required output will dictate the required methods.

19. The process of analysis often commences with a simple qualitative approach that gives a general understanding. Where greater detail or understanding is required, more focused and robust investigation may also be needed. It is inappropriate to assume that quantitative is superior to qualitative analysis. It is more appropriate to ensure the best approach fits the task.

20. Risk analysis can be conducted at various points, such as at the commencement of operational planning, as part of ongoing operations, or as a study of what may occur after risks have been treated. Risk analysis usually begins with a consideration of the current level of risk with existing controls.

21. The way that the level of risk is described will depend on the type of analysis undertaken. A qualitative approach can only describe risk in qualitative ways, and this is usually done with descriptive terms. Quantitative analysis may on the other hand produce a single figure, datum or value, or a mass of detailed data. Where this is the case, great care needs to be taken to ensure the units of risk are expressed and understood. Particular care should be taken with quantitative analysis when examining consequences that are intangible or difficult to quantify regarding issues such as the environment, safety or reputation.

22. **Risk evaluation.** The purpose of risk evaluation is to assist in gathering data on which the commander can make informed decisions based on the outcomes of risk analysis, identification of which risks need treatment and the priority for treatment implementation. Risk evaluation involves comparing the level of risk found during the analysis element with risk criteria identified when the risk context was established.

23. Each risk is evaluated against the established risk criteria—for example, consequence and likelihood parameters, and the output is a list of risks in priority order. At one end may be risks that are negligible or so small that no risk treatment measures are necessary. At the other end may be intolerable risks that must be treated whatever the cost. In between these extremes lie risks with a range of consequences and likelihoods.

24. Since it is unlikely that there will be sufficient resources available to reduce all risks to the absolute lowest level, the evaluation process will consider the benefits and costs associated with each risk and decide how each is to be addressed.

25. **Risk treatment.** Risk treatment is the selection and implementation of risk controls to modify risk. Risk is modified by changing the consequences of an event, the likelihood of a consequence occurring, or both. Selecting the most appropriate option involves balancing the costs of implementing each option against the benefits derived from it. Figure 1C.2 illustrates how the planning staff could present risks to significant events if left untreated and after mitigation measures have been implemented. The example assists the commander to visualise operational success or failure given the progress of risk mitigation strategies.

**Figure 1C.2: Example diagram of treated and untreated risk**



26. Risk treatment options are not necessarily mutually exclusive or appropriate in all circumstances. The options available may include:

- a. avoiding the risk by deciding not to start or continue with tasks that give rise to the risk
- b. taking or increasing the risk to pursue an opportunity

- c. removing the risk source
- d. changing the likelihood
- e. changing the consequences
- f. sharing the risk with another stakeholder
- g. elevating the risk to a higher authority for approval
- h. retaining the risk by informed decision.

27. **Monitoring and review.** Ongoing monitoring and review of the identified risks against the treatment plan for each risk is essential to ensure that the ORM plan remains relevant. Some risk treatments may have unintended consequences, or may be applied incorrectly, and there may be changes to assumptions in the plan. Monitoring and reviewing the ORM plan against the task ensures continual improvement in the management of risk.

28. **Recording and reporting.** The ORM process and its outcomes should be documented and reported through appropriate mechanisms. Recording and reporting provides information for decision making, can improve ORM activities and assist with interaction with stakeholders, including those with responsibility and accountability for ORM. Decisions concerning the creation, retention and handling of ORM information should take into account its use, sensitivity, classification and the external and internal context.

29. **Risk level descriptions.** Risk levels may be expressed as a set of qualitative descriptions determined in the planning phase for a specific activity. They are derived from combinations of consequence and likelihood. Risk levels such as these should be assigned to subordinate commanders to enable a clear understanding of when risks are to be referred to a higher authority. An example of indicative risk levels for a qualitative risk assessment is in Table 1C.1. Alternative descriptors may be used, but these are the more common risk level terms.

**Table 1C.1: Indicative risk levels and descriptions**

Risk level	Description
<b>Very high</b>	<b>A considerable potential for loss of capability, multiple fatalities, mission failure of strategic significance, or serious long-term degradation of reputation/morale.</b>
<b>High</b>	A considerable potential for serious degradation of a Defence capability, fatal injury, major asset loss, mission failure of operational significance, or significant degradation of reputation /morale.
<b>Medium</b>	A moderate potential for serious degradation of a Defence capability, fatal injury, major asset damage/loss, mission failure of tactical significance, or short-term impact to reputation/morale.
<b>Low</b>	Has the potential to degrade capability, injure personnel, damage equipment or compromise the mission.
<b>Very low</b>	Minimal potential for impact to capability, personnel, equipment, the mission or public image/morale.



30. **Consequence.** Consequence is described in terms indicating the significance to the organisation of the potential adverse effects of events associated with operations. Consequence should be measured in a range of dimensions, such as mission, personnel, capability, reputation and environment. These consequence measures need to be determined during the planning for an operation. The selection of the dimension depends on the nature of the risk, mindful of the existing controls that are already present. An example of indicative consequence levels and their descriptions is in Table 1C.2. Other descriptors may be used as appropriate to the circumstances.

**Table 1C.2: Indicative consequence levels and descriptions**

Consequence	Description
<b>Catastrophic</b>	<b>Mission:</b> Failure to achieve a mission that is essential to achieving a strategic objective.
	<b>Personnel:</b> Mass casualties. Multiple fatalities and major injuries resulting in permanent disability.
	<b>Capability:</b> Indefinite loss to Defence Capability. One or more major platform/asset(s) in a core system lost.
	<b>Reputation:</b> Widespread public condemnation of Defence. Long-term media condemnation or formal Government inquiry.
	<b>Environment:</b> Damage that may be irreparable or take more than two years to remediate at major cost.
<b>Critical</b>	<b>Mission:</b> Failure to achieve an essential operational objective with significant strategic implications.
	<b>Personnel:</b> Mass casualties. Limited fatalities (less than X) and/or major injuries resulting in permanent disability (greater than X).
	<b>Capability:</b> Long-term degradation to Defence capability. A single major platform/asset in a core system lost or ineffective.
	<b>Reputation:</b> Widespread public discontent with Defence or Service, prolonged adverse national media attention or coronial inquest.
	<b>Environment:</b> Damage that can only be remediated over an extended period (greater than six months) or significant cost.
<b>Major</b>	<b>Mission:</b> Failure to achieve an important operational objective with serious unit/tactical implications.
	<b>Personnel:</b> Serious injuries that could result in temporary disability (less than XX days).
	<b>Capability:</b> Temporary loss or severe degradation to Defence capability. Major damage to a platform/asset in a core system.
	<b>Reputation:</b> Negative reaction by public defence interest groups and short-term national media attention. Force element (FE) morale seriously affected, but recoverable.
	<b>Environment:</b> Damage that requires significant remediation over a defined period (three to six months) and at a moderate cost.
	<b>Mission:</b> Failure to achieve an important operational objective with significant unit/tactical implications.

Consequence	Description
<b>Moderate</b>	<b>Personnel:</b> Injuries that could result in temporary disability.
	<b>Capability:</b> Substantial temporary degradation to Defence capability. Moderate damage to a platform/asset(s).
	<b>Reputation:</b> Local prolonged media attention and negative public reaction. FE morale slightly affected.
	<b>Environment:</b> Damage requiring some short-term remediation at a minimal cost.
<b>Minor</b>	<b>Mission:</b> Partial achievement of a mission with significant unit/tactical implications but does not affect an operational objective.
	<b>Personnel:</b> Minor injuries requiring medical attention.
	<b>Capability:</b> Temporary degradation to Defence capability. Minor damage to platform/assets(s) in a core system.
	<b>Reputation:</b> Local short-term media attention and negative public reaction. Unit morale slightly affected.
	<b>Environment:</b> Damage can be repaired by natural action.

31. **Likelihood.** Likelihood is a measure of the probability that an event will have a given consequence, together with the degree of exposure to the event during the period of the task. Exposure can be considered in terms of how often the event would occur, and the duration of occurrences within the scope of the activity under consideration. In an operational context, quantitative evaluation will not usually be possible, or feasible in the time available, and a qualitative description of likelihood will usually be appropriate. The assessment of likelihood is therefore based upon the generic definitions in Table 1C.3. As with the other risk terms, these likelihood descriptors are for example only and others can be used as appropriate for each environment or situation.

**Table 1C.3: Indicative likelihood probabilities and definitions**

Likelihood	Definition
Almost certain	Expected to occur during the planned activity. Is known to occur frequently in similar activities.
Probable	Expected to occur in most circumstances, but is not certain. Is known to have occurred previously in similar activities.
Occasional	Not expected to occur during the planned activity. Sporadic but not uncommon.
Improbable	Not expected to occur during the planned activity. Occurrence conceivable but considered uncommon.
Rare	Not expected to occur during the planned activity. Occurrence conceivable but not expected to occur.

32. **Indicative risk level matrix.** Table 1C.4 may be used to compare the consequence and likelihood of risks to determine a pre-treated assessment level of risk in terms of those risks described in Table 1C.2. For example, a risk that has a

consequence level of major and likelihood measure of probable may be described as having a risk level of high. Within some sectors of Defence, this table is also referred to as a '5x5 matrix'.

**Table 1C.4: Indicative risk level matrix**

		CONSEQUENCES				
LIKELIHOOD		Minor (A)	Moderate (B)	Major (C)	Critical (D)	Catastrophic (E)
5	Almost certain	L (A5)	M (B5)	H (C5)	VH (D5)	VH (E5)
4	Probable	L (A4)	M (B4)	H (C4)	H (D4)	VH (E4)
3	Occasional	VL (A3)	L (B3)	M (C3)	H (D3)	H (E3)
2	Improbable	VL (A2)	VL (B2)	L (C2)	M (D2)	M (E2)
1	Rare	VL (A1)	VL (B1)	VL (C1)	L (D1)	L (E1)

<b>RISK LEVEL</b>	VL	Very low	L	Low	M	Medium	H	High	VH	Very high
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33. **Risk level matrix post treatment.** Clearly, this matrix indicates the level of risk before any treatment or mitigation strategy has been implemented. The matrix should be developed further, in line with paragraphs 26 and 27 above, to include how risk for each activity or event will be reduced or controlled (if possible). These measures should lower either the likelihood, consequence or both such that a new risk level is achieved. A lower risk level may well negate the need to elevate a risk for approval, so retaining local ownership.

34. **Standing risk profiles.** The concept of standing risk profiles (SRP) alleviates the need for detailed risk assessments prior to most commonly conducted activities. This enables the commander to focus on extraordinary or unusual aspects that may generate additional risks not addressed by normal operational procedures, training or equipment. Notwithstanding their enduring nature, these SRP can help inform dynamic planning phases, and will still require refining and updating as the environment within which they are employed changes.

35. **Employment of standing risk profiles.** SRP obviate the need to complete a full risk analysis for most operations where they are conducted within normal parameters such as extant mission context, weather, sufficient trained people and serviceable equipment. An SRP can only be effectively employed where the FE is already at some known level of competence. For example, a ship sailing for the first time after an extended maintenance activity has an entirely different level of competence to a ship that has recently completed a unit readiness evaluation.

36. **Risk culture.** The effective use of risk management to improve operational effectiveness depends on a shared understanding by commanders and subordinates of the importance of risk treatments. Active supervision is fundamental to avoid complacency and ensure compliance with treatment and mitigation procedures. Incidents where risk treatments are circumvented or ignored for reasons of apparent

expedience are to be investigated. Where appropriate, adverse administrative or disciplinary action should be considered. Early and firm action to deal with such incidents is likely to avoid the development of poor practices. In reviewing incidents related to poor practice, close attention should be paid to any failure of supervision or leadership, as the direct participants may not be the only ones accountable.

37. **Risk tolerance, ownership and opportunity.** Each risk analysis outcome describes the level or value of risk attached to the particular planned task, activity or event. That value or threshold has a concomitant approval authority, with higher authorities required to sanction more hazardous activities. However, no matter what the nature of the operation, the threshold should not be set to such an extreme that the plan itself becomes risk averse. Casualties are an operational reality and the desire to avoid them totally may well impact adversely on the achievement of the mission. A commander should always balance the level of acceptable risk with the context of the campaign or operation. Table 1C.5 provides a generic illustration of risk tolerance levels and authorisation necessary.

**Table 1C.5: Indicative risk tolerance descriptions and endorsing authorities**

Risk Index	Risk Level	Endorsing/ Approval Authority	Risk Tolerance Description
E5, E4 and D5	Very high	Secretary/Chief of the Defence Force/Chief of Service/Chief of Joint Operations/ Chief of Joint Capabilities/Group Heads	<b>Intolerable without treatment.</b> Exposure to these risks would normally be immediately discontinued except in extreme circumstances. The decision to tolerate residual risk at this level must be made by the relevant endorsing authority. Risk controls must be applied as part of a documented risk management plan—for example, orders/instructions/ directives with JMAP notes/risk appreciation summary, that is continuously monitored and risk controls adapted as required to accommodate changing risk levels.
E3, D4, D3, C5 and C4	High	Functional/Formation Commander/National Command/ Commander Joint Task Force/1–2 Star/ Senior Executive Service Band 1–2	<b>Intolerable without treatment.</b> Exposure to these risks should be discontinued as soon as reasonably practicable. The decision to tolerate residual risk at this level must be made by the relevant endorsing authority. Risk controls must be applied as part of a documented risk management plan—for example, orders/instructions/ directives with JMAP notes/risk appreciation summary, that is continuously monitored and risk controls adapted as required, reviewed.
E2, D2, C3, B5 and B4	Medium	Commanding Officer/ Independent Officer Commanding/ Director Executive Level (EL) 2/O4–O6	<b>Tolerable with continual review.</b> Unnecessary exposure to these risks should be discontinued as soon as is reasonably practicable and continued exposure would only be considered in exceptional circumstances. The decision to tolerate residual risk at this level must be made by the relevant endorsing authority. Risk

Risk Index	Risk Level	Endorsing/ Approval Authority	Risk Tolerance Description
			controls must be applied as part of a documented risk management plan—for example, orders/instructions/directives with JMAP notes/risk appreciation summary, that is continuously monitored, reviewed and risk controls adapted as required.
E1, D1, C2, B3, A5 and A4	Low	O3–O4/Deputy Director/EL1	<b>Tolerable with periodic review.</b> Exposure to these risks may continue provided it has been appropriately assessed, has been mitigated to as low as reasonably practicable (ALARP), and is subject to periodic review to adjust risk controls if the risk level increases. Long-term measures to reduce the risk are appropriate (changes in standard operating procedure, doctrine, etc). The decision to tolerate residual risk at this level must be made by the relevant endorsing authority with rationale required to be documented (orders will suffice).
C1, B2, B1, A3, A2 and A1	Very Low	Team Leader Australian Public Service 4–6/ Corporal–O3	<b>Tolerable with periodic review.</b> Exposure to these risks is tolerable for the relevant endorsing authority without additional risk controls but is subject to periodic review to ensure the risk does not increase. ALARP guidance defaults too low for the relevant endorsing authority at this level unless otherwise stipulated by a higher commander with rationale required to be documented (orders will suffice).

38. While analytical approaches predominantly treat risk as a threat to success, these approaches can also be used to present risk as an opportunity. Each risk can be expressed both in terms of adverse consequences and the ways to mitigate them, and favourable outcomes and the advantages over an adversary that might be exploited. For example, weather might present a risk to a particular operation that could be a far greater restriction to adversaries; this provides an opportunity for decision-makers.

39. Risk tolerance thresholds are allocated to subordinates by commanders in orders. A commander cannot delegate a higher risk tolerance threshold than the default threshold detailed for their appointment in Table 1C.5. If delegating tolerance thresholds to subordinates, commanders should record the rationale at the time of delegation—for example, in written orders.

40. Identifying where risk consequences are likely to impact, and the most appropriate level of ownership and management, is important, but not straightforward. A commander should gain an understanding of the relationship between risks at the tactical, operational and strategic levels, and how the effects of each may affect operators in the chain of command. Tactical risks generally deal with the physical cost in terms of life and equipment. While these risks clearly affect

component commanders and their subordinates, they may also have operational, or indeed strategic, implications. Military operations are necessarily linked to political decisions, with a natural tendency for risk to migrate upwards, particularly in complex, multinational operations. Such political risks are owned by the government; however, a commander should be familiar with Defence's assessment of strategic risk as outlined in policy documents such as the Defence Planning Guidance, as the effect of strategic risk may well percolate down to a commander who may not necessarily be able to exercise control of events associated with them.

### Risk management and decisive points

41. During JMAP, DP are derived in order to create the commander's operational approach, illustrated by DP on lines of operation. This schematic model describes how the operational objectives and desired end state will be achieved. Every DP is described by a matrix (see Chapter 3 for more detail). Included in each DP matrix should be an expression of risks, threats, hazards and opportunities, along with their mitigation or exploitation strategies, and final, residual risk arising from the following:

- a. **Hostile elements.** Adversary or combative elements with intent and/or capability to undermine the achievement of objectives such as capabilities, doctrine, religious or cultural issues.
- b. **Natural environment.** Environmental factors such as terrain, weather/climate, flora and fauna, endemic disease, altitude, dust, floods, fire, cyclone, heat/cold.
- c. **Cultural and man-made environment.** Factors such as demographics, politics and religion, infrastructure/utilities, types of buildings, road conditions, lack of sewerage or safe water supplies, chemical or biological hazards.
- d. **Operational and/or organisational complexity.** Factors that can cause conflict, confusion or misdirection of effort such as strategic and operational direction, force composition, mission creep and aims/expectations/capabilities of external agencies.
- e. **Resources.** The use, availability, suitability and quality of resources such as equipment and stores, finances, facilities, disposal and management of hazardous substances, inadequate maintenance, availability of additional resources and support services.
- f. **Personnel.** The force element's composition and technical competence of personnel available/required, lack of appropriate gender balance, insufficiently trained or qualified people to sustain operations.
- g. **Time and space.** The available time and nature of the tasks to be completed such as the time available for the operation/activity, insufficient time for lead up training, rehearsals, acclimatisation, and force preparation.
- h. **Human nature.** Human behavioural factors such as group dynamics, laziness, competitiveness, enthusiasm, tendency to cut corners, not following correct procedures, fraud, morale, fatigue, personnel problems, status of unit culture/ethos.



- i. **Legal, media and other mandated requirements.** Elements of legal, media and other mandated requirements that may limit freedom of action such as military/Australian/international law, political/strategic direction, local laws and customs, rules of engagement, status of forces agreements, special provisions for the protection of women and children.
- j. **Reputation.** Activities that could compromise the integrity of the Government and Defence or portray operational tasks in a poor light such that domestic and international public support is eroded or damaged.

## Conclusion

42. JMAP can be considered both a decision-support and risk identification tool. By analysing an operation holistically and considering risk in the development of the concept of operations (conops) it mitigates hazards and threats to mission, personnel, capability/equipment, reputation and environment. While traditional ORM looks more broadly at overarching and common risks, JMAP focuses on the identification, analysis, treatment and review of the risks specific to an individual operation. These extend from the national reputation risk attached to a particular strategic communications plan, down to a deployed JTF's standing instructions and general duty of care.

43. Each stage of the JMAP will demand different levels of scrutiny and articulation of risk. Initial high-level considerations begin in Scoping and Framing; threats and hazards are identified and captured for further analysis during MA; risk mitigation is described in COA Development as part of creating detailed DP matrices. Finally, the commander is left with the residual risk after COA Analysis and the decision to either carry it forward into the detailed conops, or elevate the risk for higher-level approval. At all times, risk is to be identified and managed as an intrinsic part of the planning process. It is incumbent upon staff to consider all possible threats and hazards at their level when thinking critically and creatively about a problem.

## CHAPTER 2

### STEP ONE: SCOPING AND FRAMING

#### Executive summary

- Scoping and Framing involves four sub-steps:
  - Scoping
  - Framing
  - determining the desired campaign or operation end state
  - developing and issuing a warning order.
- Scoping and Framing aims to confirm or identify the correct problems to be solved. It may require critical thinking to deconstruct a complex, ill-structured and/or ill-defined situation into a structured and understandable problem set.

*Usually [in a war] everybody starts even and everybody starts wrong. ... In these circumstances, when everybody starts wrong, the advantage goes to the side which can most quickly adjust itself to the new and unfamiliar environment and learn from its mistakes. ... It is this flexibility both in the minds of the Armed Forces and in their organisation, that needs above all to be developed in peacetime.*

**Professor Sir Michael Howard, 1973<sup>20</sup>**

## INTRODUCTION

2.1 Scoping and Framing is the first step of the Joint Military Appreciation Process (JMAP). This step, along with the next (Mission Analysis) demands the most flexible, creative and critical thinking, asking ‘why’ and ‘so what’ rather than simply seeking to ‘solve the problem’. As such, Scoping and Framing may involve the need to deconstruct a complex, ill-structured and/or ill-defined situation into a structured and understandable problem set. It seeks to visualise a broad concept of the likely desired end state, and aims to confirm or identify the correct problems to be solved. In other words, to do the right thing, not just do things right.

2.2 It is unlikely that the entire joint planning group (JPG) will need to be involved in Scoping and Framing. Instead, a small group of appropriately skilled personnel from within the JPG are likely to conduct this step. Framing in particular should also (where practical) include external or non-military subject matter experts with a range of relevant experience. This expertise may include human factor experts, religious

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<sup>20</sup>. Michael Howard, ‘Military Science in the Age of Peace’, Chesney Memorial Gold Medal Lecture, October 3, 1973, printed in *RUSI* [Royal United Services Institute] Journal, Vol. 119, No. 1 (March 1974), pp. 6-7 (emphasis in original).

scholars, anthropologists, expatriates who have resided in the area of interest for several years and representatives from other domestic and international agencies that are operating within the likely joint force area of operations (JFAO).

**2.3 Inputs.** The inputs to Scoping and Framing are the commander's initial planning guidance, and as much information from the Joint Intelligence Preparation of the Operational Environment (JIPOE) as is available. Additional inputs to the planning process are subsequently identified during the Scoping sub-step.

**2.4 Sub-steps.** Scoping and Framing provides the situational context for identifying and analysing the right problem, and incorporates the following sub-steps:

- a. Scoping, which includes:
  - (1) examining the requirements identified (implicitly and explicitly) within the commander's initial guidance
  - (2) seeking guidance from previous deliberate or responsive planning activities
  - (3) establishing timelines.
- b. Framing, which ensures the correct problem has been identified and will be subsequently addressed during planning
- c. determining the desired campaign or operation end state
- d. developing and issuing a warning order, which includes identifying initial force preparation and capability requirements.

**2.5 Outputs.** Outputs (not in sequence) from Scoping and Framing may include:

- a. the identification by planning staff of existing resources that might subsequently assist them during detailed planning
- b. the planning timeline
- c. detailed descriptions of the observed system and the desired system, and the differences between them
- d. an environment frame narrative that describes the current nature of the operational environment (OE), the key actors within it and their relationships
- e. a diagram illustrating relevant actor relationships within the OE
- f. a problem narrative, which is summarised in the form of a declarative statement
- g. an initial commander's critical information requirements (CCIR) list
- h. a statement describing the campaign or operation desired end state
- i. the identification of force elements (FE) that may be involved in the operation being planned

- i. the issuing of a warning order to these FE.

2.6 **Aide-memoire.** A Scoping and Framing aide-memoire is in Annex 2A.

### **Joint Intelligence Preparation of the Operational Environment input to Scoping and Framing**

2.7 Where possible, the information from JIPOE step one, define the OE, should be completed prior to Scoping and Framing to enable the staff to orient appropriately to the planning requirement. The level of intelligence available during this phase varies according to the degree of notice, time constraints and the complexity of the impending operation.

2.8 At the commencement of Scoping and Framing, the intelligence input should comprise as much detail from JIPOE step one as possible including:

- a. a review of the situation including the time frame available for intelligence staff work, the level of detail achievable given the timeframe available, availability of collection assets and any initial CCIR recommendations
- b. broad threat scoping including a brief outline of the anticipated threats and, for an identified threat, the anticipated threat broad intentions or likely behaviour
- c. the identification of significant environmental characteristics which may include geospatial factors, stakeholders, logistics, people, communications and economic issues.

### **SUB-STEP ONE: SCOPING**

2.9 Scoping is the initial action taken by planners to identify existing resources and information that might subsequently assist in the planning process. It commences immediately upon the initiation of campaign or operation planning.

### **Initiating campaign and operation planning**

2.10 Planning for campaigns and operations may be initiated in one of two ways:

- a. The operational level commander may receive initial strategic level direction from a higher commander—for example, a Chief of the Defence Force (CDF) Planning Directive or CDF orders.<sup>21</sup>
- b. The operational level commander may initiate campaign or operation planning on their own initiative—for example, Chief of Joint Operations (CJOPS) may initiate deliberate planning to develop military response options to an anticipated event or situation. In these cases an operational

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<sup>21</sup>. For further information about CDF Planning Directives and CDF orders see [Australian Defence Doctrine Publication \(ADDP\) 5.0—Joint Planning](#).

level planning directive, such as a CJOPS Planning Directive, should be issued, which follows a similar format to the CDF Planning Directive.

### Commander's initial guidance

2.11 The initiation of campaign or operation planning is accompanied by the provision of commander's initial guidance. This may be provided by a higher-level commander through formal means such as a CDF Planning Directive, or by the operational level commander giving verbal or informal written guidance to the planning staff. The content of a commander's initial guidance is deliberately non-prescriptive, although it does provide an opportunity for the commander to use their experience and style to determine what planning is required and shape its conduct.

2.12 The commander should ensure that critical and reflective thinking is encouraged, that staff answer the 'why' as well as the 'how' questions and, importantly, that they consider and question the situation holistically. The commander has a vital opportunity at this juncture to set the intellectual tone during planning and create an atmosphere whereby staff feel equipped to question their own social constructs to sense-making or problem-solving and to challenge accepted norms, even if these norms are reinforced at higher command levels.

2.13 Commander's initial guidance may include the following:

- a. as much as is known of the emerging situation
- b. planning guidelines and limitations
- c. approach to risk management
- d. CCIR.

2.14 Part B of a CDF Planning Directive may include CDF intent, a mission statement, tasks, additional planning factors, limitations and a planning timeline. These elements are all considered to constitute part of the commander's initial guidance.

2.15 **Limitations.** Planning limitations may be imposed by strategic level direction. The Headquarters Joint Operations Command (HQJOC) Commander's Planning Group (CPG) or JPG may also identify planning limitations.<sup>22</sup>

2.16 **Risk management.** Early in the planning process the commander should issue initial guidance regarding risk management. This initial guidance should indicate the degree of risk acceptable for overall success, as well as listing risk factors such as force structure, mission sustainability or political impacts for further analysis. A dedicated risk management structure and staff may be assigned to

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<sup>22</sup>. Limitations are discussed in further detail in Chapter 3, as they are developed in detail as part of Mission Analysis. For the current sub-step it is sufficient to be aware of potential limitations, without the need to examine them in great detail.

manage this analysis. The analysis should include an insight into risk mitigation measures. Operational risk management is discussed in more detail in Chapter 1.

**2.17 Commander's critical information requirements.** There will be certain aspects of the situation that the commander will regard as critical to properly understand events in the OE and execute an operation. These are referred to as CCIR, which comprises friendly force information requirements (FFIR), essential elements of friendly information (EEFI), and priority intelligence requirements (PIR). Paragraph 2.51 describes the components of CCIR in more detail. The commander decides what information is deemed to be critical based on the mission, input from the operations and intelligence staff, and the superior commander's intent. In practice, the commander will normally endorse CCIR based on staff recommendations.

**2.18** The CDF Planning Directive will normally provide CCIR which may be used as the basis for starting a CCIR list that is refined as planning progresses. Levels of criticality need to be considered early, as does the prioritisation of intelligence collection or HQ staff resources to ensure that CCIR are actioned, confirmed or identified. Importantly, responsibility for actioning CCIR should be assigned to the most appropriate HQ branch.

### **Intelligence update**

**2.19** Intelligence staff should provide the CPG/JPG with an update of all that is currently known in the area of interest. The update should include:

- a. a broad review of the situation
- b. an initial estimate of the threat(s)
- c. identification of significant environmental characteristics.

### **Status of current operations**

**2.20** Staff from each HQ branch should outline their current operational commitments with respect to possible future activities. Operations staff may outline FE in adjacent JFAO, force preparation requirements and capability issues. Plans and intelligence staff may identify other planning activities and identify opportunities for parallel planning. Personnel, logistics and communications staff may provide a summary of respective support issues. Service HQ staff may also provide updates on available capabilities and/or other critical Service-specific issues that will require consideration during planning.

### **Guidance from previous deliberate or responsive planning activities**

**2.21** Deliberate or responsive planning may have been previously conducted for situations similar in nature to the current situation. These planning activities may have identified various options, tasking to achieve objectives or specific legal or health issues. Reviewing the products of these previous planning activities should enhance the current planning outcome.

**Establish timelines**

2.22 Time is the most essential non-renewable resource able to be exploited by a commander. Time factor analysis is undertaken to determine how to use available time more effectively than the adversary, thereby achieving decision superiority. The commander needs to establish when the planning element starts and concludes, including when key briefings and deliverables will occur. For opposed operations this should balance the desire for the perfect plan against the need to act decisively to seize and retain the initiative. Also vital is an assessment of the desired operational timeline based on likely execution dates, geographic aspects, and status of force preparation.

2.23 Therefore, the establishment of initial operational and planning timelines is one of the most important early decisions taken by a commander. The operational timeline should address:

- a. key timings such as deadlines, start dates and finish dates
- b. distances in terms of times between key ports, cities, and airbases
- c. likely notice to move, force preparation and assembly timings
- d. the duration of the operation.

2.24 The commander may not be able to control the time available for the operation, however, time available and the balance of time used for planning can be controlled. The commander may consider the following:

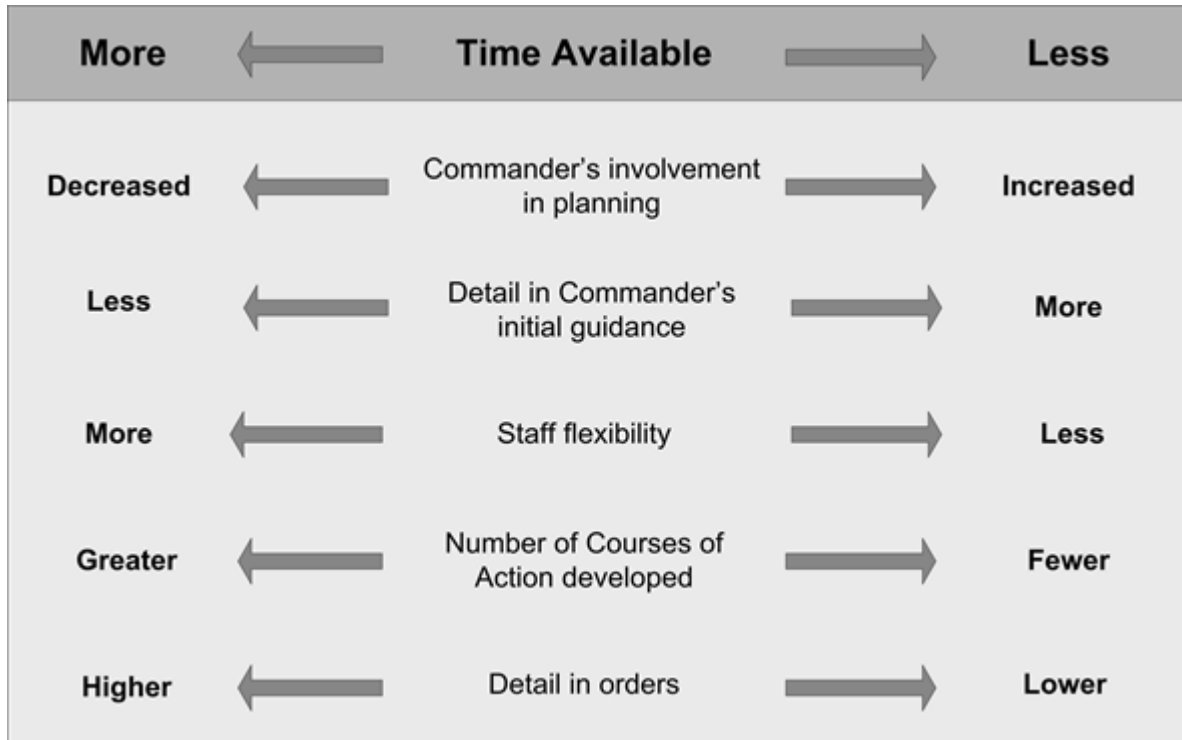
- a. Whether or not to become intimately involved in the process (an increase in the commander's involvement allows decisions to be made during planning and subsequently avoids the need to conduct detailed briefings after each planning step).
- b. The provision of specific direction in the commander's initial guidance, limiting nugatory options and focusing staff on those planning aspects the commander feels are most important.
- c. Limiting the number of courses of action (COA) to be developed and analysed in order to develop a workable plan that achieves the mission within the time available.
- d. Maximising parallel planning through the issuing of warning orders and sharing appropriate information with subordinate HQ, especially JIPOE products. While this is an extremely effective method of increasing tempo, it must be balanced against the risk that the efforts of subordinate HQ will be wasted through planning based on incomplete information.
- e. When not planning in parallel with subordinate HQ or units, allocating one third of the planning time to the operational level HQ, and two thirds to subordinate HQ.

2.25 In addition to identifying the level of involvement of the commander, other planning issues including the level of detail in the commander's initial guidance, staff



flexibility, number of COA to be developed and the level of detail in orders should be considered. The relationship between time constraints and planning considerations is outlined in Figure 2.1.

**Figure 2.1: Relationship between time constraints and planning considerations**



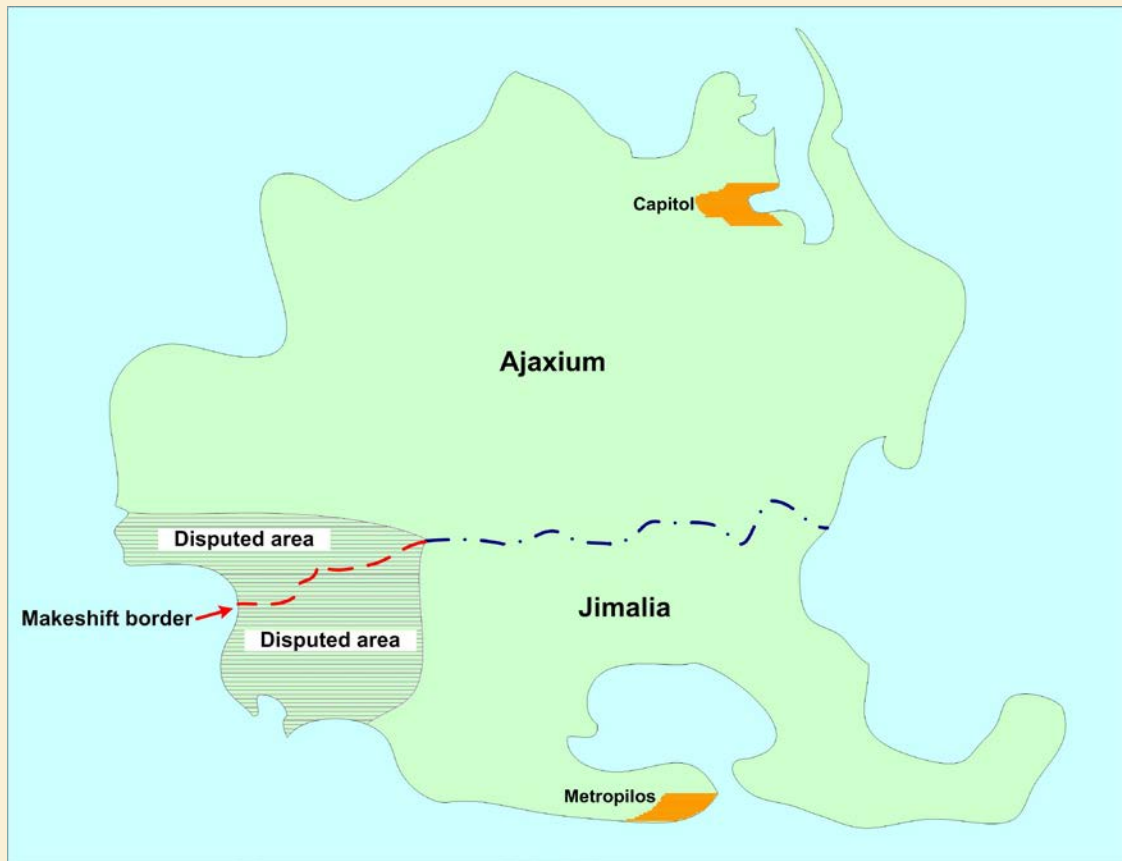
## HYPOTHETICAL EXAMPLE

### I. SCOPING

The staff assembled in the headquarters briefing room. Clearly, something was developing: the briefing had been announced at short notice and representatives from all of the J staff were present, along with representatives from various other Government departments that had input into planning. Principal staff officers sat around the table and their staff occupied the remaining seats.

The commander began by stating that the situation in Jimalia had deteriorated further and invited the J2 to provide more detail. The briefing outlined how in the last few days there had been extensive movement of materiel along the border between Jimalia and Ajaxium. Further information had been received that indicated it was likely that this would be used by Ajaxium for an invasion of Jimalia that could commence within the next week. Further information was provided in briefing packs.

The country brief gave very general details about Jimalia and Ajaxium, both sovereign countries that share the same relatively large Pacific island. Jimalia is at the south end of the island and Ajaxium at the north, however Ajaxium is a little over twice the size and therefore also occupies most of the central, eastern and western parts of the island (see map, below). Since their independence in the decades following the Second World War a dispute had continued between the two countries over the exact placement of the border between them, which was not properly established by the former colonial powers. In particular, a large area at the south-western side of the island has been claimed by both countries and an improvised border located roughly along the centre line has been the subject of numerous low-level incidents over the years. Latent tensions between the two countries have rapidly grown since the discovery of oil reserves in this disputed region about five years ago. Since then incidents along the makeshift border have increased in frequency and both countries have undertaken to modernise their military forces.



**Map: Jimalia and Ajaxium, showing disputed border area**

Civil unrest has been growing in Ajaxium since an election six months ago that was widely claimed to have been conducted fraudulently to ensure the return of the ruling party to power. This has been compounded by an economic downturn and the President of Ajaxium has been increasing the frequency of his anti-Jimalian rhetoric as a means to enhance national unity through the creation of a common adversary. This rhetoric has in recent months been accompanied by large anti-Jimalian protests in the capital, initially believed to have been orchestrated by the government but since having taken on their own momentum. As a result diplomatic tensions between Jimalia and Ajaxium have been at an all-time high for the last few months.

Just over two weeks ago a cyclone in the disputed region caused a humanitarian crisis as over 30 000 local residents were left without water or electricity and about a third of this number was left homeless. In the wake of the cyclone both Jimalia and Ajaxium launched military-led disaster relief operations in the areas they control, however the Ajaxium operation was much larger as about 80 percent of the affected population are located on Ajaxium's side of the extant border. Previous reporting had indicated that Ajaxium may be using this crisis to cover a build up of forces ready for an invasion of the Jimalian-controlled areas. Recent intelligence reporting had confirmed that this was likely to be the case. However, due to the damage to infrastructure caused by the cyclone, particularly to the already poor-quality roads in the area, it was unlikely that the Ajaxium invasion force would be ready to cross the disputed border for another week.

Once the J2 had finished providing an initial intelligence update the commander explained that the Australian Foreign Minister had met with their Jimalian counterpart that morning, and the outcome was the finalisation of an agreement for the provision

of Australian military forces to support the maintenance of Jimalian sovereignty. The conclusion of this agreement was not surprising as Australia and Jimalia had a history of mutual cooperation on security and defence issues, however the conclusion of the agreement had come much earlier than anyone on the staff had expected.

A copy of the agreement was included in the briefing packs, as was a CDF warning order that had just been received by the HQ.

The situation reports indicated that within a week Ajaxium was likely to have a motorised brigade ready to invade Jimalia by land, with options to concurrently insert another half-battalion strength force by sea. Both force elements could be supported by air and maritime forces. Ajaxium's total military forces include two aging frigates and two arguably obsolete but still functioning amphibious ships and half a dozen patrol boats. The army is division strength including two infantry and one motorised brigades, along with an independent special forces battalion, although up to a third of the army is usually employed in providing assistance to the paramilitary police in maintaining domestic order. Ajaxium's air force consists of a squadron of a dozen fighters and four transport aircraft. Due to its historic alliances, along with the need for financial expediency, much of Ajaxium's military hardware is Soviet in origin.

Owing to Jimalia's much smaller size, its own defence forces are limited to four patrol boats and an army a little over an infantry brigade in size. Three maritime patrol aircraft and five utility helicopters were purchased three years ago as part of Jimalia's force modernisation program—before then Jimalia simply did not have an air force.

The tasks assigned within the CDF warning order included being prepared to conduct a non-combatant evacuation operation (NEO) to extract Australian and approved foreign nationals from Jimalia in the event of an invasion by Ajaxium; establishing liaison with the Jimalian Defence Force as soon as possible; conducting information operations designed to convince Ajaxium that any invasion of Jimalia would be met with an immediate and overwhelming international response; and developing options for ways to militarily assist Jimalia in the event of an invasion. The national strategic end state was 'that the safety of Australian citizens has been ensured, the territorial sovereignty of Jimalia has been upheld and Ajaxium has ceased to pose an immediate military threat to Jimalia'.

Once the staff had had the opportunity to read the warning order, the commander provided initial planning guidance. They stated that the situation had started developing faster and some key details were still being sorted out between Australia and the Jimalians. The security agreement is very high level and the details of possible force contributions were still being worked through, so the commander needed to see a range of options from light to heavy force presence. The commander emphasised that a higher level of risk could be accepted if the benefits were evident and opportunities arose. There was about a week until the last reasonable time to commence deploying forces to Jimalia, so completing the planning was reasonably urgent—the draft conops should be finalised by close of business Wednesday. Conveniently, and perhaps for the first time ever, the crisis had arisen early on a Monday morning.

The briefing concluded and J5 assembled the JPG immediately afterwards to conduct Scoping. Some members of staff were tasked to examine the initial intelligence received from the J2 or included in the CDF warning order, while others began to compile a list of CCIRs. Another element of the staff was tasked to go through the headquarters' planning records for the last 12 months and assemble a

dossier of useful information from previous planning activities relating to Jimalia. In particular a NEO had been planned following the cyclone a fortnight ago and this would be useful as a starting point for planning for a possible NEO in the near future.<sup>23</sup> Finally, the J5 established a planning timeline. With only three days to plan, they decided to complete Scoping and Framing by lunchtime and commence Mission Analysis that afternoon. Mission Analysis would conclude by lunchtime on day two of the planning and COA Development would be complete by the end of day two. Day three would involve the conduct of COA Analysis and Decision and Conops Development.

## SUB-STEP TWO: FRAMING

2.26 Framing is the crux of Scoping and Framing. It may be used when confronting an adaptive, interactively complex, and/or ill-structured problem and it enables the commander and staff to develop an enhanced situational understanding. Framing is used to deconstruct complexity and to ensure that the correct problem or series of problems are fully explored to help inform more detailed planning.

2.27 **Complexity.** There are two types of complexity: structural and interactive. Structural complexity exists in a system made up of many parts that operate in a predictable (usually linear) way. Interactive complexity exists in a system that is made up of many parts that interact with each other and with the system itself in many alternating ways, which may adapt and change over time, often unpredictably.<sup>24</sup> The first, second, third order, etc, effects produced by this variety of interaction are very difficult to predict accurately, and may even change the nature and structure of the system itself. An interactively complex system is often also referred to as a complex adaptive system.

2.28 Although military forces and their areas of operation have always been structurally complex, today it is widely understood that contemporary military operations are also interactively complex. As a result, problems are often ill-structured and the effects of any action may be difficult to understand fully. Solving these problems requires first developing a detailed situational understanding, which includes developing an awareness not only of the components of the system, but also of their interactions with one another and of the functioning of the system as an integrated whole.

2.29 **Types of frame.** There are two types of frame:

- a. environment

<sup>23</sup>. Relevant joint doctrine publications were also consulted at this time, including [ADDP 3.10—Noncombatant Evacuation Procedures](#) and [ADDP 3.20—The Military Contribution to Humanitarian Operations](#).

<sup>24</sup>. A system is populated by interacting and adaptive people, groups, alliances, agencies and other stakeholders. For example, a system of criminality can be characterised by its individuals, their connectivity within a city's neighbourhoods, affiliations in single country's regions, and/or trans-national gangs. Framing seeks to enhance understanding about how and why the system operates at its various levels and adapts to inputs or change, and what the desired configuration or state of that system might look like.

b. problem.

**2.30 Priming questions.** A list of priming questions that may assist planners during the conduct of Framing, and which may also assist in determining the nature of the necessary output, is in Annex 2B.

### Environment frame

**2.31** The environment frame contextualises the OE by examining all the elements, conditions and circumstances that may affect the employment of capabilities, and influence decisions by the commander. It questions what is going on in the environment and what the environment should look like at the desired strategic end state. Specifically, the environment frame considers:

- a. how the OE developed from a historical and cultural perspective, how it currently exists (current conditions), possible future conditions, and how these relate to the desired strategic end state
- b. own capabilities and current operational commitment
- c. identifying assumptions about systems in the OE to assist rapid recognition of systemic change and enable more agile, adaptive responses
- d. which actors exist within the OE, along with their identity, history, culture, current state and future goals, and the nature of relationships between actors
- e. the strategic intent of any threats, including their objectives, limitations, specific direction and time constraints
- f. causes of conflict within the OE and between actors (which may be political, economic, ethnic, or sectarian)
- g. physical conditions within the OE and their implications for operations (which may include major terrain features, major infrastructure and weather patterns).

**2.32** The environment frame strives to identify and explain actors and relationships within a complex adaptive system. It should identify and question assumptions made about the environment, including those made within the documents collected during the Scoping sub-step. In questioning these assumptions the environment frame is seeking to expand planners' situational understanding and enable them to better adapt to an unfolding situation.<sup>25</sup> Planning staff should be constantly aware of the common tendency to comprehend and interpret the environment through the lens of their own societal norms and constructs. As far as

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<sup>25</sup>. The environment frame is not a substitute for the analysis of the OE steps of JIPOE. This component of JIPOE has a specific role and is tied to certain outputs that the J2 staff produce in support of planning, whereas the environment frame intends to enable the planning staff to gain a better situational understanding before commencing detailed planning. For further information about JIPOE see [ADFP 2.0.1—Intelligence Procedures](#).



possible, key actor relationships in particular require analysis from the perspective of observed cultural practices and idiosyncrasies in the OE.

**2.33 The observed system and the desired system.** The environment frame depicts the observed system (the current state of the OE), identifying the tendencies, intents, biases, vulnerabilities and strengths of relevant actors that define the current system and possibilities for change. Based on the higher guidance received at the initiation of planning (see discussion in the Scoping sub-step, above) the environment frame also defines the set of conditions that constitute the desired system (the desired future state of the environment).

**2.34** The characteristics of conditions vary. Conditions may be tangible or intangible, military or non-military, physical or psychological, but probably a combination. Also they may describe or relate to perceptions, levels of comprehension, cohesion among groups, or relationships between organisations or individuals. Because the desired system must be clearly defined, success hinges on accurately describing those conditions. When describing conditions that constitute the desired system the commander and staff consider their relevance to higher policy, orders, guidance or directives.

**2.35** Time is a significant consideration when determining the desired system. How time relates to the desired system heavily influences not only the expectations of higher authorities but also how commanders use forces and capabilities to achieve desired conditions. Planning staff must exercise diligence to account for the time expected to achieve the desired conditions. They also qualify whether the desired conditions are intended to be lasting or transient in nature. This temporal dimension is essential to developing effective operational approaches and managing expectations.

**2.36** The differences between the observed system and the desired system should be recorded for use during subsequent JMAP steps. Specifically, the nature of the desired system may contribute to the development of the operational end state and may also assist planners to identify operational objectives, decisive points and associated effects.<sup>26</sup>

**2.37 Actors.** Commanders and staff use the environmental frame to understand and explain behaviours of relevant actors in the OE. Relevant actors may include states, governments, multinational organisations, coalitions, regional groupings, alliances, terrorist networks, criminal organisations, cartels, multinational and international corporations, non-governmental organisations and others able to influence the situation either through, or in spite of, the established civil, religious or military authorities. A few will be key actors who are crucial to the operation's success.

**2.38** A diagram illustrating relevant actor relationships is a valuable tool for understanding and visualising the OE. A simple example, at Figure 2.2, shows

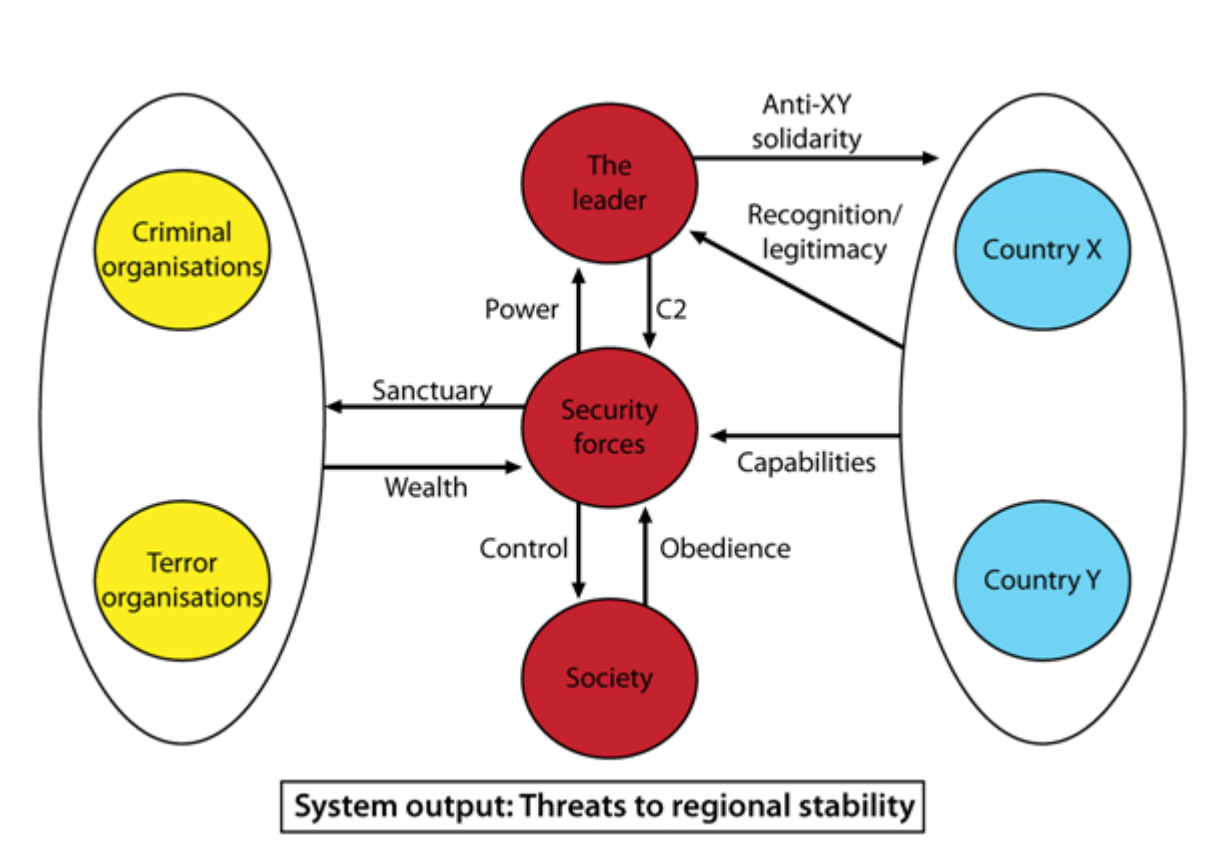
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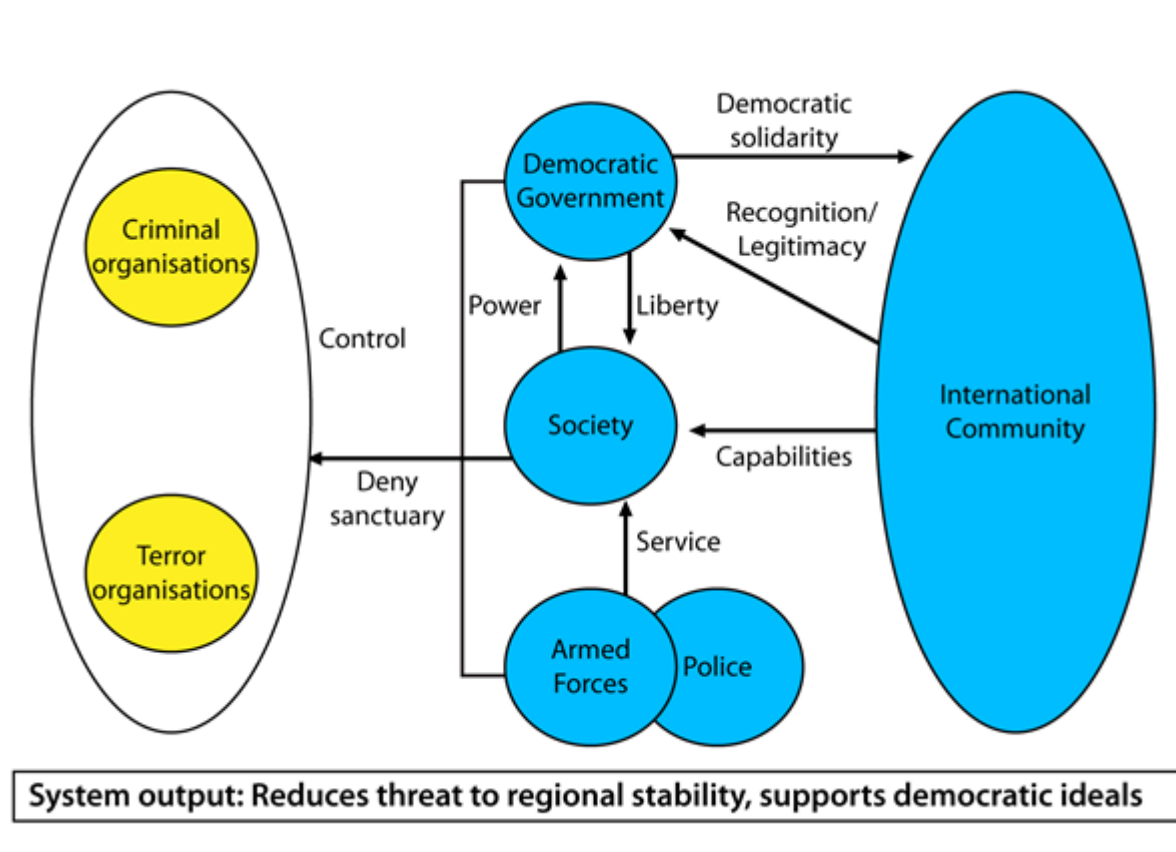
<sup>26</sup>. Determining the end state is the next sub-step of Scoping and Framing and is discussed below. For further information about operational objectives, decisive points and effects, see Chapter 3.



relevant actor relationships within the observed system and Figure 2.3 shows those within the desired system.

**Figure 2.2: Actor relationships within the observed system**



**Figure 2.3: Actor relationships within the desired system**

2.39 In some situations such diagrams may become so complicated that they impart only limited insight and can inhibit critical and creative thought when viewed in isolation. In these situations the development of an environmental frame narrative may enable planners to develop a more detailed understanding of the relevant actors, their interactions, and relationships.

2.40 When used in concert, a diagram and narrative become powerful descriptors. Often relationships among actors are multifaceted and differ depending on the scale of interaction and their temporal aspects (history, duration, type, and frequency). Clarifying the relationships between actors requires intense effort since relationships must be examined from multiple perspectives. Commanders can also depict relationships by identifying and categorising their unique characteristics.

2.41 **Tendencies.** In developing a situational understanding of the interactions and relationships of relevant actors in the OE, planning staff analyse natural tendencies and their potential to affect conditions. A tendency is the inclination to make decisions or behave in a certain manner. Tendencies are models describing the thoughts or probable behaviours of relevant actors. Tendencies identify the likely pattern of interactions and relationships between the actors. It is important to understand why some of these patterns have the potential to grow or develop a specific interaction or relationship in a particular way, and the possible effect on operations.

2.42 Once tendencies have been identified, planning staff evaluate the potential of these relationships to occur within the OE. It is important to identify those interactions

and relationships that support achieving the desired system and clearly articulate those that resist.

### **Problem frame**

2.43 The problem frame aims to ensure that when facing an interactively complex, ill-structured problem, the 'right' problem has been accurately identified. Staff are not aiming to solve the problem here, just understand and contextualise the situation. The problem frame is a refinement of the environment frame and defines the areas for action that will transform existing conditions toward a desired end state. Problem framing involves isolating and understanding the root causes of the entire problem set. The core of problem framing is an answer to the question, 'what is the problem set we have been tasked to confront, and why has it arisen?' The questions and analysis that will be necessary may involve a dialogue with strategic agencies to the level that conclusions by operational staff may find the initial interpretation and direction flawed or misaligned.

2.44 The problem frame considers:

- a. strategic level direction
- b. status of current operations
- c. the commander's initial guidance, including time constraints and planning considerations, force preparation and capability requirements, and guidance from previous planning
- d. intelligence updates.

2.45 In framing the problem, planners should address as a minimum these questions:

- a. Why have the current circumstances arisen?
- b. Which related conditions, actors, or relationships may oppose us? (Commanders and staff refer back to their understanding of the environment to identify all the actors and influences (friendly, neutral, and hostile) that may impede movement from the observed system to the desired system).
- c. Which related conditions, actors, or relationships may help us? (Similarly, commanders and staff identify all actors and influences that can be leveraged to move in the desired direction).
- d. What organisational challenges and requirements must we accommodate?
- e. What broad resources we can draw upon to achieve our goals?

2.46 **Identifying tensions.** Refining planners' understanding extends beyond analysing interactions and relationships in the environment. It also identifies areas of tension and competition—as well as opportunities and challenges—that commanders and staff must address to transform the observed system toward the desired system. Tension is the resistance or friction among and between actors. It may be positive in

that it facilitates desired environmental changes, or negative and resistant to the desired environmental changes.

2.47 The commander and staff challenge their hypotheses and models, developed during the environmental frame, to identify motivations and agendas among the relevant actors with regard to the desired transformation. They identify factors that influence these motivations and agendas. The commander and staff also evaluate tendencies, potential for adaptation, trends, tensions, and other factors that influence the interactions among social, cultural, and ideological forces. These may include political, social, or cultural dispositions in one group that may hinder collaboration with another group.

2.48 In the problem frame, analysis identifies the positive, neutral, and negative implications of tensions in the OE, understanding that one's own force's actions may exacerbate latent tensions. Tensions that can be exploited to drive change may be vital to transforming existing conditions. Tensions that may undermine transformation must be addressed appropriately. Because tensions arise from differences in perceptions, goals and capabilities among relevant actors, they are inherently destabilising and can both foster and impede transformation. By analysing these tensions, the commander identifies the problem that operational design will ultimately solve.

2.49 **The problem narrative.** A problem narrative clearly defines the problems that must be overcome to achieve the desired transformation and end state. It considers how tension and competition affect the OE by identifying how to transform the observed system to the desired system, while adversaries attempt to transform current conditions to their desired conditions. The problem narrative broadly describes the requirements for transformation, changes in the OE, and critical transitions. The problem narrative accounts for the key time and space relationships inherent in the problem frame, and its key aspects are summarised in the form of a declarative statement. It should, however, be recognised that considerable analysis and staff work will expand on and support the narrative statement.

#### Example of a problem narrative statement

*'The lack of a government capable of exercising sovereign control in country X allows criminal and terrorist organisations to flourish, which in turn threatens regional stability.'*

#### Information requirements

2.50 Developing the environment and problem frames involves the review of various documents, directives and other inputs and is therefore likely to lead to the identification of gaps in knowledge about the situation. Identifying the information required to fill these gaps assists in accurately creating the environment and problem frames. These information requirements should be added to the CCIR list that was established during the Scoping sub-step.

2.51 **Commander's critical information requirements.** CCIR are the critical pieces of information a commander needs to make the best decision with the lowest risk. The components are:

- a. **Friendly force information requirements.** These requirements encompass the nature and status of friendly force capability, and include information regarding the activities or capabilities of own or adjacent FE. FFIR are approved by the commander, managed by the chief of staff (COS) and actioned by the planning and operations staff.
- b. **Essential elements of friendly information.** EEFI are key questions likely to be asked by adversary planners and intelligence personnel about specific friendly intentions, capabilities, and activities, so they can obtain answers critical to their operational effectiveness. These are specific facts about the dispositions, capabilities and intentions of friendly forces which the adversary may need to undermine the friendly operation. The objective of operations security is to identify EEFI to identify vulnerabilities, plan countermeasures and protect the operation from adversary interference. EEFI are proposed by the J3 and J5 staff based on their analysis of friendly centre of gravity and resultant critical vulnerabilities that will require protection. Also, intelligence staff provide input based on their understanding of adversary intelligence collection activities. EEFI are approved by the commander and managed by COS.
- c. **Priority intelligence requirements.** PIR are those intelligence requirements for which a commander has an anticipated and stated priority in planning and decision making. PIR encompass intelligence required regarding the adversary, environment and stakeholders. Assumptions made as planning progresses often trigger a need for a specific piece of information crucial to the planning process. While planning will progress based on the assumption, the desire to verify an assumption will often result in identification of a PIR. PIR prime the intelligence process, focus JIPOE, are confirmed through the collection plan and are answered in the course of collection operations. PIR are approved by the commander, managed by the COS and actioned by the intelligence staff.

2.52 **Commander's critical information requirements and planning.** CCIR enable a commander to identify the information required on the adversary, environment, stakeholders, friendly force status, capabilities and limitations, and to indicate the vital information requiring protection against adversary intelligence gathering. Most importantly, the answering of FFIR and PIR, as well as the protection of EEFI, are initiated immediately planning commences. CCIR should then be updated throughout the planning process to ensure staff and activities are suitably focused, and the draft collection plan is refined. Updated CCIR are validated or amended by the commander, usually based on staff recommendations.

2.53 **Commander's critical information requirements and execution.** Aligning CCIR with a phase of the operation, a commander's decision point (CDP) or a decisive point (DP) enables the staff to focus and support the commander's decisions during execution of the plan. The staff can anticipate information requirements at each phase of the operation, CDP or DP. Articulation of CCIR enables the staff responsible to organise the staff process and information collation, both internal and external to the HQ or assigned FE, to ensure that CCIR are answered in a timely fashion to enhance command decision making.

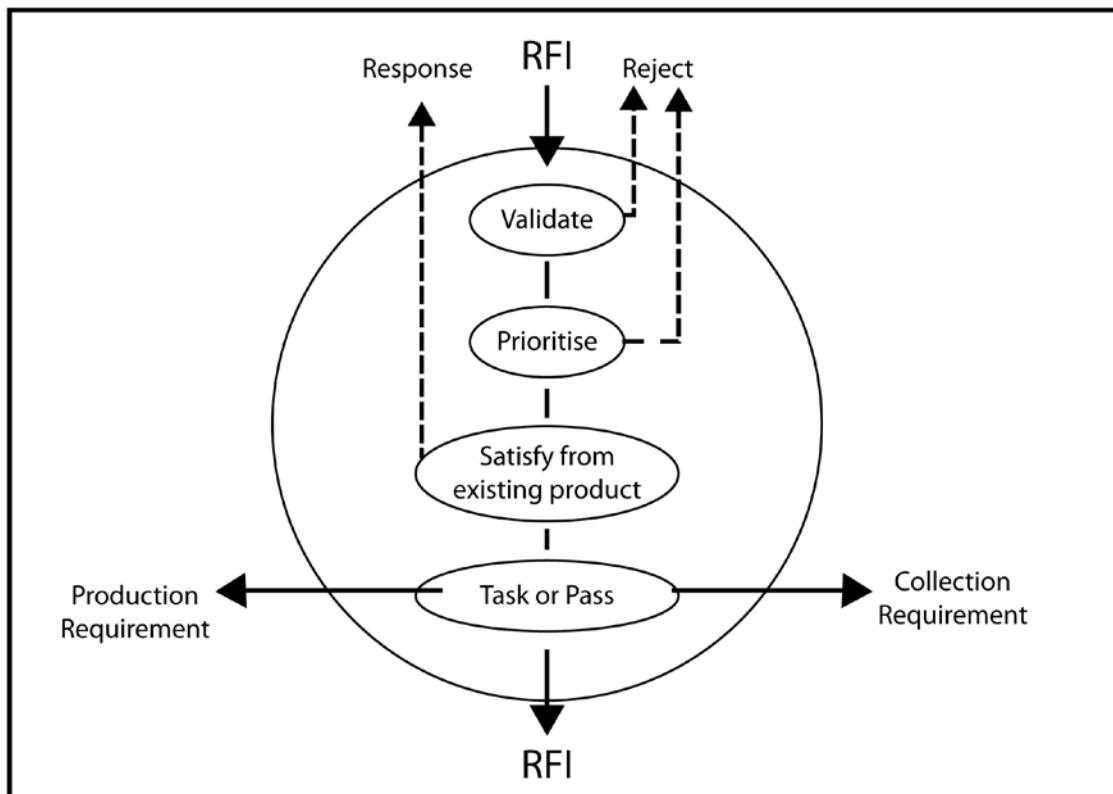
2.54 **Commander's critical information requirements management.** CCIR are endorsed by the commander but managed by COS, who is responsible for coordinating the CCIR with appropriate staff within the HQ. COS is also responsible for ensuring staff provide answers to CCIR on time and in the format required by the commander, such as inclusion of the time a CCIR will lose its value to the plan. COS and relevant HQ staff review the CCIR, as and when appropriate, with the commander.

2.55 **Request for information.** A request for information (RFI) is the standard means for passing requests for information or intelligence. RFI is a multi-purpose tool encompassing the following:

- a. notification of information requirement
- b. requests for information to support planning
- c. requests for information to support intelligence production
- d. requests for finished intelligence product
- e. requests for new collection.

2.56 When an RFI is generated, it should be passed to either the planning staff (for friendly-focused RFI) or to the intelligence staff (for adversary-focused RFI) as soon as practicable. On receiving an adversary-focused RFI, intelligence staff assess it and validate its legitimacy and whether or not to proceed. If valid, the RFI is prioritised and further assessed as to whether it can be answered by extant resources and information held. The request is passed into the RFI management system for production if resources are locally held, or to collection managers to be prioritised against competing intelligence demands and available organic assets, or those not under command. The RFI process for adversary-focused RFI managed by the intelligence staff is diagrammatically represented in Figure 2.4.



**Figure 2.4: The request for information process**

2.57 For further information about adversary-focused RFI, including the format for their submission, see [Australian Defence Force Publication \(ADFP\) 2.0.1—Intelligence Procedures](#).

## Reframing

2.58 Reframing is a process of revisiting earlier hypotheses, conclusions, and decisions that underpin the current approach to campaign or operation planning. In essence, reframing reviews what the commander and staff believe they understand about the OE, the problem and the desired system. During the Framing sub-step the commander and staff established a starting hypothesis and a baseline for learning by framing the environment and the problem. During later stages of planning and during execution, they use indicators that trigger reframing as they continuously monitor and evaluate their plans and actions against this baseline to detect significant unanticipated changes in the OE. If required, commanders and staff adjust the operational approach to ensure alignment with the desired direction and determine whether that direction itself remains relevant to the environment and the higher commander's desires and expectations.

2.59 Reframing may occur at any stage during planning or execution of operations, if the commander or staff determine that they need to reassess the assumptions made and conclusions reached. It would be reasonable that, after reframing the situation at any stage during planning or execution, the commander initiated a fresh JMAP activity. Generally, the decision to reframe can be triggered by factors such as:

- a. an assessment that challenges the commander's and staff's understanding of the OE, existing problem, or relevance of the current operational approach
- b. campaign assessment or a scheduled periodic review shows a problem
- c. failure to make required progress
- d. key assumptions or hypotheses prove invalid
- e. unanticipated success
- f. a major event causes catastrophic change in the OE.

## HYPOTHETICAL EXAMPLE

### II. FRAMING

Even though the problem looked fairly straightforward, the J5 designated a team from within his staff to conduct Framing—after all, Framing may identify something that had not been made clear in the guidance from higher command.

For the environment frame, the Framing team began by listing and organising all of the elements, conditions and circumstances in both Jimalia and Ajaxium that they thought might impact upon the strategic end state contained within the CDF warning order. They debated the significance and meaning of each element, condition and circumstance and discarded several, thinning down the list to a dozen or so key aspects of the OE that seemed relatively more influential than the others. In completing this identification and narrowing of key aspects of the OE, they drew on a mixture of their own prior experience, both military and that of members of the planning team who had previously holidayed in Jimalia or Ajaxium; on the information that was available from the J2 cell; and on open source media and academic analysis. One member of the Framing team even telephoned an academic expert at an Australian university to ask for clarification about some of the aspects of Jimalian society that had been discussed in the academic's recent book about the country's political history. Throughout the discussion debate was open and constructive and when arbitration was required the J5, and a few times even the commander, became involved.

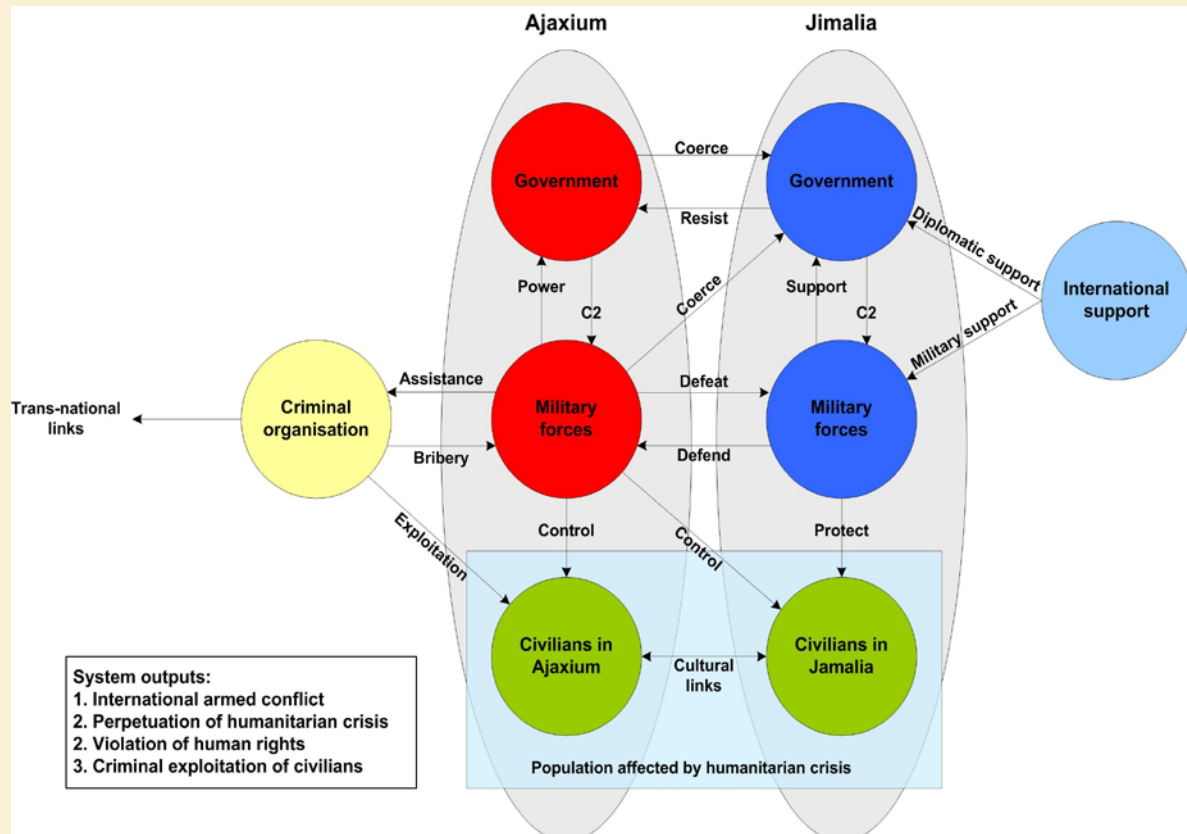
The result of this robust discussion was the identification of two key elements within the OE that were likely to impact significantly on the ability to meet the strategic end state. The first of these elements was that it was likely that the Ajaxium military's disaster relief operation had been tokenistic, as they had instead concentrated on preparing for an invasion of Jimalia. As a result, the humanitarian problems caused by the cyclone a few weeks ago were likely to be ongoing and get worse if Ajaxium began an invasion of Jimalia. Hence humanitarian considerations would need to be factored into subsequent planning.

The second element was related to the first: elements of a transnational criminal network had used the chaos following the cyclone to enter the disputed border region. It was now possible that they were exploiting civilians on the Ajaxium side of the border as part of their human smuggling operations. It was also possible that the criminal network was paying bribes to local Ajaxium military commanders to turn a blind eye to its activities and it was likely that an Ajaxium invasion of Jimalia would greatly enhance the network's ability to operate unhindered in the area. This posed an additional humanitarian threat and disrupting this network's activities would also need to be considered during subsequent planning.

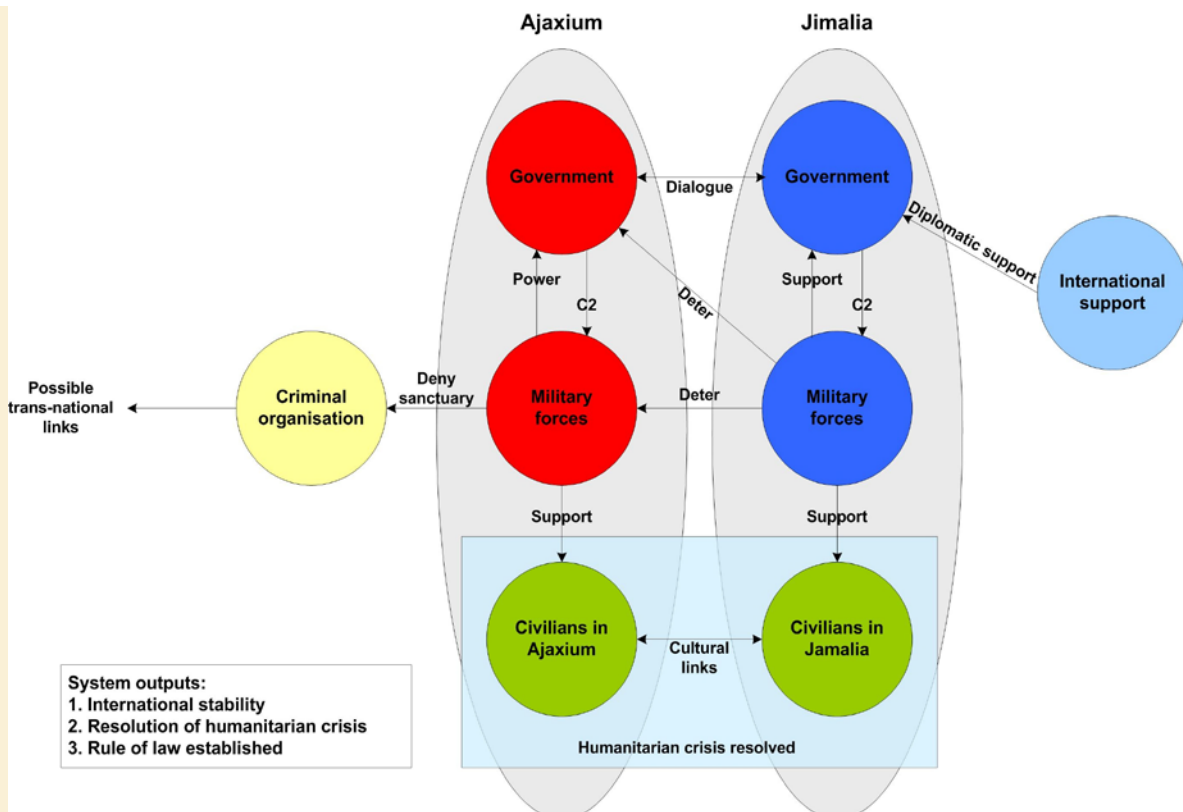
As the observed and desired systems diagrams produced by the Framing team (pictured below) showed, the circumstances and conditions that needed to be taken into account were, as the CDF warning order and planning guidance laid out, deterring and, if need be, defeating the Ajaxium government and armed forces. Resolution of the humanitarian situation, and disruption of the transnational criminal element that was exploiting the crisis, were also important considerations for moving from the observed to the desired system, but they were not specified tasks.

The Framing team then moved onto problem framing and discussed the nature of the problem in more detail, including an examination of the cultural peculiarities of each of the identified threats, their command structures, interactions with others, strengths

and weaknesses and likely ways in which each organisation might adapt under a set of hypothetical variations to the observed system. From this discussion it was identified that the Ajaxium military had a tendency to remove local commanders quickly if they were not operationally successful. As these commanders were the main recipients of bribes, such an action had the potential to disrupt local operations of the criminal network, which was in turn likely to attempt to more violently intimidate the local population into concealing its operations if it felt threatened by new local Ajaxium military commanders.



**Jimalia and Ajaxium: observed system diagram**



### Jimalia and Ajaxium: desired system diagram

Another aspect that emerged was that economic fragility of the government of Ajaxium was driving their military strategy to a great degree and, if it could be demonstrated that access to oil fields on the Jimalian side of the makeshift border would be denied to the Ajaxium government, then Ajaxium may be deterred from launching an invasion at all. This may also have the second order consequence of causing significant political instability in Ajaxium; however, the Framing team determined that although they needed to bear this possibility in mind for future contingency planning, it was currently too remote a prospect for them to need to address it as part of the current planning process.

At the conclusion of the problem framing process, the Framing team agreed on the following problem narrative, which was then presented to the commander:

The government of Ajaxium is manipulating its population's perception of historical international tensions as a pretext for invading Jimalia, but the government's actual motives are to capture economically important oil fields and to shift the Ajaxium population's attention away from claims of recent election fraud. Ajaxium's military activities in the disputed border area between Ajaxium and Jimalia are having a destabilising effect by prolonging an existing humanitarian crisis and allowing a transnational criminal network to operate freely in this region.

The commander asked several questions about the reasoning underlying the problem narrative and suggested some adjustments based on personal operational experience.

Finally, the CCIR list was updated to include several PIR regarding the key stakeholders, their likely interactions and possible reactions.

### SUB-STEP THREE: DETERMINE THE DESIRED CAMPAIGN OR OPERATION END STATE

2.60 The campaign or operation end state is the desired future condition represented by a number of specific criteria that the commander wants to be in place for a campaign or operation to conclude. A clearly defined end state promotes unity of effort, facilitates integration and synchronisation and helps manage risk.

2.61 Determining the campaign or operation end state involves analysing the superior commander's intent and national or military strategic objectives, while also taking into account the outputs of Framing, in particular the problem narrative and conceptions of the desired system. This end state must contribute to achieving the superior commander's intent and/or national or military strategic objective(s).

#### Example of an operational level end state

*'Country Y insurgency operations have ceased, Australian nationals in country X are secure and ADF assets have been redeployed to Australia.'*

*(Note that the description is of a condition, not of the actions required to achieve it.)*

#### Analyse superior commander's intent

2.62 Analysing the superior commander's intent is vital for establishing a subordinate end state. A thorough understanding of this intent allows the JPG to clearly articulate the mission during the next stage of planning. The source of the superior commander's intent should have been identified during the Scoping sub-step—for example, it may be included in a CDF Planning Directive or CDF orders. Within these documents and orders the JPG should look for a statement of intent, preferably described as purpose, method and (national or military strategic) end state. These terms are outlined below:

- a. **Purpose**—the reason for conducting the operation.
- b. **Method**—a broad description of how the mission will be achieved. For opposed operations the method statement may focus on the adversary rather than the friendly force and may clarify the commander's desired effects on the adversary. For both opposed and unopposed operations the method statement may alternatively focus on the objectives that are to be achieved and explain how each of these contributes to achieving the desired end state.
- c. **End state**—a national strategic and complementary military strategic end state are promulgated in the CDF Planning Directive. An operational level commander may use the military strategic end state to assist in developing a specific, but complementary, operational level end state.



**Example military strategic level commander's intent**

**Purpose.** *The ADF is to provide agreed military assistance to country X as approved by the Government of Australia to protect Australian interests.*

**Method.** *The ADF will deploy a joint task force (JTF) to country X with capabilities for the conduct of security operations in order to negate country Y insurgency operations. The JTF will have the capability to execute non-combatant evacuation operations for Australian and approved foreign nationals. Country X has agreed to legislative agreements to provide legal coverage for ADF personnel operating in country X sovereign territory.*

**End state.** *Country Y insurgency operations have ceased, Australian nationals on country X are secure and ADF assets have redeployed.*

2.63 An operational level commander may choose to duplicate the strategic level commander's end state or develop one separately. Operational planning staff do not need to articulate their commander's full intent in terms of purpose, method, end state at this early stage; what is required is a statement framed from a thorough understanding of the higher commander's strategic intent, the nature of the OE and the actors within it. This analysis, combined with a concise operational desired end state, directly informs work in the next planning stage to create a mission statement.

**Incorporating the outputs of Framing**

2.64 Outputs of the Framing sub-step shape planners' understanding of the OE. The problem narrative, in particular, broadly describes the requirements for transformation, changes in the OE and critical transitions. The end state is therefore likely to correspond to what the nature of the OE is expected to be once the problems identified within the problem narrative have been addressed. This is also likely to correspond with the description of the desired system that was formulated during the environment frame.

2.65 Generally an end state based on the outputs of Framing will align with the superior commander's intent, although the deeper situational understanding that Framing creates may lead to the identification of additional problems that the superior commander's intent overlooked. Consequently, the level of detail included in the operational end state may be greater than that in the national or military strategic end state. This is acceptable as long as the two align.

2.66 In some situations, however, the operational level commander's environment and problem frames may point to the need for an operational level end state that appears to not be linked to the strategic level end state. In such situations the operational commander may seek clarifying guidance from the strategic commander, and may even propose that the strategic level end state be reconsidered. A request for such guidance could indicate to national or military strategic level planners that their own assessment of the OE should be reconsidered. An ongoing conversation between strategic and operational level planning staff is both appropriate and expected, and is especially important if operational level planners draw alternative conclusions from those provided by strategic level staff.

**Adjusting the desired end state**

2.67 Prior to execution, analysis during later JMAP steps may show that the end state formed originally would be better suited as an objective or even decisive point. As has been stated, consideration should be given to recommencing JMAP either from the beginning, or the most appropriate stage, depending on each circumstance, if the problem, environment, end state or other factors have changed significantly from the initial planning assessment.

2.68 The desired end state is seldom fixed and is likely to evolve during a campaign or operation as opportunities or complications arise and government imperatives shift, resulting in staff reframing the situation. As part of any reframing exercise, staff should assess whether current strategic or operational conditions are extant, and whether any adjustment of the desired end state merits a new JMAP (see paragraph 2.59).

## HYPOTHETICAL EXAMPLE

### III. DETERMINE DESIRED OPERATION END STATE

To determine the desired operation end state the planning team first identified key inputs, which included the statement of the desired national strategic end state contained in the CDF warning order (which read ‘that the safety of Australian citizens has been ensured, that the territorial sovereignty of Jimalia has been upheld and that Ajaxium has ceased to pose an immediate military threat to Jimalia’), and the desired system diagram and problem narrative from the Framing sub-step.

In light of the identification during Framing of the serious and ongoing nature of the humanitarian situation and resultant operation of a transnational criminal network, the planning team debated whether to expand the operation end state to address these challenges. Although all agreed that addressing humanitarian issues was important, some members of the planning team argued that referring to them in the operation end state would result in ‘mission creep’ and distract from achieving the stated strategic end state. Others disagreed, arguing that resolving the humanitarian concerns, averting a likely crisis and disrupting the activities of the criminal network were vital to maintaining the sovereignty of Jimalia—states were not the only adversary capable of undermining the sovereignty of another state.

After seeking specialist advice from the legal officer, senior gender advisor and Department of Foreign Affairs and Trade (DFAT) liaison officer, the J5 determined that the issue of disaster relief was currently beyond the remit of military action, as no request for military support had been received from either Jimalia or from DFAT.<sup>27</sup> There was nevertheless the need for the ADF to be prepared to deliver humanitarian assistance, should ADF operations against Ajaxium precipitate a worsening of the existing situation and providing that other government departments were unable to operate due to the fighting.<sup>28</sup> Disrupting the activities of the criminal network would also need to be addressed, but as a separate issue to the possible provision of disaster relief or humanitarian assistance. All of these factors were important and would need to be taken into account during subsequent planning, but ultimately the J5 decided that they did not need to be incorporated into the operation end state. The J5 made this determination in light of the possibility that the ADF may be able to reach the desired national strategic end state without needing to do anything more than deter Ajaxium forces.

The desired operation end state therefore confirmed the desired national strategic end state, and was determined to be:

The safety of Australian citizens has been ensured, the territorial sovereignty of Jimalia has been upheld and Ajaxium has ceased to pose an immediate military threat to Jimalia.

Importantly, the J5 was satisfied that the planning team had reached this end state

27. The senior gender advisor provides advice on child protection as well as women, peace and security issues. For further information, see United Nations Security Council Resolution (UNSCR) 1325 (2000); UNSCR 1612 (2005); and related resolutions and principles.

28. For further information and guidance about disaster relief and humanitarian assistance, see ADDP 3.20.

after robust debate, rather than simply by accepting the national strategic end state without any detailed consideration. The additional areas that planning would need to address, which had been identified during Framing and further discussed in relation to the desired end state, were recorded so that they could be easily revisited as appropriate during the subsequent JMAP steps.

#### **SUB-STEP FOUR: DEVELOP AND ISSUE WARNING ORDER**

2.69 A warning order enables FE that may be required to conduct an operation to be given the maximum amount of time possible to conduct their own preparations. It is a way to maximise concurrent activity and therefore reduce time spent in preparation to the minimum possible. Warning orders can only be issued by CJOPS to FE that have been force assigned by their respective Service Chiefs on order from CDF. If this has not occurred yet, the results of Scoping and Framing will provide indicative force structures and sizes that can be advised to strategic level staff for possible force assignment to CJOPS.

2.70 Once the desired end state has been determined there should be a broad discussion on likely capabilities required and FE that might be necessary to support the impending operation. For example, there may be a need to conduct amphibious operations, special forces operations or strategic airlift. This information is passed to strategic level planning staff for consideration. Force preparation details from the CDF Planning Directive and other strategic level documents are also discussed and any proposed amendments again passed to strategic level planning staff for consideration. Force preparation and capability requirements are reviewed in depth with Service HQ representatives as JMAP progresses.

2.71 A warning order is then drafted and sent to the FE that have been identified as potentially contributing to the impending operation. The warning order should be as concise as possible, but should provide enough information to allow the FE receiving it to commence their own initial preparation for the operation given their possible role(s).

2.72 An example of the format of a CDF warning order is given in [ADDP 5.0—Joint Planning](#). This can be adapted by the operational HQ as required.

**HYPOTHETICAL EXAMPLE****IV. DEVELOP AND ISSUE WARNING ORDER**

As soon as the desired operation end state had been determined, the J5 directed some of the planning staff to identify the broad range of capabilities that may be used for a possible operation in Jimalia. The designated planners identified that both air and maritime assets would probably be required to insert land forces. Other air and maritime assets may also be needed to counter Ajaxium's air and maritime capabilities, to conduct a NEO, to provide humanitarian assistance, and to provide logistic support to ongoing operations once the initial insertion of land forces was complete. Land forces that may be required included all combat arms and multiple supporting units; in the event that armed conflict with Ajaxium ensued, or that large-scale humanitarian assistance would be required, the size of Ajaxium's forces would mean that a substantial land force would potentially be required. Finally, special forces elements may also be required. With this in mind, the planners identified multiple FE from within each Service that may be required for the operation.

The list was passed through the J5 to the commander for approval; the commander's office in turn passed the list to strategic level planners for their consideration. Shortly thereafter a response was received from the strategic level confirming that the list of possible FE was acceptable, and the commander approved that a warning order be issued. Designated staff then drafted a warning order using the standard format, which the commander approved prior to issuing.

**Scoping and Framing brief**

2.73 As Scoping and Framing is usually conducted by only part of the JPG (see paragraph 2.2), it will be necessary for those planners involved in this step to brief the remainder of the planning team about its outputs. There is no set format for this brief, however it should enable the entire planning staff to develop a detailed situational understanding, comprehend the conclusions reached about the OE, the actors within it and the problem(s) that need to be solved.

**Annexes:**

- 2A Scoping and Framing—aide-memoire
- 2B Priming questions when conducting Framing

## ANNEX 2A

## SCOPING AND FRAMING—AIDE-MEMOIRE

Table 2A.1: Scoping and Framing—aide-memoire

Commander's initial planning guidance, any strategic direction, CDF Planning Directive, as much as is known from JIPOE	<p><b>1. Scoping:</b></p> <p>a. examine requirements within commander's initial guidance (CCIR, risk, information on the situation)</p> <p>b. seek input from previous planning activities</p> <p>c. establish timelines.</p>	<ul style="list-style-type: none"> <li>• Identification of resources to assist in detailed planning</li> <li>• Planning and initial operational timelines</li> <li>• Summary of current situation</li> <li>• Initial CCIR list</li> </ul>
As above	<p><b>2. Framing:</b></p> <p>a. environment frame:</p> <p>(1) how the OE developed from a historical and cultural perspective, how it currently exists (current conditions), possible future conditions, and how these relate to the desired strategic end state</p> <p>(2) own capabilities and current operational commitment</p> <p>(3) identifying assumptions about systems in the OE to enable rapid adaptation to change within it</p> <p>(4) which actors exist within the OE, along with their identity, history, culture, current state and future goals, and the nature of relationships between actors</p> <p>(5) the strategic intent of any threat, including its objectives, limitations, specific direction and time constraints</p> <p>(6) causes of conflict within the OE and between actors (which</p>	<ul style="list-style-type: none"> <li>• Detailed description of the observed system and desired system, and key differences</li> <li>• Environment frame narrative describing the nature of the OE, and key actors within</li> <li>• Diagram illustrating key actor relationships</li> <li>• Problem narrative summary as a statement</li> </ul>



	<p>may be historical, economic, ethnic, sectarian)</p> <p>(7) physical conditions within the OE and their implications for operations (which may include major terrain features, major infrastructure and weather).</p> <p>b. problem frame:</p> <p>(1) strategic level direction</p> <p>(2) answers 'why has the problem arisen, which conditions and actors are oppositional and which supportive, what organisation challenges exist, what broad resources are available?'</p> <p>(3) status of current operations</p> <p>(4) the commander's initial guidance, including time constraints and planning considerations, force preparation and capability requirements, and guidance from previous planning</p> <p>(5) intelligence and CCIR updates.</p>	
As above	<p><b>3. Determine desired end state:</b></p> <p>a. analyse superior commander's intent</p> <p>b. adjust end state during the operation as required after reframing the evolving situation (Note: Post-execution. Not part of initial JMAP).</p>	<ul style="list-style-type: none"> <li>• Superior commander's intent – purpose, method, end state</li> <li>• Statement describing the campaign or operation desired end state</li> </ul>
As above	<p><b>4. Develop and issue warning order:</b></p> <p>a. broad discussion on likely capabilities necessary and associated FE</p>	<ul style="list-style-type: none"> <li>• Likely FE identified</li> <li>• Issue of warning order to respective FE</li> </ul>

	b. warning order drafted and issued to those FE identified as potentially contributing to the operation to permit as much time for preparation as is feasible.	
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## ANNEX 2B

**PRIMING QUESTIONS WHEN CONDUCTING FRAMING**

1. The following questions may be used as prompts to assist planners during the Framing sub-step of Scoping and Framing.

**Generic critical thinking questions**

2. What is the purpose, goal or point of the analysis?
3. What is the issue being described or problem to be identified?
4. On what data or evidence is the problem or issue based?
5. What inferences are being made regarding the situation and are they legitimate?
6. What is the desired outcome or condition being sought?
7. What are the short and long-term implications and consequences of this outcome?
8. What political, ideological, social considerations inform or limit further understanding of the circumstances?
9. How does the multiagency approach improve analysis?
10. Regularly ask, 'Why?' and 'So what?'

**Analysing the environment or context**

11. What has changed that means this analysis is required?
12. What is the relevant strategic direction and is the information authentic?
13. What are the determining factors in the changing area of interest, and what are the implications of that change?
14. Who are the various actors in the area of interest, and what are their strategies and relations?
15. What is new or different in the emerging situation compared to the prevailing situation or system?
16. What strategic and operational factors are relevant in the emerging system?
17. Is there disparity between the strategic guidance and any expressed desired outcomes?
18. What are the sources of legitimacy for a military operation?
19. What would be the sources of opposition to a military operation?

20. What are the current contextual knowledge gaps, and which experts or specialists require engaging to help close the gaps?

**Analysing the problem or threat (strengths, weaknesses, sources, relationships)**

21. What are our own cultural differences, biases, prejudices that might impair proper understanding of the threat?

22. What are the cultural peculiarities of the threat and its system?

23. What are the economic characteristics of the threat system?

24. How is the social system of the threat organised?

25. How does the threat determine its strategy?

26. How is the threat system's civilian and/or military command and control organised?

27. How does the threat prefer to operate, and how does it adapt its activities?

28. How might the threat resist our actions?

29. What are the threat's logistic strengths and weaknesses?

30. What entities or relationships within the threat system are vulnerable to outside influence or correction?

31. How will that influence or correction be observed and what measures should define success?

**Analysing other connected aspects**

32. What might be the positions of other international actors towards military action?

33. What conditions would best describe the strategic and operational desired states?

34. Where and by when do these conditions have to be achieved?

35. What is the likely area of operations?

36. How does time affect operations?

37. What are the logistic implications of manoeuvre in the area of interest?

38. What might be the most/least effective methods of manoeuvre?

39. What effects will best achieve the desired conditions?

40. What gender and child protection issues exist in the operational environment and how do these impact on the observed and desired systems?

## CHAPTER 3

### STEP TWO: MISSION ANALYSIS

#### Executive summary

- Mission Analysis involves nine sub-steps:
  - review the situation
  - derive and analyse centres of gravity (and their critical factors)
  - determine own mission
  - determine objectives
  - identify and analyse tasks
  - determine limitations
  - identify critical facts and assumptions
  - determine decisive points
  - develop lines of operation.
- This step is the most substantial in terms of the breadth of issues considered and the scope and detail of its outputs. It demands flexible, creative and critical thinking throughout to ensure the best possible planning outcomes.

*It does not do to leave a live dragon out of your calculations, if you live near him.*

**JRR Tolkien, CBE, 1937<sup>29</sup>**

#### INTRODUCTION

3.1 Mission Analysis (MA) is the second step in the Joint Military Appreciation Process (JMAP). In MA, the operational design work begun in Scoping and Framing is further developed until a thorough description of the commander's operational approach is created through a schematic depicting a line or lines of operation (LOO) that together achieve the desired end state. This step is the most substantial in terms of the breadth of issues considered and scope and detail of output generated. In common with Scoping and Framing, MA demands flexible, creative and critical thinking throughout to ensure the best possible planning outcomes. Whenever possible, planning staff should seek to capture a narrative or account of the logic behind all end states, objectives, assumptions, operational analysis, conclusions, effects and their desired outcomes. This provides the process with greater clarity, authenticity, accountability and transparency as it develops. Such a narrative also

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<sup>29</sup>. JRR Tolkien, *The Hobbit*, London: George Allen & Unwin, 1937, chapter 12.

assists in formulating effective risk and assessment strategies to be employed once the plan is executed.

**3.2 Inputs.** The inputs to MA are:

- a. commander's initial planning guidance—for example, a Chief of the Defence Force (CDF) Planning Directive or warning order
- b. the outputs of Scoping and Framing
- c. a Joint Intelligence Preparation of the Operational Environment (JIPOE) update.<sup>30</sup>

**3.3 Sub-steps.** MA incorporates the following sub-steps:

- a. review the situation
- b. derive and analyse centres of gravity (COG) (and their critical factors (CF))
- c. determine own mission
- d. determine objectives
- e. identify and analyse tasks
- f. determine limitations
- g. identify critical facts and assumptions
- h. determine decisive points (DP)
- i. develop LOO.

**3.4 Outputs.** The outputs of MA are:

- a. a mission statement (in the form of who, what, where, when, why)
- b. lists of specified and implied tasks, and identified essential tasks
- c. limitations, separated into constraints and restrictions
- d. compilation of critical facts and critical assumptions
- e. updated commander's critical information requirements (CCIR)
- f. campaign or operational objectives

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<sup>30</sup>. The JIPOE is summarised in Annex 1A. It is described in full in [Australian Defence Force Publication \(ADFP\) 2.0.1—Intelligence Procedures](#).

- g. friendly and adversary CF (for an opposed campaign or operation) that have been derived and analysed, and a COG analysis construct developed
- h. DP and associated effects
- i. matrices for each DP, albeit not fully mature and detailed
- j. objectives and DP that have been organised into LOO which proceed logically in time and space towards the desired campaign or operation end state.

3.5 Aide-memoire. An MA aide-memoire is in Annex 3A.

### **Joint Intelligence Preparation of the Operational Environment input to Mission Analysis**

3.6 MA usually commences with products from JIPOE steps one and two, and as much of the analysis of the threat that is available, but at least the adversary COG analysis or threat scenarios from step three, and possibly the final step, dependant on time and resource constraints.<sup>31</sup> Notwithstanding, MA may commence with as much as is known regarding the situation, environment, and threat. Intelligence staff should then update the joint planning group (JPG) as new information becomes available through the intelligence cycle.

3.7 Product availability depends on the time necessary to collect, process, evaluate and disseminate required information that can be displayed in a form useful to the commander and JPG. The content of the JIPOE briefing will also depend on the availability and quality of existing databases, collection assets and intelligence personnel. It further depends on fortunes in collecting information and the threat capability in countering friendly collection activities.

3.8 If minimal progress is made through JIPOE, intelligence staff should consult with the JPG to develop assumptions that allow planning to continue. As information that proves or disproves an assumption becomes available, the intelligence staff informs those planning. Both intelligence and planning staffs must be prepared to adapt JIPOE and JMAP to suit each other's inputs and requirements, based on commander's guidance, as outlined below.

3.9 The commander. The commander's feedback, after the MA JIPOE brief, might include:

- a. confirmation or modification of any intelligence assumptions that have been made

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<sup>31</sup>. If the full scope of JIPOE step three cannot be provided prior to commencing MA, intelligence staff should focus on determining the adversary or threat COG analysis in the first instance to support the operational design process and production of LOO during MA.



- b. how the operational environment (OE) might affect the development of possible threat and friendly courses of action (COA), and guide planners regarding environmental risks
- c. confirmation or modification of recommended adversary COG analysis matrix
- d. noting the assessment of the threat and intelligence-related capabilities, so as to focus intelligence staff estimates and JIPOE on the range of possible COA
- e. selecting threat COA/scenarios for focus of further planning, generally the most likely and most dangerous
- f. confirmation or modification of recommended CCIR, and recommended security and force protection priorities, including guiding initial risk management.

### **SUB-STEP ONE: REVIEW THE SITUATION**

3.10 MA commences with a chance to review the commander's initial planning guidance, intelligence, and feedback from the work done to date. The intelligence update should include the first two steps of JIPOE and at least the adversary COG analysis matrix showing the COG and its CF: critical capabilities (CC), critical requirements (CR), and critical vulnerabilities (CV), from the third step of JIPOE.

3.11 The planning staff then review and update the outputs of Scoping and Framing, and reassess the CCIR as required in light of the latest JIPOE update and the evolving situation. This review process is an intellectual continuation and extension of Scoping and Framing, and very much relies on sound critical thinking about, and questioning of, the circumstances. This style of thinking is represented by the 'feedback loop' dashed lines in the JMAP diagram (see Figure 1.1), which hint to staff that there are always opportunities to reframe the situation and pause the process to prevent it becoming too checklist-focused in the drive to produce a product (most often PowerPoint-based) within the headquarters (HQ).

3.12 This sub-step is a chance to refine earlier analysis of campaign assessment and any lessons learned, own forces disposition, readiness states and capabilities, and both planning and operation time factors.

**HYPOTHETICAL EXAMPLE****V. REVIEW THE SITUATION**

In accordance with the planning timeline that had been established during Scoping, the J25 briefed the rest of the planning team at midday on the first day of planning. The JPG had by this time completed Scoping and Framing, and the J2 staff had completed the first two JIPOE steps, along with preparing an initial CF analysis matrix for the Ajaxium military forces that gave enough detail for the JPG to use in planning, but which would be confirmed once JIPOE step three had been completed.

The J25 began the brief by summarising JIPOE output and then took questions from the planning staff. Several key points emerged from JIPOE that would affect subsequent planning. Port facilities in Jimalia were limited: to the west of the capital, Metropilos, only one town had a dock big enough to support the berthing of amphibious ships, and even then only one ship could berth at a time. In the same area, only three beaches were assessed as suitable for an amphibious landing. All were surrounded by thick jungle, and only two had roads nearby. The nearest of these locations to the disputed area was still 60 km from the southern end of the area—almost 100 km away from the existing makeshift border. The situation regarding landing zones was even more restrictive: Metropilos International Airport was the only location in the country with a runway long enough to meet the requirements of most fixed wing military aircraft and although several abandoned World War Two era landing fields existed, these would require significant repairs before becoming operational.

Road movement throughout both Jimalia and Ajaxium was also problematic. In Jimalia, a single dual lane highway existed, following the coast from Metropilos to a popular tourist resort town on the eastern coast. To the west of Metropilos the main road, which was single-lane, was sealed but in a state of disrepair. It ran in an almost straight line directly to the oil fields a few kilometres inside the disputed border area. Other than this road, all others in rural areas in the west of Jimalia were dirt and several were little more than tracks that became impassable to most vehicles in times of heavy rain. The wet season was not due to commence for another three months or so and the weather was expected to remain mostly dry throughout the rest of the dry season. Although humidity was quite high in the low-lying and coastal areas, elevated terrain resulted in lower humidity levels throughout most of the inland areas.

In addition to the Jimalian military, three non-governmental organisations were providing disaster relief in the cyclone affected area. It appeared that one of these was coordinating its efforts with the Jimalian military, but there was no information to indicate that the others were as well. The J25 discussed these groups as part of the human terrain brief, which also highlighted the key areas on both the Jimalian and Ajaxium sides of the makeshift border where displaced persons were likely to be seeking assistance. Further details about the state and locations of Jimalian military units were also provided, along with an update about Ajaxium military units near the border. The J25 established that current information would be greatly supplemented once JIPOE step three was complete. In the meantime, it had been assessed that Ajaxium's most likely strategic end state was that the entirety of the disputed border area had been annexed and that Ajaxium's sovereign control of this area was no longer militarily contested.

To achieve this end state, the most likely operational level COA by Ajaxium's military forces would be to first rapidly seize the oil fields (currently in the Jimalian-controlled part of the disputed territory) and then to progressively occupy the rest of the disputed border area. An initial CF analysis of the Ajaxium military units determined that their operational level COG was their motorised infantry brigade (the key CC, CR and CV that accompany this COG analysis are shown in a table in the next part of the hypothetical example, following the discussion of COG analysis in the main body of the chapter).

Once the J25's brief had concluded, the J5 had several staff provide brief updates on the progress so far. First, a member of the Framing team briefed the outcomes of Framing. Another member of the JPG then summarised the CCIR list, and a third briefly explained pertinent aspects of the warning order, in particular which force elements had been included on the distribution list. The purpose of these briefs was to ensure that all members of the JPG had an up-to-date situational understanding before Mission Analysis commenced.

## SUB-STEP TWO: DERIVE AND ANALYSE CENTRES OF GRAVITY

### Definition

**Centre of gravity.** The primary entity that possesses the inherent capability to achieve an objective or the desired end state.

3.13 Military activities never take place in isolation. They are always conducted in an OE characterised in part by the presence of many inter-connected actors—for example, these actors may include one or more adversary forces, multinational military forces, non-governmental organisations, other government departments, and civilians.

3.14 Simply put, all actors will have a COG comprising particular CF, but usually the military planning focus is on a particular actor: the primary adversary (without ruling out the possibility of several discrete adversaries). Defeating the adversary has traditionally been the focus of military action, and it has therefore been necessary for military planners to be able to develop a means to best understand its motives and capabilities. However, deducing and analysing the adversary COG has tended to become elevated above the need to define the true nature of the problem. This becomes challenging when such intellectual activity obscures the design of relevant operational objectives that bring about the desired end state. This section will introduce a methodology to derive and analyse COG in a way that complements operational design.

3.15 Usually the J2 staff conduct COG analysis of adversary forces and other significant actors in the OE and provide this information to the JPG. The JPG analyses the friendly COG, examines all actors' COG relative to the each other and uses this examination to assist in further planning. Information about deriving an adversary's COG is nevertheless given here because sometimes J2 products may not yet be available. In such cases the JPG may need to conduct its own adversary COG analysis as a temporary measure to allow planning to continue.

3.16 A COG was perhaps best summarised by the term's originator, the Prussian military theorist Carl von Clausewitz.

*What the theorist has to say here is this: one must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain centre of gravity develops, the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed.*

**Major General Carl von Clausewitz, 1832<sup>32</sup>**

3.17 Some contemporary military writers have argued that his metaphor has been over-emphasised and should be interpreted more as a focus on key considerations; a point at which the adversary is strengthened through unity, connectivity and interdependence; or, that primary entity which holds adversary forces in balance and provides them purpose and direction. In these cases, the COG is defined by the entire adversarial system. The traditional doctrinal approach to analysing COG does not naturally focus on the variables in the system that influence each other. Consequently, Framing is important to properly understand how an adversarial system operates and to find where relationship and infrastructure links exist that can be gainfully exploited or targeted.

3.18 For example, a decentralised insurgent network requires concurrent action across multiple LOO to become isolated from the population, reduce the influx of resources and recruits, and be defeated. In this case, planning staff need to shift thinking away from simply focusing on a single point of potential failure (traditional COG) to the means of transforming an interactive and adaptable dynamic system. Notwithstanding, deriving COG and its systemic structure of CF remains a vital analytical tool to describe an adversary's desired end state, capabilities, resources, strengths and weaknesses.

3.19 Recently, a refined understanding of COG, based on a comprehensive re-interpretation of Clausewitz, has informed the current joint doctrinal position on COG.<sup>33</sup> Here, an adversary's COG may be construed as that prime entity that can stop the friendly force from achieving its desired end state; or that which the adversary requires to achieve its desired end state. The friendly COG can be construed in the same way. In other words, the adversary's COG must be dealt with because of its potential to prevent the friendly force from achieving its desired end state. In opposed operations, defeating, destroying, neutralising or otherwise influencing an adversary's COG is, therefore, likely to constitute an operational objective that must be met before the operational end state can be reached.

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<sup>32</sup>. Major General Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret, Princeton, NJ: Princeton University Press, 1989, pp. 595-6.

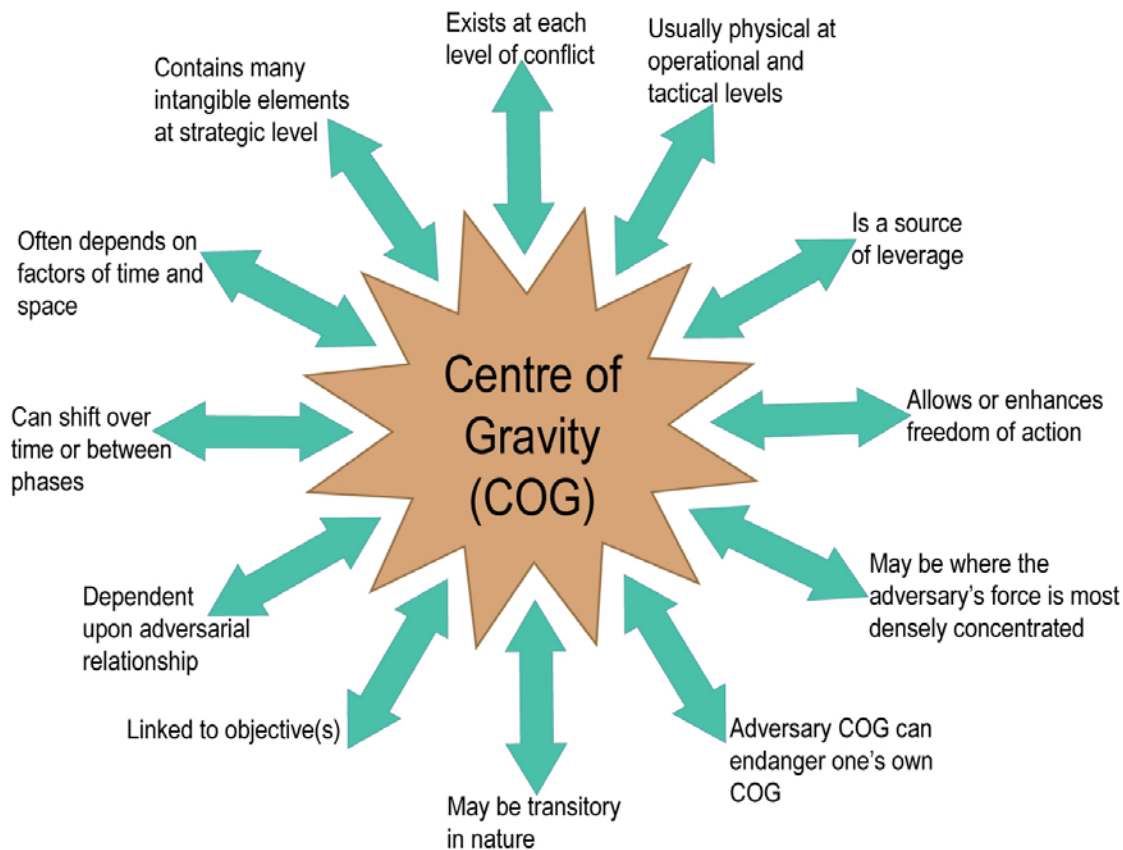
<sup>33</sup>. Dr Joseph L Strange and Colonel Richard Iron, 'Centre of Gravity: What Clausewitz Really Meant', *Joint Force Quarterly*, No. 35 (October 2004), pp. 20-27.

3.20 COG may be either physical, such as an adversary's military forces, or non-physical, such as the cohesion of an alliance. They are also contextual and relative, and their existence depends upon each party's view of the threats and the requirements to develop or maintain power and strength relative to their need to be effective in accomplishing their objectives. Therefore, commanders and planning staff must consider not only an adversary's COG, but they also must identify and protect that of their own forces.

3.21 COG are likely to be different at each level. At the strategic level, a COG will probably be non-physical. Although it could be a military force, or a set of key joint capabilities or functions, it is more likely to be an alliance, political or military leaders, or depth of popular support. At the operational and tactical levels, COG are more likely to be physical. They are often associated with the adversary's military capabilities, such as a powerful element of the armed forces. In any planning activity, staff should focus on the COG of their own commander's proximate adversary; however, the relationship between operational COG and COG at other levels must also be determined and understood in order to achieve the strategic desired end state.

3.22 Strange and Iron's COG construct provides an analytical tool that can help commanders and their staff to identify friendly and adversary sources of strength and vulnerability. COG must continually be studied and refined both during planning and subsequent operations due to the dynamic and fluid nature of interactions in the OE. COG can shift and change over time, with fresh COG becoming apparent as the adversary adapts to friendly force intervention. Regular re-framing of the problem and environment should reveal such changes.

3.23 Characteristics that are likely to be associated with a COG are shown in Figure 3.1. These characteristics highlight the need to achieve a mixture of flexibility and analytical rigour to successfully determine and analyse the adversary's COG.

**Figure 3.1: Characteristics of a centre of gravity**

3.24 In some situations there may be more than one adversary, each of which has a unique COG related to their own objectives. There may also be a COG for some or all of the LOO. The need to deal with multiple COG highlights the complex nature of the OE, and will increase the need for careful arrangement and sequencing of those actions needed to affect each adversary COG. Specifically, the development of DP, LOO and phasing may need to take multiple COG into account.<sup>34</sup>

3.25 In particularly complex situations involving a multitude of actors engaged in a mixture of combat, security, peace support or nation-building activities, staff may seek to articulate a COG in terms of:

- a. the most significant factor preventing the commander from reaching the desired end state
- b. one that appears to be the most dominant amongst (or common to all) actors in promoting their specific objectives.

3.26 As has been stated, the adversary is not the only actor that has a COG. Although the adversary COG has been the primary focus of this section, all actors

<sup>34</sup>. This is different from 'COG nesting', which is an alternative concept advanced by some theorists. 'COG nesting' refers to analysis in which the strategic COG has CC that are effectively regarded as operational COG and, in turn, the operational COG has CC that are regarded as tactical COG.



within the OE will have a COG. Depending on the mission and desired end state, it may be important to consider the COG of other actors and the impact of these COG on friendly operations. For example, if a neutral actor comes under threat of adversary action, an analysis of its COG may provide the friendly commander with options for the best way to provide support. The conduct of COG analysis of other actors will need to take into account that actor's objectives and end state and may lead to the identification of additional DP or LOO. In some circumstances—for example, disaster relief operations, there may be no adversary. In these cases, friendly force COG may be affected by physical conditions within the OE, or by actors which are not adversarial but which may nevertheless pose a threat to achieving the desired friendly force end state.<sup>35</sup>

3.27 Friendly forces will have a COG and this needs to be explicitly determined so that measures can be taken to protect it against adversary action and threats to mission. COG analysis therefore should be conducted for friendly forces in the same manner as for adversaries. Determining a friendly force COG is still relevant in non-adversarial scenarios, and the associated CV need to be protected for mission success.

3.28 **Centre of gravity analysis.** Analysis of friendly, adversary and other relevant actors' COG is a key component of operational design. It is enabled by JIPOE and work done in Framing to understand the adversary's system. The commander and planning staff determine how to undermine adversary COG while protecting friendly COG and influencing other actor COG to suit the desired outcomes. Understanding the relationship between COG compels greater precision of thought and expression in operational design. Each COG comprises the sum of its CF—capabilities, requirements, and vulnerabilities—and staff should base their analysis around this hierarchical framework.

- a. **Critical capabilities.** Critical capabilities (CC) are the primary abilities that enable a COG to achieve its desired end state or prevent friendly forces from accomplishing their objectives. In essence, they are what the COG does (verb)—they can destroy something, seize ground, or deter friendly forces.
- b. **Critical requirements.** Critical requirements (CR) are the crucial enablers, means and resources (noun) that allow a COG to perform its CC. They equip the CC to function, and so support the COG, and are essential to the achievement of the adversary's objectives. A system may consist of many things, but not all will be critical to the adversary's desired end state.
- c. **Critical vulnerabilities.** Critical vulnerabilities (CV) are those CF that are inherently targetable and open to direct or indirect attack in a way that will contribute to undermining a COG. CV are often more detailed elements or components of CR that support and enable CC to function. Careful analysis

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<sup>35</sup>. For this reason JIPOE refers to the broader concept of 'threat COG', rather than to 'adversary COG'. In JIPOE steps three and four, if there are no adversaries to analyse, the focus is on possible scenarios that may affect friendly operations.



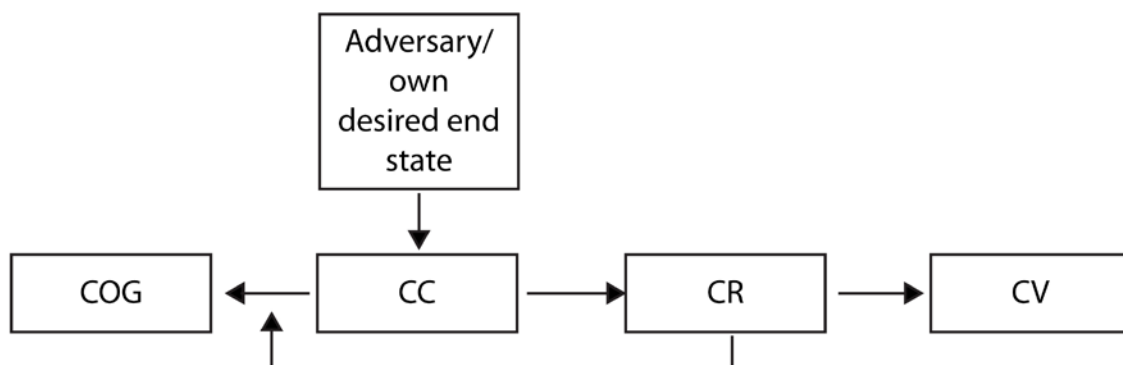
of CV will reveal linkages and commonalities that, if targeted or exploited, can achieve an efficient and expeditious indirect effect on the COG.

**3.29 Deriving the centre of gravity.** While there may be times when the COG is clearly obvious to the commander or planning staff, often true COG will be difficult to determine, particularly in complex environments. Misidentifying COG poses the very real danger of skewing planning and so raising operational risk during execution. Although there is no preeminent methodology to determine COG, what is suggested here is one logical path.

**3.30** Throughout this sub-step are references to the end state, which has been derived earlier during Scoping and Framing, and operational objectives, which have not been formally identified yet. This activity occurs in sub-step 4, after a determination of own mission. COG and objectives are closely connected; indeed, affecting an adversary COG may well constitute an operational objective. Consequently, since COG are identified first and then objectives later, planning staff need to exercise circularity within the process rather than follow it in a dogmatic, linear fashion. Accordingly, once the mission and objectives have been ascertained, it is vital that staff revisit COG analysis to ensure both align and make logical sense.

**3.31** The aim of COG/CF analysis is not to put a name to the COG first and foremost; it is to identify and scrutinise those strengths and weaknesses (in other words, the CF) of an adversary that staff can protect against or target and exploit. If this is achieved then the COG, whether specified or not, will still be impacted in favour of friendly forces. Figure 3.2 illustrates this principle by showing analysis 'to the right' of a yet-to-be identified COG occurring first, which subsequently lets the COG emerge.

**Figure 3.2: Identifying a centre of gravity**



**3.32** Determining COG begins with the end in mind: 'What is it that we and an adversary are seeking to achieve? What is the primary goal?' In other words, what is most likely to be the desired end state and/or objectives? These questions can be asked for all three levels. Once the desired end state has been articulated the next question is: 'What are our own/the adversary's capabilities that are employed to reach that end state, and which are critical to achieving the desired outcome?' In other words, what are the ways (verb) to arrive at operational success? Having listed the CC, the commander and staff are in a good position to ascertain if there is a significant enabler of the CC (illustrated by the CC arrow in Figure 3.2). This can be

done by asking: 'Is there an entity (or entities) that produces all or most of the CCs in order that the objective can be achieved?' From this further analysis should emerge a prime means (noun) or entity without which we/the adversary cannot achieve an objective. That entity is a likely COG.<sup>36</sup> At the strategic level—for example, it may be that friendly forces cannot achieve success without the non-physical support of its national media and also a cohesive coalition. These dual COG would require the protection of their vulnerabilities. As CR are subsequently identified, they should confirm the identity of the COG, being constituent parts of its system or organisation (CR arrow in Figure 3.2).

3.33 As an example of deriving a friendly COG, an objective or desired end state might be that country X is liberated and legitimate governance restored. Operational CC necessary to achieve that could be strategic attack, neutralisation of the adversary's naval task group, the occupation of particular cities or areas within country X, the defence and sustainment of friendly forces in country X, and the equipping and training of country X's internal security agencies. Some higher order requirements that enable such capabilities would be joint command and control (C2), amphibious task group, joint fires, fuel, supply lines, support of the international community, air and sea blockades, and training and mentoring forces. Since the joint task force (JTF) incorporates most of these broad components, it is deemed the primary and all-encompassing thing without which the desired end state cannot be achieved, and so becomes the COG (note: the COG is an entity rather than the traditional concept of 'force projection'. The JTF's ability to project force will be part of its CC). Now, the full range of CR can be deconstructed, and CV identified together with appropriate protection based on the adversary's ability to affect them. Conversely, analysis of the adversary's CF would result in a COG (or several COG) identified in the same fashion, and CV to be targeted for desired effects.

3.34 **COG analysis construct.** Planners will understandably want to focus their efforts against those CV that provide the greatest support to an adversary's COG. However, in their selection staff must also compare the CV's criticality with its accessibility, vulnerability, redundancy, ability to recuperate, and affect the civilian populace, and then balance those factors against friendly capabilities to affect the vulnerability. Planners should also ensure that while they are seeking to, say, neutralise, defeat or destroy adversary CV, they also take appropriate measures to protect friendly force CV from adversaries attempting to do the same.

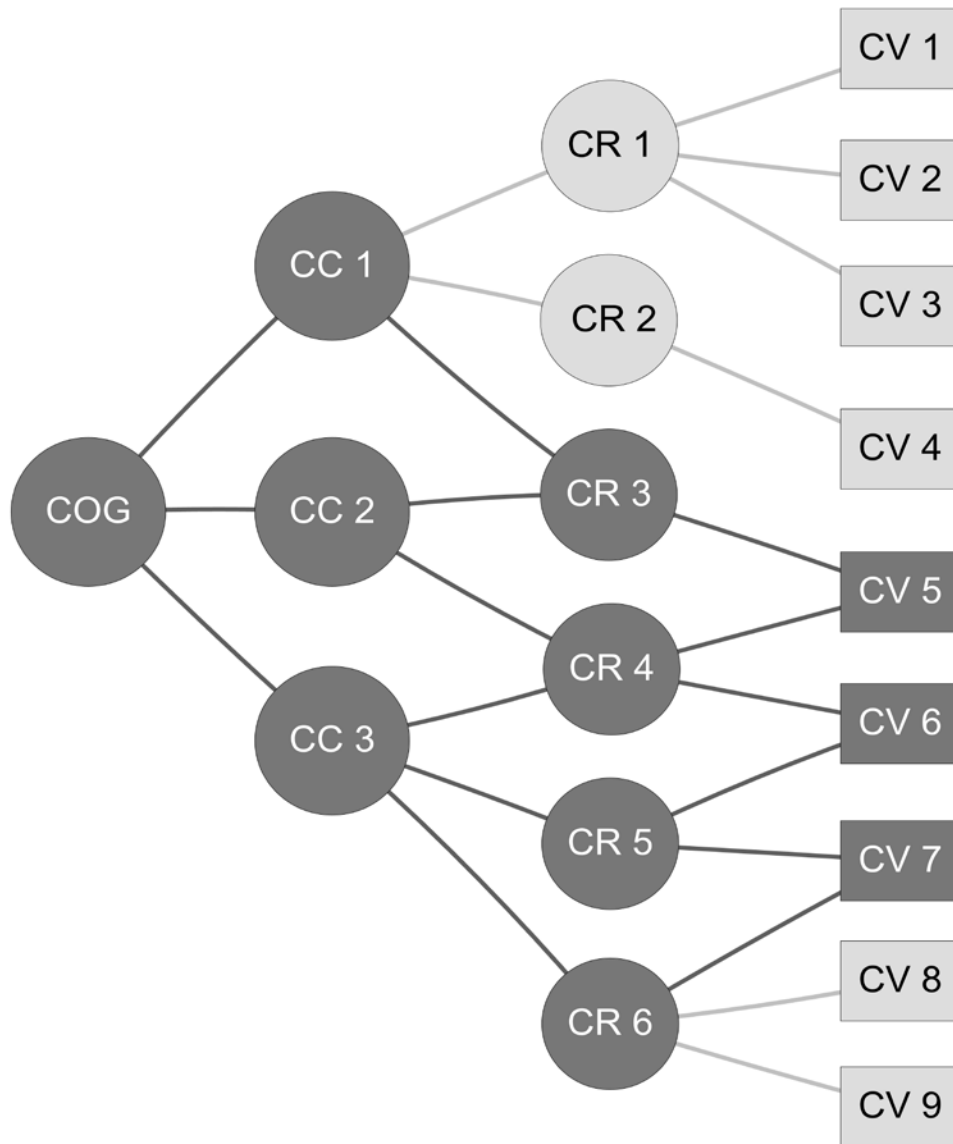
3.35 The relationship between CF can be diagrammatically represented by a COG construct. A very simple generic example is shown in Figure 3.3. Here, analysis reveals that the connections between CV 5, 6 and 7 are sustainment factors (for instance fuel, workshops and personnel). Focusing friendly force targeting and effects on these specific CV will have the best chance of affecting the adversary

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<sup>36</sup>. Occasionally, in particularly complex or diverse environments, involving layered networks for example, studying the CC could show that several key entities enable the CC to achieve the end state equally, and no single one has primacy. In such cases staff should continue to identify and evaluate CR and potential vulnerabilities, and not expend planning time unnecessarily simply to articulate a single COG. A holistic view with a systems perspective will always produce the best means of determining COG accurately.

COG with, perhaps, the lowest operational risk attached and greatest economy of effort.

**Figure 3.3: Example of a centre of gravity construct**



3.36 **COG analysis matrix.** In similar vein to the construct above, planners may need to develop a COG analysis matrix for each actor. This matrix is used to present an actor's COG and CF alongside their objectives and/or desired end state, and the conclusions that may be drawn from COG analysis that affect subsequent planning. These additional elements of information are included in the matrix for ease of reference. An example of a COG analysis matrix is in Table 3.1.

**Table 3.1: Example of a centre of gravity analysis matrix**

<b>Assessed campaign or operation objectives and/or desired campaign or operation end state</b>  (List here)			
<b>COG</b> (the primary entity that possesses the inherent capability to achieve an objective or the desired end state)	<b>CC</b> (what the COG does (verb); enables the COG to achieve the desired end state)	<b>CR</b> (enablers, means and resources (noun) that enable the COG to perform its CC)	<b>CV</b> (those CR that are inherently targetable; may be a breakdown of components of CR)
(State here)	(List here)	(List here)	(List here)
<b>Conclusions</b>  (List the 'so what' aspect of COG analysis here—for example, which weaknesses, gaps, deficiencies, conditions, characteristics, relationships, resources or influences may be exploited to influence, support, protect or defeat the actor. These conclusions should be factors that may subsequently contribute to deriving DP.)			

3.37 Analysis of adversary CF must be based on the best available knowledge of how adversaries organise, fight, learn, adapt and make decisions, and their physical and psychological strengths and weaknesses. At the earliest stage of planning commanders and staff must develop a comprehensive understanding of their adversaries' capabilities and vulnerabilities, including factors that might influence an adversary to alter, or even abandon, its objectives.

3.38 Further, focusing on likely future CC allows the planning staff to be proactive in adjusting the COG and CV during the course of a campaign or operation. Also, it is essential for them to note that COG at each level can shift and change over time due to necessary revision of the objectives and end state, including constantly evolving factors affecting the OE. Major alterations to the objectives and end state would usually necessitate a fresh planning activity. Finally, staff must also envision how friendly forces and actions appear from the adversary's perspective, otherwise they may inadvertently ascribe to an adversary attitudes, values, and reactions that mirror their own.

## HYPOTHETICAL EXAMPLE

## VI. DERIVE AND ANALYSE CENTRES OF GRAVITY

The planning staff set about conducting friendly COG analysis, the products of which would be refinement of J2 staff's assessment of the adversary's COG and CF, and a COG and CF matrix of friendly forces. The adversary's COG analysis matrix, provided to the planning team by the J2 staff, is shown below. (Note: The assessed objectives and conclusions given in the table are preliminary at this stage. J2 staff will confirm or amend these as JIPOE progresses).

**Assessed operational objectives**

1. Oil fields within Jimalian controlled part of disputed border area are captured
2. Disputed border area controlled

**Assessed desired operational end state:** Disputed border area annexed and Ajaxium sovereign control of this area no longer militarily disputed

<b>COG</b> (the primary entity that possesses the inherent capability to achieve an objective or the desired end state)	<b>CC</b> (what the COG does (verb); enables the COG to achieve the desired end state)	<b>CR</b> (enablers, means and resources (noun) that enable the COG to perform its CC)	<b>CV</b> (those CR that are inherently targetable; may be a breakdown of components of CR)
Motorised infantry brigade	Manoeuvring of combat forces to seize and hold key ground	Motorised Infantry	Vehicles; personnel
		Mobility support	Mobility support assets
		Offensive support	Indirect fire weapons platforms
		C2	Rigid C2 system with vulnerable nodes
		Munitions	Stock on hand
	Provision of sustained logistics support to combat forces	Vehicles	Vehicles
		Supply routes	
		POL	Stock on hand; storage and distribution facilities
		Munitions	Stock on hand; storage facilities
	Ongoing enhancement of own situational understanding	ISR platforms	Aircraft
		Human intelligence (from Jimalian sympathisers)	
		C2	Rigid C2 system with vulnerable nodes

	Coordination of the provision of close air support to ground forces	Local air superiority	
		Aircraft	Aircraft
		Airfields	Airfields
		Air defence network	Air defence weapons platforms
		POL	Stock on hand; storage and distribution facilities
		C2	Rigid C2 with vulnerable nodes
		Munitions	Stock on hand; storage facilities
<b>Conclusions</b>			
1. Ajaxium's military must rely on its motorised infantry to reach the oil fields quickly			
2. Targeting vehicles, stores and resupply areas, and C2 nodes will have best chance of affecting Ajaxium's COG.			

COG analysis for other actors in the JFAO, including the criminal network, were also developed by the J2 staff and provided to the planning team once completed. The planning team incorporated these additional COG analyses into their planning—for example, by addressing defeat of the criminal network's COG in a DP. (Note: the derivation of DP is discussed below. For the sake of brevity, COG constructs for other actors are not included in this hypothetical example).

First the planners examined the adversary and friendly desired operation end states in relation to each other. They then listed the critical Australian Defence Force (ADF) capabilities that would be required to either enable friendly forces to reach their desired operation end state, or to prevent Ajaxium's military from reaching what the J2 had assessed to be its most likely desired operation end state. Once several capabilities had been listed, each was debated and a determination was made about whether or not a certain capability was critical and so should be included in the CF matrix. At this stage several possible CC were discarded, leaving only those deemed absolutely vital to achieving the desired end state. Each CC was expressed as a verb within the list, with an accompanying description to add clarification if required.

The planning team then went through a similar process to determine possible CR for each CC, making first a broad list of possibilities and then culling the list down to the most essential elements. Each CR was expressed as a noun—that is, a tangible thing that could be used to achieve the CC. The J5 then examined the list of CC and CR and led a debate about possible COG that would meet the triple criteria of (1) enabling the ADF to achieve its desired operation end state, (2) prevent Ajaxium's military from achieving its desired operation end state and (3) link together all the CC. As the result of this debate the J5 determined that the ADF's COG was its joint task force. Without being able to deploy, employ and sustain a joint task force, the ADF simply could not achieve its desired operation end state. Nor could it prevent the Ajaxium military from achieving its own.

Once this was decided, the planning team quickly revisited CC and CR, to ensure that they aligned with the COG, and then broke down each of the CR into constituent

elements. Those elements that might be vulnerable to adversary action were then recorded as CV. (The friendly COG construct is shown in the table below. Note that generic terms have been used here to keep the explanation simple—in actuality, the planning team had broken the CR and CV down into more detail, including listing the types of platforms that may be required for each CR and which of these platforms were vulnerable).

### Operational objectives

(Note: These are derived in a subsequent sub-step and will need to be inserted here once they are derived)

**Desired operational end state:** The safety of Australian citizens has been ensured, the territorial sovereignty of Jimalia has been upheld and Ajaxium has ceased to pose an immediate military threat to Jimalia

<b>COG</b> (the primary entity that possesses the inherent capability to achieve an objective or the desired end state)	<b>CC</b> (what the COG does (verb); enables the COG to achieve the desired end state)	<b>CR</b> (enablers, means and resources (noun) that enable the COG to perform its CC)	<b>CV</b> (those CR that are inherently targetable; may be a breakdown of components of CR)
Joint task force	Deter Ajaxium from invading Jimalia	Information operations	Communication and information systems
		Credible level of combat forces in theatre	Vehicles; personnel; insertion routes and points (into Jimalia); supporting assets
	Counterattack in the case that deterrence fails	Land combat forces	Vehicles; personnel; key weapon systems
		Offensive support	Indirect fire weapons platforms
		Mobility support	Mobility support assets
		Air superiority	Combat aircraft; early warning/radar systems
	Ability to safely evacuate AUS nationals	Secure evacuee assembly areas and evacuee handling centres	Airfields; amphibious landing sites; safe landing zones in key towns; prominent assembly areas
		Secure extraction points	Airfields; amphibious landing sites
		Transport assets	Amphibious ships; transport aircraft
	Ability to deploy	Amphibious task	Amphibious ships;



	forces into Jimalia	group	supporting ships; supporting aircraft
		Strategic airlift	Transport aircraft
	Sustainment of forces within Jimalia	Vehicles	Vehicles
		Supply routes (to Jimalia)	Supply ships; transport aircraft
		Supply routes (within Jimalia)	
		POL	Stock on hand; storage and distribution facilities (on land); supply ships; refuelling aircraft
		Munitions	Stock on hand; storage facilities; supply ships

### Conclusions

1. Deployment (ie transiting) from AUS to Ajaxium likely to increase vulnerabilities

2. COG is very broad and may require revision during COA Development (Note: see part XV of this hypothetical example for details of why/how this revision may occur. The conclusions listed here will need to be updated as planning progresses).

### SUB-STEP THREE: DETERMINE OWN MISSION

#### Joint force area of operations

3.39 Central to determining the mission statement is consideration of the likely area that the commander wants to conduct the campaign or operation. If the JMAP is supported by a full JIPOE, discussion regarding a suitable joint force area of operations (JFAO) should have taken place prior to this sub-step. J2 and J5 staff should have liaised during step one of the JIPOE but, if not, or the JMAP is not supported by a JIPOE, now is the time to define the JFAO. In determining appropriate boundaries and areas in which land, air and maritime forces will conduct military activities, national strategic, diplomatic, legal and multinational imperatives must be appreciated, along with the impact on any other nearby extant operational areas. Any decision by planning staff on the selected area should be made following consultation with intelligence and logistics staff in particular, as well as higher-level stakeholders, such as other government departments and/or multinational partners. Within each JFAO specific missions and tasks are conducted under the direction of a single commander.

#### Determining the mission

3.40 Analysis of the problem frame and superior commander's intent conducted during Scoping and Framing sub-steps 2 and 3 will directly inform determination of the operational mission. The mission statement proposes a solution to the problem taking higher direction into account. An operational level commander may choose to duplicate the strategic level commander's mission or develop their own. Regardless of which option they choose, it should be the result of thorough analysis not simple

expediency. Should an operational commander's intent be required for a future operation order, this sub-step provides the basis to articulate that intent in terms of purpose, method and end state. With purpose and end state already evident from earlier planning work, the mission statement can be refined and expanded throughout the JMAP to become the method. Any final method statement will therefore be a summary of the COA selected to be the draft concept of operations.

3.41 An operational level mission statement is derived from one's own end state, while taking into account the superior commander's statement of purpose, method and (strategic level) end state. The mission statement establishes what is broadly required to reach the desired campaign or operation end state. It should contain five specific components: who; what; where; when; and why (ie someone is to do something, somewhere, at some time, in order to achieve the desired end state). At the operational level the clear enunciation of 'when' may not be possible or desirable due to alternative time lines. Therefore, the 'when' component may be replaced by 'on order'.

3.42 Vital to articulating the mission is the task verb, which establishes exactly what is to be done or the effect sought by the commander. It is linked clearly to the end state and commander's intent, while taking into account the various limitations and risks. For more details about task verbs see Annex 3B.

3.43 The output of this sub-step is the generation of a mission statement. A useful cross-reference to check the accuracy and focus of the mission statement is a review of the analysis conducted during Scoping and Framing, particularly the problem frame and end state, and ensure the mission statement guides further planning by providing a clear solution to the current circumstances.

#### **Example operational level mission statement**

*Chief of Joint Operations (who) is to evacuate (task/effect verb) willing Australian citizens and approved foreign nationals (what) on order from Chief of the Defence Force (when) in country X (where) in order to ensure their safety (why).*

3.44 **Planning pause.** Having done considerable work thus far in reviewing the developing situation, analysing both own force and threat COG and articulating a clear, concise mission statement, there is an opportunity here to pause the planning, reframe if necessary, and take stock of how the commander's operational approach and intent aligns with the information, judgements, and early conclusions formed by staff.

**HYPOTHETICAL EXAMPLE****VII. DETERMINE OWN MISSION**

Once COG analysis was complete, the J5 tasked most of the planning team to commence work on identifying objectives. Concurrently, the J5 led a small team to draft the mission statement.

In considering the mission statement, they first examined both the desired operation end state and the strategic level mission statement and statement of purpose, method and end state, which had been included in the CDF warning order. These were:

*Strategic level mission: The ADF is to be prepared to defend Jimalian sovereignty on order from Chief of the Defence Force in order to prevent Ajaxium's expansion into Jimalian controlled territory.*

*Purpose: To ensure the safety of Australian nationals in Jimalia and to ensure that Jimalian sovereignty is upheld.*

*Method: Mount a short-notice unilateral response to prevent Ajaxium expansion into Jimalian controlled territory.*

*End state: The safety of Australian citizens has been ensured, the territorial sovereignty of Jimalia has been upheld and Ajaxium has ceased to pose an immediate military threat to Jimalia*

The first thing the planners noticed was that the 'where' was missing from the strategic level mission statement. Discussion also addressed the method statement's use of the term 'unilateral' and how this might affect liaison and cooperation with the Jimalian military. But the bulk of discussion was about what operational level requirements were necessary to achieve the strategic level mission. After checking term definitions, the J5 decided to keep the task verb 'defend' as it was appropriate and would support achieving the desired operation end state. Eventually, the planners determined that the operational level mission statement would be:

*Joint Task Force XXX is to defend sovereign territory within Jimalia on order from Chief of the Defence Force in order to prevent Ajaxium's annexation of Jimalian controlled territory.*

Subtle changes from the strategic level mission statement were made so that the operational level mission statement (a) specified that a JTF would be the operational level organisation responsible for achieving this mission, and (b) included clarification of where the JTF could expect to operate (within Jimalia). Noting that this was an assumption, the J5 subsequently added a FFIR to the CCIR list: would a JTF be authorised to move into or through Ajaxium's sovereign territory if that would assist in achieving the desired operation end state? Until the FFIR was answered, the planners would need to anticipate both possibilities.

Finally, the J5 ensured that the operational level mission statement was promptly communicated to the rest of the planning team.

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**SUB-STEP FOUR: DETERMINE OBJECTIVES****Definition**

**Operational objective.** A condition that needs to be achieved during a campaign or operation to enable the desired end state to be reached. Note: Correct assessment of operational objectives is crucial to success at the operational level.

3.45 In this step operational objectives are determined by the relevant commander. Objectives describe conditions to be achieved that together result in the desired end state, determined during Scoping and Framing. Objectives are derived through a combination of deconstructing the desired end state, consideration of all guidance received to date and analysis of the actions required to move from the current to the desired environment (again, determined during Scoping and Framing).

3.46 The design schematic often comprises several objectives each of which have a corresponding LOO describing how the objective is achieved. However, the design may apportion multiple objectives on a single LOO or multiple LOO to achieve one objective. Also, a simple end state may require only one objective. Either way, achieving objectives is the result of having completed DP on LOO (DP are discussed in more detail later in this chapter). Gauging what constitutes an objective is crucial to a successful plan, and requires the input of all planning teams and specialists; hence, completion of this step is a useful time to review work to date. Finally, once objectives have been identified, it is useful to revisit COG analysis to ensure that they align and are congruent with the mission and end state, each acting to move from the current to the desired environment or system.

3.47 Identifying objectives. The end state comprises a number of discrete outcomes or conditions that form the basis of objectives and the LOO associated with each objective. Of note, objectives are broader and more significant than DP. Obviously, different end states will comprise a variety of operational conditions that could be objectives. Paragraph 3.81 provides examples that may require a LOO to bring about mission success and so are likely objectives.

3.48 For example, if the end state is 'Country Y insurgency operations have ceased, Australian nationals in country X are secure, governance restored and ADF assets have been redeployed to Australia', then corresponding objectives might be:

- a. country Y insurgents are defeated
- b. sufficient humanitarian action has been conducted
- c. non-combatant evacuation operations have been successfully conducted
- d. legal governance in country X, and security sector reform, has been implemented
- e. redeployment of ADF assets to Australia is complete.

3.49 Depending on the nature of a particular campaign or operation, defeating an adversary's COG may be an objective. To continue with the example given above, in

this case achieving the first objective will involve the defeat of the adversary's key CF (and hence COG); however, the other objectives may be achieved regardless of whether the adversary's COG is defeated or not. In a campaign or operation where there is no adversary, several objectives may still need to be achieved to reach the end state, but there will be no need to form an objective around defeating an adversary's COG. Likewise, in an operation involving an adversary, planners will need to carefully examine the end state to determine if any objectives other than defeating the adversary's COG are also required.

3.50 Objectives should be the broadest possible conditions required to achieve the end state. Once initially conceived, each possible objective should be subject to two questions. Firstly, 'If this objective or condition is not met, can the end state be achieved?' If the answer is 'no' then it is likely to be an objective since it is of the magnitude that underpins successful achievement of the operational end state. Secondly, 'Could this objective form part of a broader objective that is not the end state itself?' If the answer to this question is 'yes', then planners should reconsider whether the proposed objective may be a DP instead. This may require planners to make two lists as an output of this sub-step: one of objectives and another of potential objectives that will be evaluated in more detail during the determine DP sub-step.

3.51 The broad nature of operational objectives means that the number identified should be relatively few. In a smaller operation there may only be one objective, which is likely to be overcoming an adversary's COG (assuming the operation is opposed), whereas in a large campaign there will be several objectives, each of which will require the conduct of activities on their own LOO. Planners should be careful not to identify too many objectives because achieving each will require the commitment of finite resources that are likely to be thinly spread from the outset. By the same token, planners should be careful not to disregard (or classify as a DP) an objective just for the sake of cutting down their overall number or to arbitrarily simplify planning. Assessing what should or should not be an objective is a key part of successful operational art and requires robust judgement in practice.

## HYPOTHETICAL EXAMPLE

### VIII. DETERMINE OBJECTIVES

Concurrent to the operational level mission statement being derived, another group of planners worked on establishing objectives. The J5, although primarily working with the team drafting the mission statement, continually liaised with staff drafting objectives to provide direction.

Determining objectives began by breaking the desired operation end state—*the safety of Australian citizens has been ensured, the territorial sovereignty of Jimalia has been upheld and Ajaxium has ceased to pose an immediate military threat to Jimalia*—into its component pieces. This enabled three possible objectives to be immediately identified:

- non-combatant evacuation operation has been successfully conducted
- Jimalian controlled territory is secure
- Ajaxium's military has been deterred or defeated to the extent that it does not pose a threat to Jimalia.

The planning team was happy with the first two of these possible objectives, but the third was discussed at length because the difference between deterring and defeating was significant enough that these could quite easily be two different objectives; if deterrence worked then defeating would not be required. Some of the planning team jumped a step ahead in the process, and suggested that there should be two objectives—deterred being one, defeated the other—and that there be a sequel to the LOO that would originate at a Commander's Decision Point (CDP) if it became obvious deterrence was failing. Resolving this issue was the first point at which the J5 became directly involved. After listening to and considering the merits of different options, the J5 instructed that the objective be changed to 'Ajaxium's military has been defeated'. The J5 explained that because the definition of the task verb 'defeated' included that the adversary was 'unable or unwilling to continue its activities', the term could encompass either deterrence or defeat. The J5 also instructed that a note be made that the LOO corresponding to this objective may need to include DP related to both deterring and subsequently being able to defeat the Ajaxium military if required. This issue would need to be revisited later in the planning process.

The planning team then discussed other possible objectives, drawing on the framing that they had completed earlier in the process. Discussion again revolved around the possible need to provide humanitarian action. Should that be an objective? And what about disrupting the criminal elements that were operating in the likely operational area? The planning team asked two questions about these possible objectives.

First, if the condition is not met, could the end state be achieved? The answer for disrupting the criminal organisation was clearly 'yes', but the answer for the possible need to deliver humanitarian assistance was less obvious. Again the J5 acted as arbitrator. Direction was given that humanitarian assistance be included as an objective, but that the corresponding LOO may need to either be initiated by a CDP if a request for humanitarian assistance was received from the host nation, Jimalia, or



from another agency working in the area.

Second, could either of these objectives be part of a broader objective that is not the end state itself? The planners this time answered ‘no’ regarding the possible need to provide humanitarian assistance, but ‘yes’ regarding disrupting the activities of the criminal network. After another brief debate, it was decided that disrupting the criminal network may be a DP on the LOO corresponding to the provision of humanitarian assistance. The J5 approved this conclusion and a note was made to also revisit this possibility later in the planning process.

The final list of objectives was therefore:

- non-combatant evacuation operation has been successfully conducted
- Jimalian controlled territory is secure
- Ajaxium’s military has been defeated
- sufficient humanitarian aid has been delivered.

The J5 then briefed the commander about this list of objectives and the reasons for the selection of each, to gain the commander’s guidance and approval. The commander was happy with the planning team’s list of objectives and the operational design schematic could continue to be developed based on these four objectives.

### **Receiving a JIPOE update**

At about the same time that the identification of objectives concluded, the planning team received a JIPOE update. Step three of JIPOE had been completed, and the planning team was assembled at short notice for a quick verbal brief by the J25. This brief confirmed the assessed Ajaxium operational level COG, provided a description of their probable order of battle and likely mission. It confirmed that the adversary force was an Ajaxium motorised infantry brigade, and detailed the likely constituent elements thereof, as well as likely supporting forces—including air and maritime assets.

It was also assessed as likely that Ajaxium forces would attempt to seize control of the disputed border area, but that it was unlikely that they would advance beyond it, although that did not rule out the possibility of air strikes being conducted further into Jimalia in support of the attack. A high value target list was also provided, including locations where known, which would enable the planning team to factor these locations in once they commenced COA Development.



## Review of planning progress

*After objectives have been determined a sizable portion of the design work has been done. All that remains is the identifying of DP and their arrangement along LOO, albeit this is a significant exercise and requires considerable patience, analysis, questioning and critical thinking to facilitate the successful practice of operational art.*

*The next three sub-steps help inform the conclusion of operational design by looking at high level tasks, the overall freedom of action and identifying facts and assumptions. The products of this analysis also inform the creation of DP, and need to be consistent with the commander's operational approach, mission and end state. These sub-steps do not sit in isolation but continue the analytical and creative thinking about how the problem has evolved and what part a joint task force might play in any solution. If required, further commander's guidance may be sought during these sub-steps or while developing DP and LOO.*

## SUB-STEP FIVE: IDENTIFY AND ANALYSE TASKS

3.52 This activity requires analysis of the situation, understanding all the guidance and directives received, and creative thinking. Breaking out and determining what tasks are expected to be undertaken during the impending operation is one key to forming DP (the others being protecting own force CV and exploiting the adversary's CV). Tasks are identified and task lists updated and amended throughout planning, particularly during the next planning stage, COA Development.

3.53 There are three types of tasks to be identified: specified, implied, and essential.

- a. **Specified tasks.** The superior commander directs these tasks through higher-level documents such as a CDF Planning Directive, CDF orders, CJOPS Planning Directive, or informally through verbal direction. Specified tasks are compulsory and must be completed during the conduct of a campaign or operation.
- b. **Implied tasks.** Implied tasks are not directed by the superior commander, but are those tasks the JPG agrees should be done to achieve the mission. To think creatively, planning staff should be mindful of the commander's guidance up to this point, the mission and end state. Questions should be asked in similar vein to those used in exploring the problem frame earlier. For example, 'How do we achieve the objective; what activities might be necessary to deliver the desired conditions; in executing the mission, what will need to be done that we have not directly been ordered to do?' In answering these questions, staff must not ignore the overarching 'so what' question. For example, asking, 'If we base ourselves here, the 'so what' implications are [diplomatic, logistic, health, risk, etc]'. From that deduction it can be asked, 'What should we now do to enable these desired outcomes or counter those we don't want?' This approach will begin to identify a range of implied tasks that can be ordered and analysed further.

- c. **Essential tasks.** These are selected from the specified and implied tasks and are those tasks the JPG agrees must be done, as a minimum, to achieve the mission. Due to their fundamental importance, it is these essential tasks that will likely form DP to be arranged along the LOO.

3.54 The outputs from this sub-step are lists of specified and implied tasks, and identified essential tasks. The staff may choose to simply highlight the essential tasks from the specified and implied task lists rather than develop a separate essential task list. The implied and essential tasks should be modified and expanded as JMAP progresses.

## HYPOTHETICAL EXAMPLE

### IX. IDENTIFY AND ANALYSE TASKS

By the time the planning team reached this sub-step, they had already given themselves a good start by maintaining a task list and adding to it as possible tasks were identified during previous JMAP sub-steps. As a result, task identification proceeded fairly quickly. Specific tasks contained in the CDF warning order were evaluated; the desired operation end state, the mission statement and each of the objectives were analysed and the implicit tasks that would directly contribute to their achievement were added to the existing list.

Once identification of possible tasks was completed, an analysis of each began. This approach was two-pronged. First, each implied task was discussed and an assessment was made to check that it was properly linked to either achieving the end state, the mission or an objective. Tasks that were not linked were discarded. Concurrently, each task was checked to ensure that it was operational and not tactically focused, unless absolutely necessary (this latter check helped ensure that tactical level commanders would have sufficient freedom of action to interpret their tasks and activities and to conduct their own tactical level planning. Consequently, several of the tasks identified were rephrased to allow subordinate commanders the greatest possible degree of flexibility).

Second, both the specified and implied tasks were checked and those deemed mission essential were identified. By the conclusion of this sub-step the planning team had developed a comprehensive list of specified and implied tasks, which is shown in the table below (essential tasks are labelled with an '(E)' at the end of the task. Note that the desired operation end state, own mission and objectives are not specified tasks; they are listed here for ease of reference only).

Specified tasks	Implied tasks
<i>Specified tasks in CDF warning order:</i> 1. Be prepared to (BPT) conduct a non-combatant evacuation operation in Jimalia (E) 2. Submit a request for appropriate rules of engagement as soon as possible (E) 3. Establish liaison with the Jimalian military 4. Conduct information activities and	1.1 Identify air and sea entry/departure points (E) 1.2 Identify evacuee assembly areas and evacuee handling centres (E) 1.3 Determine how many AUS nationals are likely to be in the JFAO 1.4 Allocate sufficient aircraft/ships to extract AUS nationals (E)

<p>perception management</p> <p>5. Ensure the continuation of strategically vital sea trade with Jimalia</p> <p><i>Desired operational end state:</i></p> <p>The safety of AUS citizens has been ensured, the territorial sovereignty of Jimalia has been upheld and Ajaxium has ceased to pose an immediate military threat to Jimalia.</p> <p><i>Own mission statement:</i></p> <p>Joint Task Force XXX is to defend sovereign territory within Jimalia on order from Chief of the Defence Force in order to prevent Ajaxium's annexation of Jimalian controlled territory.</p> <p><i>Objectives:</i></p> <p>6. Non-combatant evacuation operation has been successfully conducted</p> <p>7. Jimalian controlled territory is secure</p> <p>8. Ajaxium's military has been defeated</p> <p>9. Sufficient humanitarian aid has been delivered</p>	<p>1.5 BPT provide security forces in case of evacuation in a hostile environment (E)</p> <p>3.1 Determine the level at which liaison is most useful and appropriate</p> <p>3.2 Contact defence attaché at AUS embassy in Metropilos (Jimalian capital) to seek advice on liaison opportunities</p> <p>3.3 Designate liaison officers</p> <p>3.4 Deploy liaison officers to Jimalia</p> <p>3.5 Provide required logistic and security support to deployed liaison officers</p> <p>3.6 BPT extract liaison officers on order</p> <p>4.1 Develop overarching perception management themes</p> <p>4.2 Determine key information activity messages</p> <p>4.3 Disseminate information activity messages</p> <p>5.1 Establish sea control of key sea lanes from AUS to Jimalia</p> <p>5.2 Prevent Ajaxium from establishing sea control</p> <p>5.3 Monitor movement of Ajaxium naval and air assets</p> <p><i>Implied tasks derived from the desired operational end state and mission statement:</i></p> <p>a. Deter Ajaxium's military</p> <p>b. Defend Jimalia within their area of current control (E)</p> <p>c. Deploy AUS forces into locations that provide (a) a deterrent and (b) a credible response force if Ajaxium invades (E)</p> <p>d. Establish a logistic support plan (E)</p> <p>e. BPT conduct attacks on military assets within Ajaxium to contribute to preventing/stopping an invasion of Jimalia</p> <p>f. Establish control of sea and air lines of communication between AUS and Jimalia (E)</p> <p><i>Additional implied tasks derived from objectives (not previously listed):</i></p> <p>9.1 BPT provide humanitarian action to armed conflict and disaster affected civilians within the JFAO</p> <p>9.2 BPT undertake counter-criminal network activities within the JFAO</p> <p>9.3 BPT establish facilities for detained suspected criminal elements</p>
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In accordance with the planning timeline established in the Scoping sub-step (see Part I of this hypothetical), determining tasks concluded the first day of planning.

### SUB-STEP SIX: DETERMINE LIMITATIONS

3.55 This sub-step establishes what direct and implicit limitations exist. The conduct of campaigns and operations is invariably subject to various limitations that affect how the concept of operations takes shape. These limitations can circumscribe the political and/or strategic aims of an operation, the intensity of combat operations, the geographic extent of military action, rules of engagement, the duration of hostilities, support of national objectives by the host and home populations, and the kinds of military operations and activities conducted.

3.56 Limitations are classified as constraints and restrictions.

- a. **Constraints.** Constraints are actions imposed by a superior commander or another authority which must be undertaken (ie you must do something). Constraints will generally, although not necessarily entirely, be identified directly from specified tasks. An example could be the tasking of a subordinate commander to maintain a reserve for employment by the superior commander on order.
- b. **Restrictions.** Restrictions are prohibitions on activities that a superior commander or another authority might impose (i.e. you must not do something). Restrictions may be legal (imposed by international and domestic laws); moral and ethical (these limitations are now largely absorbed into international norms and values); or political (which include, in the case of multinational operations, what is considered acceptable by all contributing countries).

3.57 Although physical, immutable factors (such as practical maximum range of airlift, or the amphibious transport capacity available) could logically be a form of limitation, they are not considered here but instead taken in to account during COA Development as a component of operational reach. For further information see Chapter 4.

3.58 The outputs of this sub-step are a list of limitations, separated into constraints and restrictions.

## HYPOTHETICAL EXAMPLE

### X. DETERMINE LIMITATIONS

Once the JPG were ready to commence the second day of planning, J5 divided the staff into two teams: one to determine limitations and another to identify critical facts and assumptions (the next sub-step of MA). This concurrent activity would help to ensure that planning was completed in accordance with the timeline.

The planning staff allocated to determine limitations examined the CDF warning order as well as the previous planning outputs. To derive constraints they primarily examined the specified task list. However, deriving restrictions required them to look at a wider range of inputs. Due to factors beyond the planning staffs' control, some possible restrictions were yet to be confirmed. These included the rules of engagement (ROE) for this operation, which were still being drafted using guidance from legal officers, and possible restrictions that might be derived from the status of forces agreement (SOFA) that was being established between Australia and Jimalia at the national strategic level.<sup>37</sup> To address these issues notes were made in the list of restrictions about the need to confirm the exact nature of restrictions in these areas once the ROE and SOFA were finalised. The initial list of constraints and restrictions, including these notes, is shown in the table below.

Constraints	Restrictions
<p>1. Must maintain appropriate force elements for conduct of non-combatant evacuation operations on order (these force elements cannot be otherwise tasked until evacuation is complete, or must be able to transition from another task to the evacuation task within an acceptable timeframe; to pursue the latter option the commander must be prepared to accept a higher degree of operational risk).</p> <p>2. Must designate sufficient personnel to fulfil liaison roles (either as a separate force element or drawn from other forces elements; the latter option here also entails a higher degree of operational risk but may be logistically more feasible in the early stages of the operation).</p>	<p>1. Legal: must not deviate from extant ROE (note: rules of engagement are still being drafted, so the exact nature of these restrictions will need to be determined at a later time).</p> <p>2. Legal/political: must not contravene conditions of SOFA (Note: the SOFA is still being finalised, so the exact nature of these restrictions will need to be determined at a later time).</p> <p>3. Moral/ethical: cannot ignore a request to provide humanitarian assistance in the area of operations if received.</p>

<sup>37</sup>. For further information about ROE see [Australian Defence Doctrine Publication \(ADDP\) 06.1—Rules of Engagement](#).

### Receiving a JIPOE update

As the list of limitations was being prepared the J25 received an urgent update about adversary actions and promptly briefed the planning team. An Ajaxium maritime force consisting of two frigates and one amphibious ship had sailed from Ajaxium's national capital, Capitol, at about 0400 h local time. The last known position of the force was off Ajaxium's east coast, and it was possible that the force was moving to the south-east. It was likely that landing forces were embarked; however, it could not yet be determined whether they were army or special forces.

The J2 stated that possible COA for these forces were being determined as part of JIPOE step four, which should be completed later in the day. However, an initial assessment indicated two main possibilities: either the force was part of a deception plan or a feint; or Ajaxium intended to conduct a raid within Jimalian territory in support of its invasion forces. (That the force had sailed east and not west seemed to indicate the former was more likely, although this alone made the J2 reluctant to rule out the latter option). Either way, it was immediately clear to the J5 that planning would now need to incorporate a more detailed focus on establishing control of sea lines of communication (already identified as an essential task during the identify and analyse tasks sub-step) and that possible actions to counter this Ajaxium maritime force would need to be developed during the COA Development step.

### Receiving answers to requests for information

As the list of limitations was being finalised, the J5 also received answers to some RFIs that had been submitted earlier in the planning process. One of these regarded an FFIR submitted to the strategic level headquarters during the 'determine own mission' sub-step, regarding confirmation of the 'where' aspect of the operation. The answer to this FFIR confirmed that land-based components of the joint task force conducting the operation would be expected to remain within territory currently controlled by Jimalia, however air elements would be permitted to overfly and engage targets within Ajaxium in accordance with the ROE. The J5 assessed that this meant that no change was required to the existing mission statement.

*Note: the above examples of the receipt of an unexpected JIPOE update and the answer to an FFIR demonstrate the flexibility inherent when conducting JMAP, as well as the close working relationship that should exist between J5 and J2 staff (maintaining this relationship is a key role of the J25, who acts as the primary liaison). Although JMAP is structured linearly, planners should be prepared to move backwards as well as forwards within the process, to undertake some steps/sub-steps concurrently, and to revisit and revise previous planning outputs completely out of sequence as new information is received. In reality, this kind of intellectual agility is likely to occur far more frequently than this hypothetical example suggests.*

## SUB STEP SEVEN: IDENTIFY CRITICAL FACTS AND ASSUMPTIONS

3.59 This sub-step allows the staff to clearly distinguish between mission-critical information that it knows to be true (facts) and information it believes to be true (assumptions). While it is all too easy for operational level staff to think tactically in determining assumptions, the commander must ensure that due consideration is given to broader, more strategically focused issues that could have a direct impact on



the successful achievement of the objectives and desired end state. The rational and predictable character of a senior actor in the OE—for example, or the strengths and weaknesses of tribal and/or national alliances might have to be decided upon without substantiated proof in order to continue meaningful planning. It is important that the logic and rationale behind selecting assumptions should be articulated clearly. As circumstances change, the original logic path may be called into question and significant portions of the plan could be affected if the assumption is not revisited and, consequently, amended or removed.

**3.60 Critical facts.** A fact is something verifiable, or something that is known to be real or tangible. Critical facts are those facts of central importance for the commander to achieve the mission. They are usually derived from strategic level documents, JIPOE and staff analysis of the situation.

- a. A critical fact for an operation might be ‘Country X will not commit forces as part of a coalition’. The statement might be a fact because of clear statements within country X government’s policy that have been publicly announced. The fact is critical since it suggests that the operational commander may have to do without a potentially significant force contributor.
- b. A fact would not be critical if it lacked context with respect to the overall operation or was too technical or trivial from the commander’s point of view—for example, the fact ‘the average temperature in city Z in September is 12 degrees Celsius’, would not be critical unless it had obvious, significant implications for the operation.

**3.61 Critical assumptions.** An assumption provides a supposition about the current situation or a future event, assumed to be true in the absence of facts. Assumptions replace necessary but missing information or facts. Critical assumptions are those the planning staff identify as particularly important with respect to operations and often carry significant risks. Staff also need to create a formal HQ process to request friendly force information and provide input to the draft collection plan.<sup>38</sup> Intelligence capabilities are prioritised and allocated to ascertain the validity of assumptions regarding the adversary and the environment as the planning phase progresses into execution. Clearly, the more assumptions a plan contains, the greater the unknowns and hence the more risk that will be borne overall. With respect to critical assumptions, the following should be noted:

- a. Assumptions should only be made if there is a high degree of probability that they will be confirmed as facts. A valid critical assumption has three characteristics: it is logical, realistic and essential for planning to continue. A critical assumption might be: ‘Country X will not attack the Australian mainland’. This assumption was hopefully made with high probability that it is indeed a fact, because if it is incorrect then what eventuates might have disastrous consequences.

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<sup>38</sup>. For a more detailed explanation of the request for information process, see Chapter 2.



- b. A litmus test for assumptions is: if an assumption proves false, the plan could be invalid. If a proposed assumption does not have this effect, it is unlikely to be sufficiently critical to warrant consideration. Assumptions are given in the form of statements, which are unconfirmed and which require verification. A critical assumption is an impetus for generating a CCIR. After further research, assumptions may be confirmed and therefore upgraded to facts. Alternatively, they may remain unconfirmed and either additional attempts are made to verify the assumption or the assumption may be discarded. Making assumptions is usually necessary for planning to continue.
- c. Given the risks associated with critical assumptions it is important for staff to clearly articulate the assumptions and all associated risks to the commander and superior commander as appropriate. This risk needs to be framed with respect to mission, capability, personnel, reputation, and environment, as well as the level of risk that the assumption will not be confirmed or denied.<sup>39</sup>

3.62 The outputs of this sub-step are a list of critical facts, a list of critical assumptions and an updated CCIR list. These should all be updated as required as JMAP progresses.

### HYPOTHETICAL EXAMPLE

#### XI. IDENTIFY CRITICAL FACTS AND ASSUMPTIONS

Concurrently to limitations being determined, other members of the planning staff checked critical facts and assumptions. This was largely a confirmatory exercise because a CCIR list had been maintained since the beginning of Scoping and Framing and newly identified assumptions had been added to the list continuously since then.<sup>40</sup> A thorough check of the CDF warning order and JIPOE outputs previously received by the planning staff was nevertheless conducted, to ensure that no facts or assumptions had been overlooked, and their criticality to the mission confirmed.

One of the assumptions previously identified was that the area of operations for land-based forces would be limited to the territory currently controlled by Jimalia. This assumption had recently been confirmed (see the previous part of this hypothetical example) and therefore did not appear on the CCIR list anymore. Instead of appearing here, it had been moved to the list of critical facts (because the assumption had been confirmed). The check conducted by the planning staff as part of this sub-step determined that the fact was indeed critical, because it would have an impact on the options available to the commander (by preventing land-based forces from entering Ajaxium territory it would restrict the possible COA that could be taken against Ajaxium's military forces).

Once the identification of critical facts and assumptions had been completed the staff informally briefed the J5, who then directed that the updated CCIR list be forwarded

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<sup>39</sup>. For further information about operational risk management, see Chapter 1.

<sup>40</sup>. For further information about the CCIR list, see Chapter 1.

for action. The J5 also designated a few members of the planning staff to continue to monitor the lists of facts and assumptions and to keep building the CCIR list (as required) during all subsequent JMAP steps and sub-steps. This would help to ensure that critical facts and assumptions would not be subsequently forgotten once COA Development began.

## SUB-STEP EIGHT: DETERMINE DECISIVE POINTS

### Definitions

**Decisive point.** A significant operational milestone that exists in time and space or the information domain which constitutes a key event, essential task, critical factor or function that, when executed or affected, allows a commander to gain a marked advantage, or contributes to achieving success.

**Effect.** The consequence of an action or cause, which effects physical, physiological, psychological or functional capabilities.

3.63 **Effects.** Before determining DP it is important to understand a foundational JMAP principle that desired outcomes and end states are produced by creating a planned effect on something or someone. The Macquarie Dictionary defines an effect as ‘that which is produced by some agency or cause’.<sup>41</sup> It is the consequence of an action. In the military context, an effect may be the physical, physiological, psychological or functional impact on a target within the OE, as a result of military or non-military actions.

3.64 During planning, the following adjectives or descriptors are commonly paired with ‘effect’:

- a. **Intended/unintended.** Intended effects are planned to support an objective or desired outcome. They should also be distinguishable and measurable to inform operational assessment criteria. Once an operation commences, an effect may be observed that was not planned and is therefore unintended. The probability of some unintended effects can be predicted during planning, and mitigation or exploitation strategies put in place. These will assist the commander to best manage any undesired unintended effects, or capitalise on operationally desired unintended effects.
- b. **Desired/undesired.** Almost without exception, desired effects are planned (or exploited if unintended) due their positive contribution to achieving the objective or end state. Undesired effects may inhibit progress toward an objective and, if observed, will require appropriate management to reduce their impact on the operation.

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<sup>41</sup>. *Macquarie Concise Dictionary*, 4th ed. (Sydney: Macquarie, 2006), p. 379. The ADF jointly does not subscribe to the ‘Effects Based Operations’ or ‘Effects Based Approach to Operations’ concepts, and instead employs the term ‘effect’ in its broad, generic sense.

- c. **Direct/indirect.** Direct effects are the consequences of action taken on a target. Indirect effects result from the initial action affecting other entities and actors.
- d. **Lethal/non-lethal.** Effects can be categorised as either lethal or non-lethal. A lethal effect significantly incapacitates the target—for example, personnel, equipment, infrastructure or information.
- e. **Miscellaneous.** Effects may be variously described as first or second order, collateral, or cumulative.<sup>42</sup> Notwithstanding, each adjective should be scrutinised carefully for its appropriate use during planning.

3.65 In operational design, intended effects are intrinsically linked to the development of DP, achievement of which can be divided into tasks for subordinate FE. A central element of DP matrices (see paragraph 3.80) is the specific effect produced by those FE. The effect, such as ‘denial’ or ‘neutralisation’, is framed in the past tense as ‘denied’ and ‘neutralised’ (these terms are also linked to the task verbs ‘deny’ and ‘neutralise’).

3.66 Staff employ task verbs that produce unique military effects. These assist in the description of detailed planning. More information on task verbs and the effects sought are contained in [Australian Defence Doctrine Publication \(ADDP\) 3.0—Campaigns and Operations](#) and the Australian Defence Glossary. For ease of reference, a list of key task verbs and associated definitions is in Annex 3B.

3.67 Besides the need to express each DP in the past tense and to link it to a task verb based on the primary desired effect, planning staff must be aware that the actions necessary to bring about that effect will probably result in other actors in the JFAO being affected. For example, tactical actions can have significant operational and strategic effects that require careful consideration. A chain of effects consists of the direct effect initially resulting from action taken to achieve a DP, and a subsequent series of effects that result from, or are triggered by, the effect of the initial action. These miscellaneous effects are often referred to as second order, third order, etc, depending on the extent of their removal from the initial, intended effect. Second and subsequent order effects can arise from the cumulative result of many other effects, both direct and indirect, and may be intended or unintended, desired or undesired. The level of accuracy achievable diminishes considerably when attempting to predict, observe and identify effects beyond second order.

3.68 Effects are useful in campaign and operation planning but must be applied with great care. Firstly, cause and effect chains are complex and difficult to comprehend, let alone predict. It is not possible to identify all possible effects that may result from an action. Some intended effects may never occur. Some may be generated by a particular action and be identifiable. Others may occur but may not be able to be observed, identified or measured.

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<sup>42</sup>. Within the targeting processes, collateral effects may be undesired but still intended provided they lie within legally approved collateral damage estimation. A planned management strategy of such effects will be necessary before they occur.

3.69 This is part of the innate uncertainty of armed conflict and makes plans that rely on long chains of related effects particularly problematic. Short effects chains are more reliable and chains of a single link are the most reliable of all.

3.70 Measurable results of a particular action may not appear for some time. This time lag not only complicates assessment enormously but can also slow the tempo of operations. A major difficulty lies in assessing effects and then deciding and implementing adjustments at a pace that supports the campaign or operation. The human dimension makes consideration of effects extremely difficult. However, commanders and staff should aim to envisage all potential first order effects from their actions, as well as several possible second order effects. Where potentially adverse effects are identified, mitigation responses should also be determined. When unintended beneficial effects occur action must be taken to exploit them quickly.

#### **Example of effects in support of a strategic objective**

*Strategic objective: The sovereignty of country X is maintained.*

*Supporting effects:*

- (1) *Support is gained from the international community for the coalition protection of X's sovereignty.*
- (2) *Defence of X is facilitated by its leadership's rapid acceptance and reception of deployed coalition forces.*
- (3) *Denial of low level Y cross-border incursions into X's territory is achieved.*
- (4) *Deterrence of Y's aggression against X is achieved.*

3.71 **Decisive points.** A DP is a significant operational milestone that is considered to be a necessary step towards reaching the desired end state, achieving an operational objective, affecting an adversary's CF or protecting the friendly force's CF. DP set conditions, and describe effects on the adversary, friendly forces or in the OE to the advantage of friendly forces. It is vital that staff produce some form of narrative that explains the logic or reasoning why producing a particular effect will lead to achievement of the DP condition. This underpins the assessment strategy for each DP, and helps prompt work during the development of detailed COA later. The narrative, which can be summarised in each DP matrix, can be expressed in terms of 'if....then'—for example, 'if friendly forces produce this effect, then the desired result will contribute to achieving the objective in the following way'. They can also be cross-referenced when refining assumptions and CCIR.

3.72 An example of the logic supporting the DP 'Insurgency in the JFAO defeated before January 2019' could be:

*If the impact of insurgents is reduced to the extent that legitimate political, economic and social development can take place, then the population will see the benefits of supporting the government and turn from the insurgents towards government representatives, making it increasingly difficult for the insurgents to operate, steadily reducing their capability to a level that local security forces are able to contain.*

**DM Couzens, 2010<sup>43</sup>**

3.73 When each DP is laid out in logical terms, the means to assess any graduated achievement of the DP condition becomes clearer. Performance and effectiveness measures can be directly mapped to the logic path underpinning the LOO and operational objectives.

3.74 DP are used to sequence and synchronise tasks and activities to ensure resources are available. Consideration needs to be given whether the DP are relevant, achievable, viable and allowable (ie within identified limitations), as the commander must be willing and able to commit to the tasks required to achieve success.

3.75 A DP:

- a. articulates a purpose, outcome, task or effect
- b. is measurable in terms of time, space and magnitude
- c. is expressed in the past tense.

#### **Example of a decisive point**

*The adversary employment of close air support in the JFAO is denied by D +2.*

3.76 DP can demand physical effects, such as neutralising, disrupting, destroying, capturing or gaining control of a constricted sea lane, hill, town, cache, an air base, command post, critical boundaries, airspace or communication facilities. In some cases, specific key events also may be DP, such as attainment of air or maritime superiority, triggering commitment of the adversary's reserve, opening a supply route during humanitarian operations, or gaining the trust of a key leader. In still other cases, DP may have a larger systemic impact and, when acted on, can substantially affect the adversary's information, financial, economic or social systems.

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<sup>43</sup>. DM Couzens, *Theories of Change: Essential Elements of Any Plan*, 2010. Cited in: Elena Mazourenko, *Supporting Military Decision-Making: An Investigation into the Integration of Program Theory into Campaign Planning and Assessment Processes* (Canberra: Defence Publishing Service, March 2013), p. 60.

3.77 Identifying decisive points. Deriving DP to appropriately reflect the commander's operational approach is a crucial part of designing operations. DP are primarily generated from:

- a. adversary CF, which are grouped into potential target sets that will have the most effective impact on the COG, while achieving the desired end state
- b. those CF from the friendly COG analysis that require protection
- c. the list of essential tasks considered during MA.

3.78 Initially it may appear that there are far more DP than can be attacked, seized, retained, controlled or protected with the forces and capabilities available. Accordingly, planners should study and analyse potential DP and determine which offer the best opportunity to reach the desired end state, achieve an operational objective, defeat an adversary's COG or protect the friendly force's COG. This will involve critical thinking and operational art to judge whether a particular condition or desired outcome merits being raised to an objective or lowered to a more tactical task supporting a DP. It is impossible to be prescriptive here due to the specific demands of each operation—for example, one operation's objective might be a DP for another. Nevertheless, it is essential that a DP should be of the magnitude and importance that, if it were removed from a line (or lines) of operation, the objective(s) and, therefore, the desired end state could not be achieved. Furthermore, every DP should be utilised, otherwise it is not of the order necessary for the commander to gain a marked advantage.

3.79 Devising DP when an operation is unopposed, or there is no COG to provide adversary CF, becomes a matter of focusing on essential tasks and the support or protection of any own CF. The sum of the DP along a particular LOO should still result in the desired conditions to meet each operational objective, and achieve the desired end state. For example, a LOO for disaster relief at the behest of a stable nation may contain DP that realise the tasks necessary to assist in survivor search, provide mobile hospitals, facilitate other government department expertise, whilst ensuring that multiagency coordination is executed smoothly and health risks are minimised.

3.80 **Decisive point matrix.** DP matrices that provide the narrative and detail of each DP are vital descriptors of the condition or effect desired, the likely forces required to create that effect, the CF protected or targeted, the essential tasks fulfilled and an idea of activities and their location in the OE. The DP matrix also articulates an early expression of risk across the 10 elements, and provides space to frame the beginnings of an assessment strategy. Both these operational factors will need to be refined as planning continues and comprehensively revisited if reframing is necessary. DP matrices are not prescriptive by design and can be tailored to meet the commander's need. Their construction in MA will likely only express the DP statement and what CF are to be affected. They will continue to increase in detail and cohesion as COA Development unfolds, particularly with respect to indicative force elements, their locations, tasks and actions. DP matrices directly inform and populate synchronisation matrices produced during COA Development. An example DP matrix is in Annex 3C. Further detail on synchronisation matrices is in Chapter 4.

3.81 When constructing a DP matrix, it is useful to consider:



- a. the primary focus—for example, an operational objective
- b. the supporting ‘if...then’ logic
- c. what CF are being affected—for example, combat air patrol (capability)
- d. tasking descriptor/effects verb—for example, ‘denied’
- e. what tasks and activities (possibly including associated non-essential tasks identified in earlier planning) will need to be executed to bring about the desired effect, by which indicative FE, and where in the OE (deep, close or rear is one method).
- f. an assessment plan that measures performance and effectiveness of the effects delivered, to inform progress towards successful achievement of the DP condition
- g. risk, in terms of the following:
  - (1) **Hostile elements.** Adversary or combative elements with intent and/or capability to undermine the achievement of objectives such as capabilities, doctrine, religious or cultural issues.
  - (2) **Natural environment.** Environmental factors such as terrain, weather/climate, flora and fauna, altitude, dust, floods, fire, cyclone, heat/cold.
  - (3) **Cultural and human-made environment.** Factors such as demographics, politics and religion, infrastructure/utilities, types of buildings, road conditions, lack of sewerage or safe water supplies, chemical or biological hazards.
  - (4) **Operational and/or organisational complexity.** Factors that can cause conflict, confusion or misdirection of effort such as strategic and operational direction, force composition, mission creep and aims/expectations/capabilities of external agencies.
  - (5) **Resources.** The use, availability, suitability and quality of resources such as equipment and stores, finances, facilities, disposal and management of hazardous substances, inadequate maintenance, availability of additional resources and support services.
  - (6) **Personnel.** The FE composition and technical competence of personnel available/required, insufficient trained or qualified people to sustain operations.
  - (7) **Time and space.** The available time and nature of the tasks to be completed such as the time available for the operation/activity, insufficient time for lead up training, rehearsals, acclimatisation, vaccination.
  - (8) **Human nature.** Human behavioural factors such as group dynamics, laziness, competitiveness, enthusiasm, tendency to 'cut corners', not



following correct procedures, fraud, morale, fatigue, personnel problems, status of unit culture/ethos.

- (9) **Legal, media and other mandated requirements.** Elements of legal, media and other mandated requirements that may limit freedom of action such as military/Australian/international law, political/strategic direction, local laws and customs, rules of engagement, status of forces agreements, special provisions for the protection of women and children.
- (10) **Reputation.** Activities that could compromise the integrity of the Australian Government and ADF, or portray operational tasks in a poor light such that domestic and international public support is eroded or damaged.

**HYPOTHETICAL EXAMPLE****XII. DETERMINE DECISIVE POINTS**

Due to the level of detail required, determining DP involved most members of the planning team and took a relatively long time to complete compared to several other MA sub-steps.

To derive the DP for this operation, the planning staff examined several prior JMAP and JIPOE outputs. Although each of the prior outputs of JMAP became inputs into the determine DP sub-step, the most prominent prior outputs considered were:

- the statement of the desired operation end state
- the list of operation objectives
- own and adversary COG constructs
- the essential tasks list from specified and implied tasks.

These four key inputs into the determine DP sub-step were examined in detail and a broad list of possible DP relating to each of them was developed. This list took into account specific details from each of these prior outputs, such as key requirements for achieving each objective, own CV that needed to be protected, adversary CV that could be targeted or exploited, and essential tasks that must be completed. Possible DP were then crosschecked against several related planning outputs, including identified limitations and against the outputs of Framing, as well as against the criteria listed in paragraph 3.75, to ensure that they were achievable, allowable, viable and relevant. Each DP was also assessed to determine if corresponding objectives could be achieved without the DP being achieved; such DP were removed from the list if that proved to be the case.

At the conclusion of the process of DP identification and analysis, the DP listed below remained on the DP list. (It should be noted that the number of DP is illustrative of the complicated nature of contemporary operations. This list should not be viewed as daunting, however; the next sub-step of MA—develop LOO—will sequence these DP and by doing so will enable them to be viewed more clearly as parts of a coherent whole than does the list below).

For each DP, a DP matrix was then completed (see Annex 3C). These matrices established the desired effects to accompany each DP as well as a DP narrative and possible resources that could be used to achieve the DP. This sub-step concluded once the J5 was satisfied with the standard of the DP list and the matrix accompanying each DP.

<b>DP No.</b>	<b>DP</b>
1	Mission legitimacy/permission to enter Jimalia is granted by the Jimalian government no later than D-2.
2	Control of sea and air lines of communication from AUS to Jimalia established no later than D-1.
3	Advanced party/C2 elements successfully deployed to Jimalia no later than D-

	1.
4	JTF established and FE concentrated in AUS ready for deployment no later than D-1.
5	Initial JTF FE deployed on order (D Day).
6	Point of entry into Jimalia secured on order (D Day).
7	Remaining JTF FE deployed to Jimalia on order (commencing not before D Day).
8	Evacuee assembly areas and evacuee handling centres established on order (not before D Day).
9	Evacuation of AUS and approved foreign nationals successfully completed NLT three days after establishment of evacuee assembly areas and evacuee handling centres.
10	Jimalian critical infrastructure (oil fields in disputed region) secure no later than D+1.
11	Main supply routes within Jimalia established and cleared no later than D+3.
12	Operational/tactical level liaison with Jimalian forces established on order (not before D-1).
13	Routine security activities commenced no later than D+5.
14	Logistics support plan enacted on order (commencing no later than D Day).
15	Deployment of follow-on forces completed on order (if required).
16	Commencement of JTF FE rotation plan on order (if required).
17	Hand over to recognised local authority commenced/completed on order.
18	Air superiority established within Jimalian air space on order (not before D-1).
19	Air superiority established within Ajaxium air space on order (not before D Day).
20	Ajaxium maritime task force interdicted on order (not before D Day).
21	Ajaxium amphibious lodgement in Jimalia defeated on order (not before D Day).
22	Ajaxium C2 nodes identified and destroyed on order (not before D Day).
23	Ajaxium forward supply storage and distribution points identified and destroyed on order (not before D Day).
24	Ajaxium A Class vehicles movement into Jimalia blocked on order (not before D Day).
25	Liaison with other Government departments/non-governmental organisations/local civil authorities established on order.
26	Humanitarian action stores delivered to Jimalia on order.
27	Humanitarian action distribution points established and operational on order.
28	Local emergency services operational (as soon as possible).
29	Local essential services operational (as soon as possible; precise timeline to be confirmed (TBC)).
30	Criminal network operations in JFAO have been disrupted (as soon as possible; precise timeline TBC).

31	Key leaders of criminal network have been identified and captured (as soon as possible; precise timeline TBC).
32	JTF FE redeployed to AUS on order.

### SUB-STEP NINE: DEVELOP LINES OF OPERATION

3.82 In a campaign or operation, a LOO links several DP on a path to the desired end state through an operational objective, determined earlier in MA during sub-step 4. It is a linear representation of the operational design and assists planners to articulate the commander's solution to the problem.

3.83 An operation may have one or more LOO. A single LOO has the advantage of concentrating forces and simplifying planning. Multiple LOO, on the other hand, increase flexibility, create more opportunities for success, and better represent the inherent complexities of contemporary operations. The decision to operate on multiple LOO will largely depend on the nature of the desired end state, but may be constrained by availability of resources. Types of objectives, and a descriptor of their resultant LOO, could include:

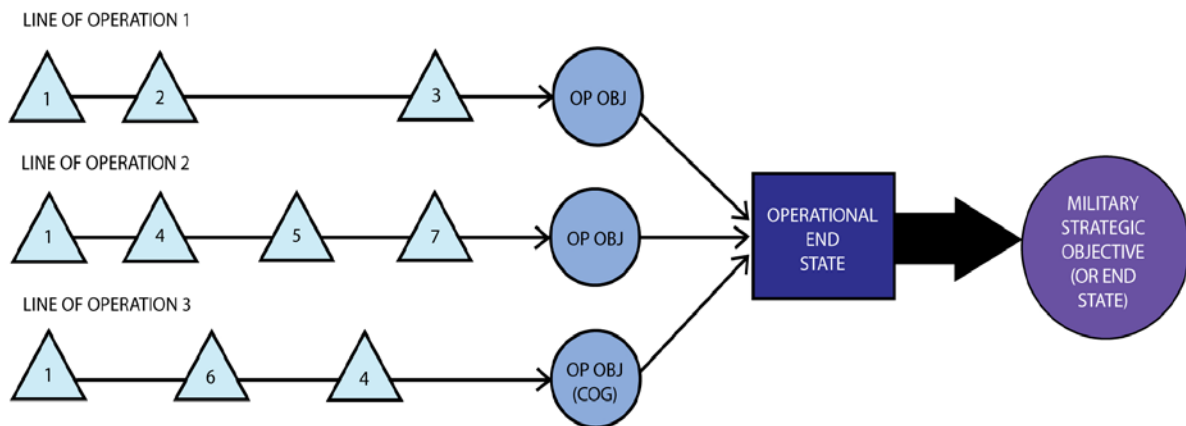
- a. decisive manoeuvre (affecting a COG, for example)
- b. counterinsurgency
- c. humanitarian action
- d. security sector reform
- e. building governance capacity
- f. anti-access/area denial
- g. anti-piracy
- h. counter-smuggling
- i. information activities
- j. civil-military cooperation
- k. environmental (air, maritime, land) and logistics.

3.84 At the strategic and operational levels LOO may be used to group activities by function, such as combat, population protection, population support and/or reconstruction. When this occurs, LOO are likely to be mutually reinforcing and planners need to take into consideration the possibility that actions within one LOO may have either a positive or a negative impact upon actions or desired effects within other LOO.

3.85 A generic example of an operation with multiple LOO is shown in Figure 3.4. In this example each LOO is comprised of several DP (which are represented by the numbered triangles) and proceeds towards achieving an operational objective. Because defeating the adversary's COG may be a prerequisite for achieving the end state, this may constitute an operational objective in its own right (LOO 3). Achieving

all operational objectives will achieve the operational end state, which itself contributes to achieving either a military strategic objective (if the operation is part of a broader campaign) or the military strategic end state (if the operation is conducted independently).<sup>44</sup>

**Figure 3.4: Example of an operation with multiple lines of operation**



**3.86 Developing lines of operation.** To develop LOO, planners visualise how the operation should progress, consider each DP, and determine the optimal sequence in which they should occur. DP are grouped and organised along logical, complementary lines, based on purpose, functionality, force availability, geographical location or effects required to achieve the objectives. A particular DP may be used across more than one LOO. When structuring LOO, it is important that the activities, events and effects outside of the military sphere be considered, including the government's application of other elements of national power.

**3.87** The key factor in this final element of designing an operation is that there is a flow and logical sequence of activities and effects that clearly reflect the commander's operational approach to the circumstances and problem set. It should convey sufficient detail that, when combined with the commander's thematic guidance at the end of MA, the planning staff can continue to develop discrete, viable COA to analyse and compare before selecting their concept of operations.

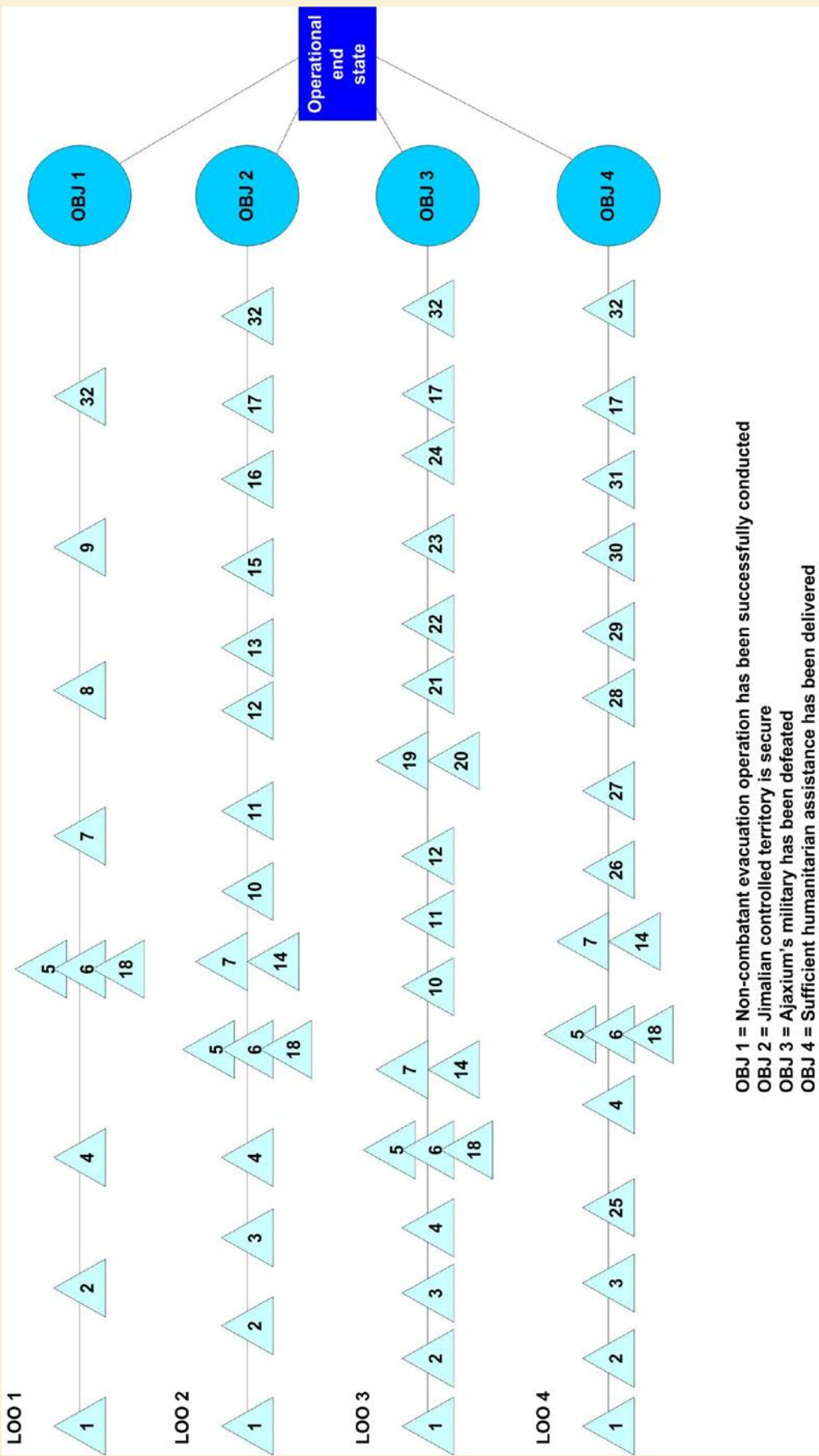
<sup>44</sup>. For further information about the relationship between JMAP and strategic planning, see [ADDP 5.0—Joint Planning](#).

**HYPOTHETICAL EXAMPLE****XIII. DEVELOP LINES OF OPERATION**

The final sub-step of MA was to organise the DP previously derived into LOO. For this sub-step the J5 divided the planning staff into four groups, one for each operational objective. The J5 then directed each group to focus on developing the LOO that would correspond to their designated objective. Each group was also instructed to develop its LOO without any reference to the other objectives, in other words they were told to conceive of their LOO as if they would need to conduct operations along it from beginning to end without any other activities happening concurrently. This measure was taken to stop the planning team from jumping ahead and organising LOO into different COA, and maintaining focus on designing the commander's operational approach into the LOO schematic.

Throughout the process of organising DP into LOO, the J5 moved between the groups and addressed alignment issues and questions, and at the conclusion of the process the J5 and a few of the more senior members of the planning team crosschecked the LOO against each other. (The finalised LOO diagram is pictured below; DP numbers correspond to those given in the previous part of this hypothetical example).

While crosschecking the LOO with one another the J5 noted three specific points about the LOO diagram, which seemed to align with potential issues identified earlier during the sub-step 'determine objectives'. The first point was that deterring the Ajaxium military had not been included in any DP (because it was an open-ended task and was not easily measurable). Deterring Ajaxium was therefore not explicitly on any of the LOO. However, earlier on when they were deconflicting the group activities the J5 had instructed the group developing the LOO corresponding to Objective 2 (Jimalian controlled territory is secure) to construct it on the assumption that the ADF operation would be sufficient deter Ajaxium military aggression without the need for combat. The J5's thinking was that any other eventuality would result in a need to secure Jimalia by defeating Ajaxium—which is what the group planning the LOO corresponding to Objective 3 (Ajaxium's military has been defeated) were already doing.



Lines of operation for possible ADF activities in Jimalia and Ajaxium



This point was closely linked to the second aspect that the J5 noticed about the LOO diagram, which was that up to DP 12 the LOO for both Objectives 2 and 3 were essentially the same. After that DP had been reached, either the ADF operation would deter Ajaxium or it would not. If it did, the LOO for Objective 2 could easily be followed. If it did not, the LOO for Objective 3 would need to be followed. It was clear to the senior plans staff that these two points made it likely that LOO 3 could become a sequel to LOO 2; the J5 noted this but deferred making a decision until COA Development, when the detailed work would provide more clarity.

The third point the J5 noticed was that the LOO corresponding to Objective 4 (sufficient humanitarian aid has been delivered) could be followed with or without DP 30 and 31 being completed. These DP related to disrupting the criminal network activities that had been identified during Framing and achieving these DP would only be necessary if criminal network activities were assessed as threatening to disrupt the effective provision of humanitarian assistance. Once again, the J5 noted this and deferred any decision until COA Development.

### MISSION ANALYSIS BRIEF

3.88 The final activity and product of MA is a comprehensive briefing which ensures that the commander and staff confirm the operational design work, and are in agreement about the commander's intent, the mission, objectives and associated tasks, operational limitations, critical facts and assumptions and other important planning factors, including an initial identification of risk, possible campaign assessment methods and CCIR. After the brief, the commander must endorse the content and guidance, sometimes after iterative amendments, before separate COA are developed.

3.89 In sum, using the briefing format suggested in Annex 3D, the commander confirms:

- a. desired end state
- b. mission statement
- c. operational objectives
- d. CCIR
- e. time factors and priorities
- f. risks to mission and personnel, and early mitigation strategies
- g. JFAO and area of intelligence interest
- h. any specific targeting and information operations factors
- i. DP, and initial assessment strategies to gauge success
- j. LOO schematic illustrating the commander's operational approach to the circumstances

- j. thematic direction to guide development of discrete COA (for an explanation of this thematic guidance see Chapter 4).

**Annexes:**

- 3A Mission Analysis—aide-memoire
- 3B Key task verbs and definitions
- 3C Example decisive point matrix
- 3D Suggested Mission Analysis brief format

## ANNEX 3A

## MISSION ANALYSIS—AIDE-MEMOIRE

Table 3A.1: Mission Analysis—aide-memoire

INPUTS	SUB-STEPS	OUTPUTS
<p>Scoping and Framing outputs</p> <p>JIPOE steps one and two and at least adversary COG analysis from step three, strategic guidance</p>	<p><b>1. Review the situation:</b></p> <p>a. review latest commander's guidance and intelligence information</p> <p>b. review products from Scoping and Framing: planning resources, time factors, descriptions of the observed and desired system, environment frame including key actor relationships, problem narrative, CCIR list, operational end state, probable FE, and any warning order issued</p> <p>c. refine earlier analysis of campaign assessment and lessons learned, own forces, disposition, readiness and notice to move states, and capabilities.</p>	<ul style="list-style-type: none"> <li>• Confirmation activities, and refinement of previous analysis and conclusions</li> </ul>
As above	<b>2. Derive and analyse centres of gravity.</b>	<ul style="list-style-type: none"> <li>• Own and adversary CF matrix</li> </ul>
As above, plus outputs from previous MA sub-steps	<p><b>3. Determine own mission:</b></p> <p>a. analyse superior commander's intent</p> <p>b. develop own mission.</p>	<ul style="list-style-type: none"> <li>• Superior commander's intent expressed in terms of purpose, method, end state</li> <li>• Mission statement</li> </ul>
As above	<b>4. Determine objectives.</b>	<ul style="list-style-type: none"> <li>• Meeting all objectives achieves the end state</li> </ul>

INPUTS	SUB-STEPS	OUTPUTS
As above	<b>5. Identify and analyse tasks:</b> a. list specified tasks b. list implied tasks c. identify essential tasks.	<ul style="list-style-type: none"> <li>• Lists of specified and implied tasks and identified essential tasks</li> </ul>
As above	<b>6. Determine limitations:</b> a. constraints b. restrictions.	<ul style="list-style-type: none"> <li>• List of limitations</li> </ul>
As above	<b>7. Identify critical facts and assumptions:</b> a. list critical facts b. list critical assumptions.	<ul style="list-style-type: none"> <li>• List of critical facts</li> <li>• List of critical assumptions</li> <li>• Updated CCIR list</li> </ul>
As above (must include adversary COG analysis if not already provided)	<b>8. Determine DP.</b>	<ul style="list-style-type: none"> <li>• List DP from targetable adversary CF, protected own CF and essential tasks</li> </ul>
As above	<b>9. Develop LOO</b> (operational approach schematic).	<ul style="list-style-type: none"> <li>• Sequence DP along selected LOO to achieve operational objectives &amp; end state</li> </ul>

INPUTS	SUB-STEPS	OUTPUTS
<p>Scoping and Framing outputs</p> <p>JIPOE steps one and two and at least adversary COG analysis from step three, strategic guidance</p> <p>MA sub-steps 1–9</p>	<p><b>10. Draft commander's guidance:</b></p> <ul style="list-style-type: none"> <li>a. desired end state</li> <li>b. mission statement</li> <li>c. operational objectives</li> <li>d. CCIR</li> <li>e. time factors and priorities</li> <li>f. risk and early mitigation strategies</li> <li>g. specific targeting and IO factors</li> <li>h. JFAO and intelligence areas</li> <li>i. DP and assessment methods</li> <li>j. LOO schematic (operational approach)</li> <li>k. thematic guidance to form discrete COA.</li> </ul>	<ul style="list-style-type: none"> <li>• Commander's guidance component of MA briefing</li> </ul>

## ANNEX 3B

## KEY TASK VERBS AND DEFINITIONS

- Operational language depends on specific terms and their definitions, in particular what needs to be done (task verb or operational action) and the desired outcome (effect noun). For example, the task verb 'destroy' produces the effect noun 'destruction'. Listed here are the verbs only. Most of the task verbs in Table 3B.1 are drawn from North Atlantic Treaty Organization Standardisation Agreement (STANAG) 2287: *Task Verbs for Use in Planning and the Dissemination of Orders*. Some are also found in [Australian Defence Doctrine Publication 3.0—Campaigns and Operations](#). The approved definitions have been adapted and simplified from the STANAG to suit the Australian joint operational context and enhance utility.
- This list is not exhaustive and other appropriate terms may be used providing they are defined by an authoritative source (such as the *Macquarie Dictionary*, Australian Defence Glossary or allied military glossaries). It should be noted that these terms are mostly applicable to higher intensity warfighting.

Table 3B.1: Key task verbs and definitions

Task verb	Definition
<b>amplify</b>	Make larger or greater (as in amount, importance or intensity) or increase the strength or amount of.
<b>block</b>	To deny access to a given area, or prevent advance in a particular direction.
<b>breach</b>	Break through or secure passage through a defence, obstacle, firewall or fortification.
<b>bypass</b>	To manoeuvre around an obstacle, position, or adversary force to maintain the momentum of advance.
<b>canalise</b>	To limit or force the movement of individuals, groups, or organisations to a specified direction.
<b>capture</b>	Gain possession of specified personnel, materiel, equipment, infrastructure or information.
<b>clear</b>	Remove all adversary forces and eliminate organised resistance in an assigned area.
<b>coerce</b>	Compel an actor to adopt desired behaviours by threat of force.
<b>contain</b>	To restrict the movement of an individual, group or organisation to a defined area or to have or hold them under control.
<b>control</b>	Maintain physical influence over a specified area or group to prevent its use by an adversary.
<b>co-opt</b>	Appropriate as one's own or assimilate, take or win over into a larger or established group.
<b>counter</b>	Meet or answer another in return.

<b>Task verb</b>	<b>Definition</b>
<b>cover</b>	The action by military forces to protect by offence, defence or threat of either or both.
<b>deceive</b>	To mislead the adversary by manipulation, distortion, or falsification of evidence to induce them to react in a manner prejudicial to their interests.
<b>decrease</b>	To diminish gradually in extent, quantity, strength, power etc.
<b>defeat</b>	Diminish an adversary's effectiveness such that they are either unable or unwilling to achieve their objective.
<b>defend</b>	To employ or deploy combat capability to prevent, resist, repel or destroy an adversary attack before it can achieve its objective and, during the conduct phase, to accept decisive engagement.
<b>degrade</b>	Reduce the effectiveness of a capability such that the function still operates, but not fully.
<b>delay</b>	Prevent someone from arriving at a location before a specified time or event, while avoiding decisive engagement.
<b>demonstrate</b>	Exhibit the operation or use of (a capability, device, process, product, or the like).
<b>deny</b>	Prevent use of a specified thing.
<b>destroy</b>	Damage an object or an adversary force so that it is rendered useless to the adversary until reconstituted.
<b>deter</b>	Persuade someone that the consequences of a course of action would outweigh potential gains and/or expected costs.
<b>dislocate</b>	Render an actor's capabilities irrelevant by not allowing them to be employed at a critical time and place.
<b>disrupt</b>	Break apart an adversary's formation and tempo, interrupt the adversary timetable, cause premature and/or piecemeal commitment of forces.
<b>dissuade</b>	Turn a person or group away from a particular course.
<b>educate</b>	Impart detailed knowledge of facts or circumstances to select communities for the purpose of enhancing attitudes through understanding.
<b>empower</b>	Give authority or power to, whether officially or perceived.
<b>enhance</b>	To increase or make greater the capabilities of a force or a people.
<b>exploit</b>	Generate an operational advantage by building upon a success, discovery, achievement or knowledge.
<b>fix</b>	Prevent an adversary from moving from a specific location or for a specific period of time in order to generate an operational advantage.



Task verb	Definition
<b>fuse</b>	Combine or blend together.
<b>guard</b>	To protect the main force by fighting to gain time while also observing and reporting information, and to prevent adversary ground observation of and direct fire against the main body by reconnoitring, attacking, defending, and delaying.
<b>interdict</b>	Keep an adversary force out of range so that it cannot be used effectively against a friendly force.
<b>isolate</b>	Seal off an adversary force from its sources of support, to deny it freedom of movement, and prevent it from having contact with other adversary forces.
<b>limit</b>	To reduce or confine within boundaries the options or course of action available to the adversary commander.
<b>mislead</b>	To create a false perception that leads the opposition to act in a manner detrimental to mission accomplishment while benefiting accomplishment of friendly objectives
<b>neutralise</b>	Render an adversary element temporarily incapable of interfering with the operation.
<b>penetrate</b>	Break through adversary defence and disrupt the defensive system.
<b>prevent</b>	Stop an action from occurring.
<b>protect</b>	Preserve the effectiveness of personnel, equipment, infrastructure and information.
<b>recover</b>	To extract a friendly force, non-hostile individual or group and/or materiel from a location not under friendly control, with or without force.
<b>retain</b>	Maintain possession of personnel, equipment, infrastructure and information for friendly use.
<b>secure</b>	To gain possession of a resource eg personnel, equipment, infrastructure, terrain, or information, without force, to make such disposition as will prevent, as far as possible, its destruction or loss by an adversary's action.
<b>screen</b>	Observe, identify and report information through a designated security element, which only fights in self-protection.
<b>seize</b>	Gain possession of personnel, equipment, infrastructure and information by force.
<b>shape</b>	Enhance the friendly force's position, delay an adversary's response, or lead an adversary into an inadequate or inappropriate response to set the conditions for decisive action.
<b>stabilise</b>	Impose control and secure an area.
<b>suppress</b>	Temporarily degrade a capability to enable a friendly action.

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Task verb	Definition
<b>undermine</b>	Weaken someone's capabilities, morale, loyalty or reliability by affecting their military, cultural, economic, societal or political strength.

## ANNEX 3C

## EXAMPLE DECISIVE POINT MATRIX

Table 3C.1: Example decisive point matrix

DP number	DP statement (include 'if...then' logic)	Friendly/adversary critical factors affected	Tasks	Indicative force(s) required	Potential joint task force actions
1	Adversary use of combat air patrol to neutralise friendly air lines of communication is denied by D+3.  'If adversary combat air patrol is neutralised such that friendly ALOC can continue to support the APOD logistic requirements, then JFACC assets will be able to provide air power to the JTF'.	CC 1—air mobility  CR 3—air lines of communication  CV 4, 6, 7—combat air patrol	Establish air superiority in vicinity of Country X	F/A-18  KC-30A	Conduct offensive counter air IVO Country X
				F/A-18  KC-30A	Establish air-to-air refuelling south of Country X
			Secure Country X airstrip	C-130  GBAD FE  VAP FE	Deploy ground-based air defence assets to Country X
				C-130  Logistics FE  VAP FE	Establish forward mounting base to sustain Country X garrison

<b>Risk analysis<sup>45</sup></b>	
Hostile elements	
Natural environment	
Man-made environment	
Operational complexity	
Resources	
Personnel	
Time and space	
Human nature	
Legal and media	
Reputation	
<b>Assessment methods</b>	
<b>MOP</b>	
<b>MOE</b>	
<b>Degree to which DP has been successfully achieved</b>	(Reviewed and updated after commencement of operations)

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<sup>45</sup>. This example DP matrix can be adapted to suit the user. The risk and assessment tables promote appropriate articulation of risk analysis in each possible risk area and are not intended to restrict the planning staff's expression of these key elements to the boxes shown here.

## ANNEX 3D

## SUGGESTED MISSION ANALYSIS BRIEF FORMAT

Table 3D.1: Suggested Mission Analysis brief format

LEAD	SUBJECT
COS/J5	<b>Brief purpose</b> <ul style="list-style-type: none"> <li>• purpose of briefing</li> <li>• time analysis (planning and operational)</li> </ul>
J2	<b>JIPOE</b> <ul style="list-style-type: none"> <li>• current situation</li> <li>• AOE (including All and JFAO)</li> <li>• adversary CF evaluation</li> <li>• adversary COA (if available)</li> </ul>
J3	<b>Own forces review</b> <ul style="list-style-type: none"> <li>• friendly CF analysis matrix</li> <li>• operational preparedness status</li> <li>• disposition and key capabilities</li> </ul>
COS/J5	<b>Planning purpose</b> <ul style="list-style-type: none"> <li>• superior commander's intent</li> <li>• desired end state</li> <li>• own mission</li> <li>• tasks (specified, implied and essential)</li> <li>• limitations (constraints and restrictions)</li> <li>• critical facts and assumptions</li> </ul>

LEAD	SUBJECT
J1	<b>Personnel operations planning factors</b> <ul style="list-style-type: none"> <li>personnel capabilities and factors—for example, rotation, conditions of service, medical, finance, mortuary affairs</li> <li>personnel deductions and identified risks</li> </ul>
J4	<b>Logistic operations planning factors</b> <ul style="list-style-type: none"> <li>logistics capabilities—for example, movements, transportation, sustainment, host nation support, infrastructure</li> <li>logistics deductions and identified risks</li> </ul>
J6	<b>Communications and information systems planning factors</b> <ul style="list-style-type: none"> <li>operational environment analysis on CIS</li> <li>adversary's CIS and EW capabilities and COA</li> <li>own force analysis (information flow analysis, availability, readiness, location)</li> <li>CIS tasks, limitations and risks</li> <li>CIS facts, assumptions, shortfalls and vulnerabilities</li> <li>time considerations</li> </ul>
Other specialist staff	Capabilities, deductions and risks from selected specialist staff—for example, legal, health, information operations, targeting, other government departments, coalition staff

LEAD	SUBJECT
COS/J5	<b>Commander's guidance</b> <ul style="list-style-type: none"><li>• operational objectives</li><li>• CCIR</li><li>• risks to mission and personnel, and early mitigation strategies</li><li>• decisive points and initial assessment strategies</li><li>• LOO schematic illustrating the commander's operational approach</li><li>• thematic guidance for staff to create discrete COA</li></ul>
Commander	<b>Commander's summation and priorities</b>



## CHAPTER 4

### STEP THREE: COURSE OF ACTION DEVELOPMENT

#### Executive summary

- Course of Action Development involves three sub-steps:
  - Review commander's guidance and current situation
  - Develop detailed courses of action
  - Test courses of action.
- The aim of this step is to create a number of appreciably different courses of action that are achievable, meet the commander's intent and mission, and are sufficiently detailed to be analysed effectively.

*The main thing is always to have a plan. If it is not the best plan, it is at least better than no plan at all.*

**General Sir John Monash, letter written in 1918<sup>46</sup>**

#### INTRODUCTION

4.1 Course of Action (COA) Development requires military knowledge and experience, combined with operational art and design, to develop a number of different friendly force COA through arrangement of operations and the application of various discriminating factors.<sup>47</sup> In Mission Analysis (MA), the commander's operational approach has been designed as a schematic expressed along (probably) several lines of operation (LOO). This work is then applied to the commander's thematic choices, combined with other key factors, to create several discrete COA or alternative paths, to achieve the objectives and arrive at the desired end state.

4.2 The number of COA developed will vary depending on the commander's desired themes, the other key factors and, as always, on time available to plan.<sup>48</sup> Regardless of the number of possible COA, planning staff must be prepared to step back into MA and Scoping and Framing if insufficient detail is available, rather than continue on a trajectory possibly skewed by a plethora of assumptions. It could be that the Joint Intelligence Preparation of the Operational Environment (JIPOE) is still

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<sup>46</sup> T. Royle (Ed.), *Collins Dictionary of Military Quotations* (Glasgow: Harper Collins, 1991), p. 96:1.

<sup>47</sup> For further information about operational art, operational design and the arrangement of operations see Chapter 1.

<sup>48</sup> The term 'themes' in this context describes fundamentally different approaches to achieving the same objective. For example, an objective could be achieved through air-centric capabilities, an amphibious focus or a land-based counterinsurgency approach. These would form the basis of separate COA that still achieved the objective or desired end state.

lacking the depth of detail to properly inform the products derived during previous planning stages, so reframing and updating facts, assumptions, limitations, tasks, and the operational design schematic are consistently vital activities during COA Development.

**4.3 Inputs.** The inputs to COA Development are derived from the outputs of MA and the JIPOE. They include:

- a. a mission statement (in the form of who, what, where, when, why)
- b. lists of specified and implied tasks, and identified essential tasks
- c. a list of limitations, separated into constraints and restrictions
- d. lists of critical facts and critical assumptions
- e. an updated commander's critical information requirements (CCIR) list
- f. campaign or operational objectives
- g. friendly and adversary (for an opposed campaign or operation) centres of gravity (COG) and critical factor (CF) analysis constructs
- h. decisive points (DP) with their associated narrative, effects and conditions
- i. DP matrices (these will be relatively unrefined after MA and will continue to have detail added as COA Development unfolds)
- j. objectives and DP that have been organised into LOO, which proceed logically in time and space towards the desired campaign or operation end state.

**4.4 Sub-steps.** COA Development incorporates three sub-steps:

- a. review commander's guidance and current situation
- b. develop detailed COA
- c. test COA.

**4.5 Outputs.** The outputs of COA Development are:

- a. named areas of interest (NAI) and target areas of interest (TAI) identified
- b. updated CCIR
- c. a number of fully developed COA that are each feasible, acceptable, suitable, sustainable, distinguishable and ready for analysis.<sup>49</sup>

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<sup>49</sup>. 'Fully developed' implies all DP and synchronisation matrices have been completed to a level of detail and coherence that permits thorough analysis during the next JMAP step.

4.6 **Aide-memoire.** A COA Development aide-memoire is in Annex 4A.

### **Joint Intelligence Preparation of the Operational Environment input to Course of Action Development**

4.7 COA Development commences with the outputs from MA, the JIPOE analysis of the operational environment and as much information on JIPOE steps three and four as possible. Close interaction between the planning and intelligence staff is needed throughout COA Development, such that the realities of the OE are fully understood, threat strengths and weaknesses are correctly identified and that the set of COA developed achieve the operational objectives.

4.8 Data that should be available at the commencement of COA Development includes:

- a. those aspects of the situation that have changed since the MA JIPOE brief
- b. summary of JIPOE outputs provided during the MA brief
- c. updated CCIR list
- d. if not previously briefed, adversary intentions and mission, CF analysis matrix, and statements on adversary doctrine or modus operandi
- e. if possible, a number of threat COA/scenarios (most likely and most dangerous), including DP, commander's decision point (CDP) matrices, and synchronisation matrices
- f. analysis of threat intelligence collection capabilities to support friendly security and force protection planning
- g. detailed indicator lists and warning matrices supporting adversary COA.

### **SUB-STEP ONE: REVIEW COMMANDER'S GUIDANCE AND CURRENT SITUATION**

4.9 At the commencement of this planning step it is critical that the products of MA and JIPOE are reviewed thoroughly. Although the JIPOE should have provided planning staff with the adversary's CF analysis and likely COA, the information may still lack depth or fidelity to the degree that staff may have to make further assumptions and add CCIR. A review of the outputs of MA and the JIPOE should also enable planners to determine NAI and TAI.<sup>50</sup> One of the primary outputs from MA for consideration will be commander's guidance delivered at its close, particularly any thematic direction given to steer development of multiple COA.

4.10 Throughout COA Development (and, indeed, the wider planning and execution of operations), the situation should be constantly reviewed and reframed if necessary. Have the circumstances shifted? Is the political backdrop changing? Is

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<sup>50</sup>. For further information about JIPOE-derived NAI and TAI see Chapter 1 and Annex 1A.

the problem the same as when planning began? Does the adversary's CF require fresh study, do we know enough about key actor relationships? Staff should consider these questions carefully, and be prepared to revisit earlier steps of the appreciation process before proceeding further. If current details are either too vague, and conclusions still lack depth and maturity, or the problem and environment frames have shifted significantly, there is much merit in recommencing the entire planning process. Clearly, this will be a commander's decision, if required.

**HYPOTHETICAL EXAMPLE****XIV. REVIEW COMMANDER'S GUIDANCE AND CURRENT SITUATION**

The joint planning group (JPG) commenced COA Development by reviewing the situation and seeking any relevant clarification to commander's guidance. The planning staff achieved this by breaking into small teams. Each team revised their previously assigned outputs, checking against JIPOE updates, answers to assumptions that had been on the CCIR list, and subsequent planning outputs. Each team reported its results to the J5. At the conclusion of this activity, a cross-functional briefing was held to update all planning staff with the most up-to-date information before COA Development commenced.

**Receiving a JIPOE update**

The J2 staff had now completed all four steps of the JIPOE and the J25 briefed planning staff about the remaining sub-steps. Of particular note were possible Ajaxium military COA. The COA assessed as most likely was a central thrust into the Jimalian controlled part of the disputed area to seize and secure the oil fields. This would be followed by an expansion of force presence until the entire disputed area was under Ajaxium control. This would be gradual and piecemeal, so that Ajaxium forces did not get overstretched, could consolidate gains and implement a robust resupply plan from the outset of the invasion. In this COA the amphibious task force was assessed as likely to be a deception plan and embarked forces were unlikely to be landed. Special forces would be used to conduct long range reconnaissance and possible small-scale raids in support of the invasion force itself.

The COA assessed as most dangerous was an invasion of Jimalian controlled territory from multiple lines of departure, with the aim of simultaneously capturing the oil fields and two key population centres on the Jimalian side of the disputed area. The invasion force would then quickly link up from these three points, forming a new makeshift border at the southern end of the disputed area and clearing internal parts of the area itself later. This COA would rely on speed and shock action to overwhelm Jimalian defences before a coherent counterattack could be mounted. This was a riskier COA for Ajaxium because their motorised infantry brigades would initially be divided, and logistic support would be dispersed initially. Nevertheless, it was more dangerous because of the likelihood of overwhelming Jimalian resistance early in the operation.

In this most dangerous COA Ajaxium's amphibious task force was assessed as likely to land to conduct either a raid or a feint that would put additional pressure on the Jimalian military, furthering the likelihood of its command and control breaking down before a response to the situation could be made. It was assessed as likely that conventional forces were embarked aboard Ajaxium's amphibious task force and the J2 provided a list of possible landing locations and objectives to the planning team. In this COA, Ajaxium special forces would play a more aggressive role conducting raids into Jimalian territory outside the disputed area, putting yet another element of pressure onto Jimalian forces. A list of possible targets for these raids was also provided by the J2. (Note: The most dangerous COA is based on an assessment of the extent of the threat posed to the success of AUS operations. It is not based on the greatest threat to Jimalia or the Jimalian military. In this case the threat to AUS operations from the most dangerous COA is greater due to the relatively large size of

Ajaxium's military and the multiple points at which it can threaten the AUS JTF).

## **SUB-STEP TWO: DEVELOP DETAILED COURSES OF ACTION**

4.11 As part of the MA brief, the commander should provide clear guidance about the operational approach to the problem, and give direction to explore a number of discrete themes that will shape the primary LOO design work into separate COA. Planning staff take the design schematic from MA, refine it and add detail until distinguishable COA are developed particular to each theme directed. The paragraphs below outline those considerations necessary to develop detailed COA. The outcome of this sub-step should see mature and coherent COA, expressed as LOO, with phasings, main effort apportioned by phase, any branches or sequels, and detailed DP and synchronisation matrices.

### **Courses of action and decisive points**

4.12 Before the work of creating several COA commences it is worth reconsidering the part DP play in separating COA. On first inspection it is tempting to drop certain DP from the original design schematic, or add new ones, to make each COA more clearly distinguishable; however, it is the alternative factors such as force composition and resources required to produce the overall desired DP effect that mean the same DP can be used across several COA. This approach seeks to maintain the integrity of the original design LOO as much as is feasible.

4.13 Part of creating discrete COA is the analysis of each DP to differentiate how they can be achieved, especially in terms of indicative forces to be employed. COA should not be differentiated by the addition of new DP, or removal of DP, unless absolutely necessary. The commander should have stated at the conclusion of MA that the designed LOO, and DP identified, should be framed as separate COA along particular themes. Planning staff need to assess each DP along these thematic lines and decide on possible ways to successfully achieve the DP condition or provision of the overall effect. For each separate COA, this requires revision of any DP narrative explaining why it is assumed that a particular means will result in achieving the desired condition or outcome.

4.14 For example, a DP on a decisive manoeuvre LOO may seek to 'deny Country X forces from lodging in Country Y by D+10'. It contributes to undermining the Country X COG of 'joint task force' and its capabilities to project force, which is also an operational objective. Each COA may demand different force elements (FE), resources, timings and logistic support, and other DP will have to reflect the overall emerging COA. Clearly, certain DP are capable of supporting all COA. Similarly, some may have been applied across several or all LOO in the original operational design schematic, but may not be suited to expressing a particular theme—for example, force preparation; intelligence, surveillance and reconnaissance (ISR); or secure air lines of communication.

4.15 Additionally, new DP may have to be created as a result of closer scrutiny of the designed LOO, commander's themes and associated tasks which were not obvious during earlier planning work. This might be due to more detail from the JIPOE and intelligence collection products, and the commander's operational approach and schematic being refined. It may be that a new DP is necessary to reach the objective of one particular COA due to a new essential task specific to that

theme. If planning staff believe that achieving such a condition is worthy of it being a DP rather than support another DP, consideration should also be given to including it on the primary operational design LOO schematic. Any alteration of the design schematic with respect to DP should be the exception and not the rule.

4.16 Furthermore, DP along the LOO of each COA may require sequencing in a different order from the initial design. This includes the option of placing new and/or extant DP on branches or sequels. In sum, each COA should use all of the design schematic DP, but certain COA may rearrange the sequence, and employ new DP along a LOO, particularly if a branch or sequel is required. For more information about DP, see MA sub-step 8: Determine Decisive Points in Chapter 3.

### **Considerations when creating courses of action**

4.17 COA should be refined to a manageable number that achieve the desired end state and have sufficient detail to allow subsequent analysis before selecting the concept of operations. Thematic differences that result in separate COA will generally be distinguishable by their focus on, or application of:

- a. FE composition
- b. command and control (C2)
- c. branches and sequels
- d. time constraints and necessity to expedite force presence
- e. capability to graduate a military response
- f. economy of effort and overall cost benefit
- g. exploitation of domains
- h. degrees of operational risk
- i. geospatial distribution of tasks and synchronisation matrix
- j. sequencing
- k. phasing
- l. main effort (ME) by phase
- m. joint force area of operations (JFAO)
- n. integration of supporting functions
- o. culminating point
- p. operational pauses
- q. operational reach.



4.18 **Force element composition.** The commander's themes are likely to demand that the objective or desired end state will be achieved using different FE compositions that still produce the DP effect and complement thematic guidance. Consequently, indicative FE compositions can be considered at the outset of COA Development, mindful of any strategic direction regarding force assignment and warning orders issued in earlier planning. The possible FE required to achieve each DP are outlined in the DP matrices. This will identify to the commander any shortfalls that exist and highlight critical elements, timings and reserves. C2 arrangements can then be implemented, and refined if necessary.

4.19 **Command and control.** C2 arrangements should be determined for the entire COA, including points at which the arrangements change. Critical C2 components should also be determined since they may impact operational risk. In all circumstances the commander requires communication and information systems to discharge command responsibilities at all levels and to direct and monitor the execution of operations. The choice of headquarters (HQ) location should be made to optimise the commander's ability to influence the operation as it develops, while being mindful of possible vulnerabilities.

4.20 Designated states of command determine the C2 authority a commander has over assigned FE, limitations on how the commander may employ those FE, how long the FE will remain under extant C2 arrangements, and whether the commander can further assign C2 of FE to a subordinate commander or not. For further information about states of command see [Australian Defence Doctrine Publication \(ADDP\) 00.1—Command and Control](#).

4.21 **Branches and sequels.** The sequence of events leading to the desired end state is not rigid. A commander needs the flexibility to change the order in which activities occur, to rebalance across LOO and to shift the main effort. During planning this flexibility is aided by the identification and preparation of branches and sequels, both initiated by a CDP.

4.22 **Commander's decision point.** A CDP is a point along a LOO at which the commander must make a decision whether to continue to progress along the original LOO, or to deviate onto a branch or a sequel. A CDP identifies the options available to the commander and conditions that need to be set for each option. A CDP is represented on a LOO as a numbered star.

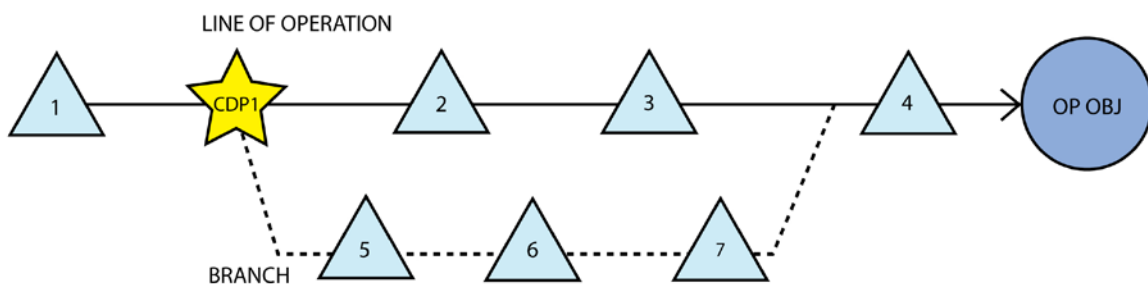
4.23 A CDP always precedes a branch or sequel; it may occur before transitioning to a new phase, before an operational pause or between DP. The conditions may describe the threat position, own force situation, the OE or all three. The articulation of CDP also assists the decision-making required to synchronise all capabilities of the joint force focusing effort on achieving the desired end state. As a result, appropriate ISR capabilities are positioned to report on NAI and TAI, which inform on the adversary's posture captured in CDP matrices.

4.24 The matrix is a vital component of the commander's decision-making capability and is closely linked to CCIR which, in part, will confirm the adversary's posture and assist in clarifying decision options in the matrix. It informs and draws from the draft collection plan, since it is the accumulation and interpretation of a variety of indicators and warnings that will allow the commander to judge whether to

continue down a LOO, branch to other DP, or enact an operational pause until the desired operational conditions are in place. An example CDP matrix is in Annex 4C.

**4.25 Branches.** A branch is an option for a particular phase within a LOO, designed to anticipate DP and provide the commander with sufficient flexibility to maintain the initiative. It involves a deviation from, then return to, the same LOO. The addition of a branch creates flexibility within a plan by anticipating situations that could require other responses than the main LOO provides. Such situations may result from adversary action, availability of friendly capabilities or resources, or a change to conditions within the OE. The relationship between a LOO and a branch is graphically represented in Figure 4.1.

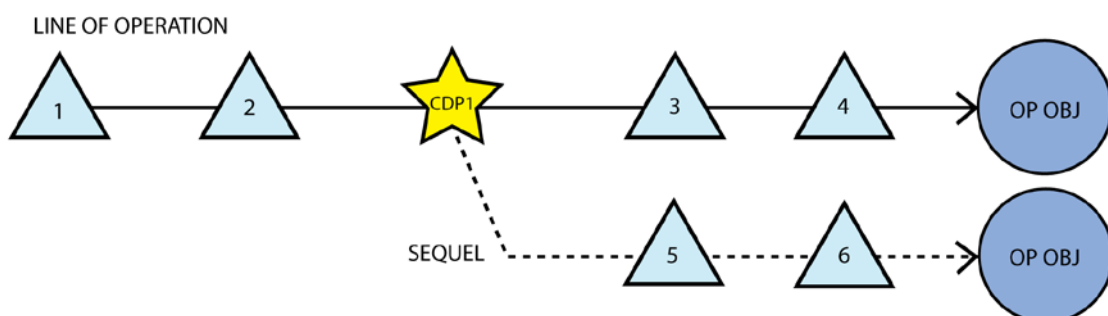
**Figure 4.1: A line of operation showing a branch**



**4.26 Sequels.** A sequel is significant shift in focus and identifies a new LOO in a campaign or operation plan. Planning a sequel would likely be required because there may be an alternate objective that the commander wishes to account for that would become clear once a CDP matrix described the conditions and options. Alternatively, a sequel may be required after execution and, as the plan unfolds, a significant shift in operational direction has occurred that, after reframing the situation, results in a new objective and LOO. This new direction could be initiated by fresh strategic guidance, or by events in the JFAO that have affected the desired end state.

**4.27** Reframing may produce a new operational objective that cannot be achieved by the current LOO, and so a CDP matrix is created to frame the conditions necessary to diverge from the main LOO and on to the sequel, with the probability that fresh DP will need to be constructed. The relationship between a LOO and a sequel is graphically represented in Figure 4.2, whereby the sequel leads to achieving a different operational objective to that of the original LOO.

**Figure 4.2: A line of operation showing a sequel**



4.28 **Time constraints and necessity to expedite force presence.** There may be time constraints imposed by strategic direction that require a force presence to be transiting to, or in, an area of operations. Notwithstanding, the commander and planning staff may have recognised the requirement for a force presence within specific time parameters in designing the LOO during MA, and this is likely to have informed the commander's thematic guidance delivered at the close of MA.

4.29 **Capability to graduate a military response.** Alternative COA may be required depending on the need and capability to increase or decrease a military response given fluctuating circumstances. Strategic guidance will be important in assisting a commander gauge whether certain conditions (diplomatic, for example) are necessary before a military option is required, or whether specific military postures can contribute to non-military objectives.

4.30 **Economy of effort and overall cost benefit.** Economy of effort and the reduction of cost in fiscal and human terms are vital parameters that can affect the scope of each COA being planned. These factors are often linked to risk. Mitigation factors can be articulated during risk analysis to reduce overall costs and promote operational economy of effort. One COA may incur greater risk to cost and effort, which will need due consideration as planning unfolds.

4.31 **Exploitation of domains.** COA may be distinguished by their requirement to achieve the objective through the exploitation of certain domains. One COA may lend itself to the air domain, another to the land and human domains. More information on domains can be found in [ADDP 3.0—Campaigns and Operations](#).

4.32 **Degrees of operational risk.** Having identified threats, hazards and risks during MA, the DP matrices can be refined to articulate mitigation and control measures that can be analysed during war gaming to leave residual risk. To allow the commander to maximise operational potential, the operational risk management matrix within each DP matrix is developed further using intuition and experience. In doing so, staff must consider the various risks attached to apportioning capabilities and rates of effort to achieve objectives and tasks.

4.33 **Geospatial distribution of tasks and synchronisation matrix.** Tasks should be allocated by space using deep, close and rear areas of the OE, but other divisions may be used such as the six domains explained in ADDP 3.0. Deep is that area in which the threat draws its strength or has its main resource base; close is the area in which the manoeuvre and contact occurs; and, rear is the area from which the friendly force is resourced. Spatial delineation helps break up the OE, and allocation of tasks and actions to geographic areas is captured separately in the synchronisation matrix. This document is the master matrix used during war gaming and displays the accumulated contents of all DP matrices combined with the geospatial perspective. See Annex 4B for an example of a simple synchronisation matrix.

4.34 **Sequencing.** There are several aspects of sequencing to be considered during COA Development. These include the following:

- a. **Synchronisation.** Synchronisation allows for the execution of multiple related and mutually supporting actions, possibly across several domains and in different locations, timed to maximise their combined intended effects.

- b. **Simultaneity and depth.** Simultaneity aims to paralyse the adversary command and control system by presenting it with so many simultaneous attacks or threats that it is unable to identify or implement a coherent response. Simultaneity has the most impact when it combines actions across all domains and reaches deep into the adversary's operational and strategic capabilities. Fully developed simultaneity denies an adversary force strategic direction, situational understanding, command and control, and support and manoeuvre. It is not an end in itself but, rather, lays a force open to the targeting of its CF.
- c. **Tempo.** Tempo is the rate of activity relative to the adversary, and comprises speed of adapting to changing circumstances, speed of decision, speed of execution, and speed of transition from one operation or action to the next. The belligerent that is able to consistently maintain higher tempo than its adversary tends to seize and retain the initiative and develop the campaign or operation on its own terms.

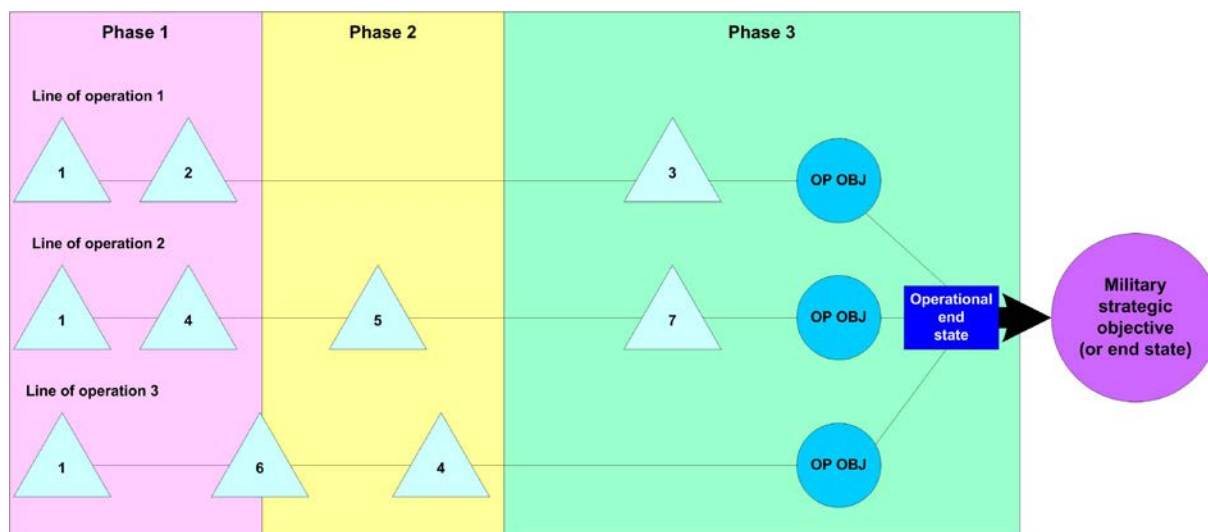
4.35 **Phasing.** DP, and their associated tasks, are allocated and sequenced in time. Phasing is required when there is a major change to command and control (C2) arrangements or resources, when certain DPs are achieved, or upon completion of a particular task or group of tasks.

4.36 Plans will normally contain lead-up phases (often called phase 0 or phase 1) prior to engaging the adversary. These lead-up phases are used to shape the OE and prepare/position forces to commence the decisive phase(s) of a manoeuvre operation. Termination and redeployment actions should also be contained in a phased COA.

4.37 Phases show where an operation cannot be further developed until set DP and activities are complete or a task organisation change is required. Phasing may also be required when insufficient forces are available to conduct all the required tasks at once. Sequencing a campaign or operation in phases helps both commanders and subordinates to focus on effects and understand how they can contribute to achieving the commander's intent. During operational planning, commanders should determine the conditions that must be met before transitioning from one phase to the next can occur. The aim in phasing an operation is to maintain continuity and tempo.

4.38 Figure 4.3 shows an operation divided into phases. Note that the line between phase 1 and phase 2 runs through DP 6. This indicates that achieving this DP is the point at which the operation will commence phase 2. The line between phase 2 and phase 3 does not intersect with any DP, indicating that phase 3 commences after all DP in phase 2 have been achieved (the time for this will need to be specified within the plan).

Figure 4.3: Phases in a course of action



4.39 **Main effort by phase.** Each phase should be identified by its ME. This is what the commander thinks is going to prove decisive and provides a focus for activities that are considered as crucial to success of the campaign, operation or phase. Supporting effort(s) should also be identified—for example, the main effort for one phase might be ISR and a supporting effort might be logistic support to a forward operating base from which ISR is conducted.

4.40 **Joint force area of operations.** Discrete COA may be differentiated by alternative boundaries of the JFAO that still achieve the desired end state. Again, in consultation with other joint staff functions, and higher level stakeholders, such as other government departments and/or multinational partners, dimensions of the JFAO may be a distinguishing element between COA. The choice of most appropriate JFAO to achieve the end state will allow the effective cueing and employment of all units, weapons and systems, balanced with sufficient C2 to maintain the optimum span of control to carry out the mission.

4.41 **Integration of supporting functions.** At the operational level, a range of supporting functions are central to achieving the mission. Each of these supporting functions generates planning inputs to, and requires direction from, the JPG. The factors considered by the supporting functions will inform any COA being developed. In each case, the supporting functions will produce a range of options with which to support the plan effectively. Those supporting functions likely to contribute to the plan include:

- a. intelligence, including collection operations
- b. legal, including rules of engagement
- c. sustainment, including personnel, logistics and health
- d. communication and information systems management
- e. targeting and information activities

- f. force protection and operations security, including identification of improvised or non-conventional explosive, chemical, biological, radiation and nuclear threats.

4.42 **Culminating point.** A culminating point is the point in time and space beyond which a force lacks the means to achieve an objective or the desired end state. For example, this may be due to reduced combat power, attrition, logistics, or dwindling national support. Obviously, a successful campaign or operation should achieve its objectives before reaching its culminating point. During planning for each COA, staff should ensure that the plan can be implemented without culminating; this should become much clearer after COA Analysis is complete.

4.43 **Operational pauses.** Operational pauses are sometimes unavoidable. As a campaign or operation progresses, logistics demands, the desire to wait for more favourable circumstances within the OE (articulated in CDP matrices), the need to reconstitute forces or a shift in the main effort may impose a need for an operational pause in order to avoid reaching a culminating point. However, operational pauses risk surrendering the initiative to the adversary—as friendly forces recover and reset so does the adversary—and so are only justifiable when there are no alternatives. As far as possible, planning should aim for the sustainment of superior tempo until the conclusion of an operation. This will have an impact on phasing.

4.44 **Operational reach.** Operational reach is linked to an FE's culminating point and is therefore a form of risk to the success of the campaign or operation. Although operational reach may be limited by the physical capability of platforms, it can be extended by the forward positioning of capabilities and resources. When developing LOO, planners should ensure that the FE allocated to a LOO have the operational reach to achieve their objectives and transition to the next phase of the campaign or operation.

4.45 During MA, limitations, in terms of constraints and restrictions, were considered. Immutable, physical limitations on the operation such as likely weather patterns, payload and range of aircraft, runway pavement classifications, or availability of commercial sealift, for example, are not strictly part of that intellectual exercise. However, they can be more closely analysed now for specific impact on each COA as the detail becomes apparent. Certain COA may be limited in action and flexibility due to their demand for resources that have fixed parameters or availability.

## Assessment

4.46 Coherent assessment strategies will evolve as planning matures and the COA take detailed shape. They can be captured on the DP matrix, alongside risk factors, and will need to support those specific factors that differentiate each COA. Assessment criteria can begin to be framed during MA as the LOO design schematic is created, with more detailed measures captured as DP matrices indicate likely FE, tasks and activities.



## HYPOTHETICAL EXAMPLE

## XV. DEVELOP DETAILED COURSES OF ACTION

Based on the MA brief, the commander had given additional guidance to the planning team. This guidance focused them on developing at least three COA based on the following themes:

- a 'land forces heavy' theme, in which deployment of extensive land forces would be the main focus
- a 'land forces light' theme, in which limited deployment of land forces would be supplemented by extensive use of air and maritime power
- an 'offshore' theme, in which a large amphibious force would be deployed to waters off of the coast of Jimalia, but forces would not be landed unless deterrence of Ajaxium forces had failed.

In addition to these three themes, several common outcomes were to be developed within each COA:

- successful conduct of a non-combatant evacuation operation (NEO)
- assistance in delivering humanitarian assistance if requested by another agency within the JFAO
- conduct of comprehensive information activities to deter Ajaxium from invading Jimalia.

(Note: In accordance with the commander's thematic guidance further COA may be developed based on the various factors that complement each of the three themes (see paragraphs 4.11 and 4.12). For example, within the 'land force heavy' theme multiple COA may be developed by using different sequencing, phasing, tasks and force composition. Development of additional COA within each theme is viable when enough planning time is available and is not further elaborated in this example).

The J5 divided the JPG into six groups, with each group to develop a COA that corresponded to a specific theme. Liaison between the three groups working on the three different COA and the other three groups that were working on the common themes across all three COA was key to ensuring the development of three workable plans; planning staff developing the three common outcomes were required to build flexibility into their own aspects of the operation so that they could fit within each of the three broader COA.

As each of the three COA—land force heavy; land force light; and offshore—were developed, the following factors cemented their discrete nature. (Note: there is always the likelihood that these factors will result in several distinguishable COA for each theme under development. For the sake of simplicity, the example will not create a number of COA clustered under each theme).

- **Identification of different deep, close and rear areas.** For example, the offshore option had a close area that extended further out to sea than the other two COA.



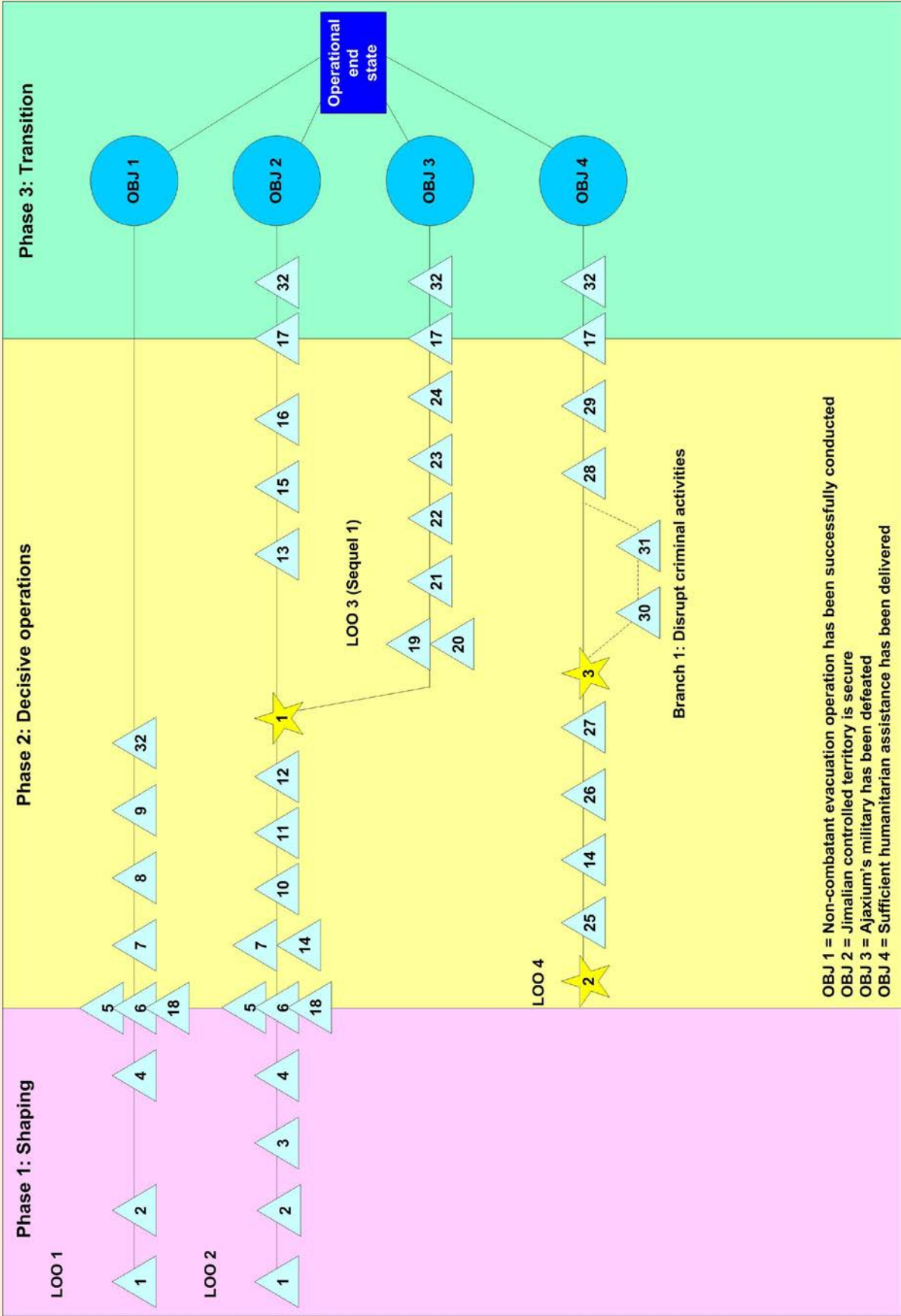
- **Identification of different joint force areas of operation.** Each COA's JFAO was unique because it matched the theme for that COA. Because the land force light COA relied more heavily on air power than the others, the JFAO extended to the airspace of the entire deep area (which was assessed to be the whole of Ajaxium). The offshore COA JFAO extended furthest out to sea, while the land force heavy COA had the smallest JFAO, centred on the Jimalian controlled part of the disputed area.
- **Identification of different phases.** Although phases were similar (all COA had some variation of a phase encompassing preliminary actions and another encompassing redeployment at the conclusion of hostilities), they were nevertheless varied based on the theme of each COA. For example, the offshore COA had four phases, phase 2 involving deployment of the amphibious task group to Jimalian waters, conduct of demonstrations and extensive information activities and phase 3 involving the conduct of a lodgement and land operations in the case that deterrence failed. For the other COA these actions were all included in a single phase and it was expected they would occur in a different order within that phase.
- **Identification of different force element requirements.** Each COA needed FE to suit its theme. For example, the land force heavy option had far more land-based FE than either of the other two COA, and also had a much higher percentage of land forces than either maritime or air FE. The other two COA had a more even balance of FE.
- **Revision of COG analysis to suit each COA.** The friendly force COG analysis was refined for each COA because each emphasised the importance of a different FE. For the land force heavy option, armoured forces emerged as the COG; for the land force light option, fighter aircraft were selected; and for the offshore option, amphibious ships. DP related to protecting own COG and defeating the adversary's COG were subsequently amended to reflect the updated COG analysis.
- **Identification of different main efforts.** In addition to different FE providing the designated ME for each COA, a further differentiation was that in some COA the ME changed between phases, in others it did not. For example, in the land force heavy COA, mechanised forces provided the ME for the entire operation. In the offshore COA the amphibious task group executed the ME for phase 2, but land-based FE then dictated the ME once a lodgement had commenced.
- **Sequencing was differentiated.** Differentiation of sequencing was a natural by-product of the use of different FE and the selection of different JFAO—without a corresponding difference in sequencing, each COA would not have been workable.
- **Integration of supporting functions was differentiated.** Integration of support functions happened across a range of aspects for each COA. For example, in the land force light and offshore COA, collection operations were more heavily dependent on aerial sensors, such as reconnaissance and surveillance aircraft, whereas the land force heavy COA emphasised a

balance between these and collection of human intelligence by land FE.

- **Revision of the lines of operation and development of different branches and sequels.** The group developing each COA revised the LOO diagram designed during MA (this diagram is included in Part XIII of this hypothetical example). This revision led to two key differences between each COA:
  - – First, the position of particular DP along each LOO varied according to the phase within each COA.
    - (1) For example, for the land force heavy COA the sequence of DP on the LOO corresponding to the objective ‘Jimalian controlled territory is secure’ remained unchanged from the initial LOO diagram, but some DP were moved forward or backwards along the LOO to correspond to their temporal position within the respective phases of the operation.
    - (2) The offshore COA, on the other hand, removed DP 5, 6, 18, 7, 10 and 11 from this LOO entirely and derived a new DP in their place: ‘conduct of information activities commenced no later than D-1’. For this COA, the LOO corresponding to the objective ‘Ajaxium’s military has been defeated’ commenced with a CDP (if deterrence failed) and did not begin until phase 3, when the lodgement was to occur.
  - For the land force heavy COA, the early presence of AUS land forces in Jimalia negated the need for any of these alterations.
  - – Second, the position of branches and sequels was different.
    - (1) For example, coordinating closely with the three groups of planners developing COA aligned with the three generic themes, the group developing the land force heavy COA identified a sequel, a branch and three CDP for their own COA. It was determined that the LOO corresponding to the objective ‘Ajaxium’s military has been defeated’ would become a sequel to the LOO corresponding to the objective ‘Jimalian territory is secure’. The CDP corresponding to this sequel would be triggered by an assessment that deterrence of Ajaxium had failed. The most likely indicator of this would be that Ajaxium’s military crossed the makeshift border within the disputed area.

A second CDP was established at the beginning of the LOO corresponding to the objective ‘sufficient humanitarian assistance has been delivered’. This CDP would initiate activities on that LOO, and its trigger would either be receipt of a request from another AUS government department for assistance, or the determination that military activities were worsening the existing humanitarian problems in the area. It was also determined that actions against the criminal network would become a branch within this LOO and a third CDP would be triggered if, delivery of humanitarian assistance having commenced, confirmation was subsequently received that activities of the criminal organisation were interfering with efforts on this LOO. In this case, the commander would switch to the branch and commence counter-criminal organisation activities.

Lines of operation diagram corresponding to the 'land force heavy' course of action



The final COA diagram corresponding to the land force heavy option is shown above. This schematic incorporates the identified branch and sequel, the identified CDP and the three phases for this COA. DP have been adjusted forwards or backwards along each of the generic LOO identified during MA so that they now correspond temporally across LOO if the diagram is examined horizontally from left to right.

The revision of how DP sat on each COA LOO and the differentiation between branches and sequels was a key area in which coordination was required between the planning groups developing the three primary COA and the other three planning groups developing overarching-theme related COA. This is because each of the overarching-themes were related to a single LOO from the primary LOO schematic that was the basis for developing each of the three COA. Once the revision of each LOO diagram was completed, the coordination between COA-specific themes and general themes was able to be finalised and each of the three COA was enhanced by the incorporation of actions related to each of the common outcomes.

Once this coordination was completed and each of the enhanced COA had been fully developed, the J5 decided that they were ready to be tested.

### SUB-STEP THREE: TEST COURSES OF ACTION

4.47 The principal test of a COA is whether it meets the commander's intent and mission. Once developed, COA should be tested for:

- a. **Feasibility.** For a COA to be feasible, planners must be able to answer 'yes' to the following questions.
  - (1) **Time.** Is there sufficient time to execute the concept as envisioned?
  - (2) **Space.** Is there adequate ground and/or air space to conduct the operation?
  - (3) **Means.** Are indicative forces capable of deploying and sufficient to conduct the operation?
  - (4) **Limitations.** Does the COA take into account all the constraints and restrictions identified during MA?
- b. **Acceptability.** The COA is assessed for acceptability by comparing the probable risk versus the probable outcome of the COA in fulfilling the superior commander's intent. The overall risk includes the operations security risk. If the probable risk is too great in light of the desired outcome, the plan is unlikely to be acceptable.
- c. **Suitability.** For a COA to be suitable, planners must be able to answer 'yes' to the following questions.
  - (1) Has the superior commander's intent been met?
  - (2) Have all tasks been accomplished?
  - (3) Does the COA conform to commander's guidance and relevant theme?

- (4) Is this COA likely to avoid culminating and succeed in reaching the desired end state?
- d. **Sustainability.** The COA is assessed for sustainability during each phase by deep, close and rear areas. Have the planning staff allowed enough time for forces to prepare, deploy and reconstitute for subsequent operations? Is the logistics support for this COA realistic, and are costs reasonable or within any guidelines?
- e. **Distinguishability.** The COA is assessed on its uniqueness in comparison with other COA. Each COA should be a viable alternative and substantially different from other COA.

4.48 Planning staff should not immediately discount or discard COA that do not meet the necessary criteria. Instead, these COA should be further assessed to determine whether or not they could be developed as deception plans, or stored for possible use in future circumstances.

### HYPOTHETICAL EXAMPLE

#### XVI. TEST COURSES OF ACTION

The J5 worked with each of the three groups planning the COA—labelled ‘land force heavy’, ‘land force light’ and ‘offshore’ COA, respectively. Each COA was subjected to a series of questions aligning with the tests identified above, and it was determined that each met all the required criteria to be considered as feasible, acceptable, suitable, sustainable and distinguishable. The testing at this time was conducted quickly and only looked for major problems. The J5 and staff knew that more comprehensive analysis would be conducted during war gaming as a part of COA Analysis. In accordance with the planning timeline established in the Scoping sub-step of Scoping and Framing, testing the COA concluded the second day of planning.

### COURSE OF ACTION DEVELOPMENT BRIEF

4.49 COA Development concludes with a briefing to the commander and/or JPG, which details all COA developed. The commander assesses which COA are to be further developed through war gaming and provides any further guidance on modifications to the selected COA. The number of COA taken forward will often depend on available time for the war game. Subsequent to any briefing, formal staff work may be developed based on COA Development products, and disseminated to subordinate HQ to enable parallel and sequential planning.

4.50 An example of a COA Development brief is in Annex 4D.

#### Annexes:

- 4A Course of Action Development—aide-memoire
- 4B Simple synchronisation matrix example
- 4C Commander’s decision point matrix
- 4D Suggested Course of Action Development brief format

## ANNEX 4A

## COURSE OF ACTION DEVELOPMENT—AIDE-MEMOIRE

Table 4A.1: Course of Action Development—aide-memoire

INPUTS	SUB-STEPS	OUTPUTS
Scoping and Framing, MA, JIPOE steps three and four	<ol style="list-style-type: none"> <li>1. <b>Review commander's guidance and current situation:</b> <ol style="list-style-type: none"> <li>a. review completed planning, reframe if the situation has changed.</li> <li>b. is the thematic guidance sufficiently coherent to continue planning COA?</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• Confirm LOO schematic relates to superior commander's intent and mission</li> </ul>
As above	<ol style="list-style-type: none"> <li>2. <b>Develop detailed COA.</b> Each COA is thematically distinguishable due to:             <ol style="list-style-type: none"> <li>a. FE composition</li> <li>b. command and control</li> <li>c. branches and sequels</li> <li>d. time constraints and necessity to expedite force presence</li> <li>e. capability to graduate a military response</li> <li>f. economy of effort and overall cost benefit</li> <li>g. exploitation of domains</li> <li>h. degrees of operational risk</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• Detailed COA with DP matrices</li> <li>• Outline synchronisation matrices by phase</li> <li>• CDP, branches and sequels identified</li> </ul>

INPUTS	SUB-STEPS	OUTPUTS
	<ul style="list-style-type: none"> <li>i. geospatial distribution of tasks and synchronisation matrix</li> <li>j. sequencing</li> <li>k. phasing</li> <li>l. main effort by phase</li> <li>m. joint force area of operations</li> <li>n. integration of supporting functions</li> <li>o. culminating point</li> <li>p. operational pauses</li> <li>q. operational reach.</li> </ul>	
As above	<ul style="list-style-type: none"> <li>3. <b>Test COA for:</b> <ul style="list-style-type: none"> <li>a. feasibility</li> <li>b. acceptability</li> <li>c. suitability</li> <li>d. sustainability</li> <li>e. distinguishability.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• A number of valid COA ready for analysis</li> </ul>



## ANNEX 4B

## SIMPLE SYNCHRONISATION MATRIX EXAMPLE

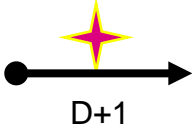
Table 4B.1: Example of a simple synchronisation matrix (template)

<b>Friendly action</b>	Phase		
	Main effort		
<b>Adversary action</b>	Phase		
	Main effort		
<b>Time</b>			<b>Indicative forces required (see decisive point (DP) matrices)</b>
<b>Tasks</b>	Specified (S)	Specified, implied and essential tasks (see Mission Analysis outputs)	
	Implied (I)		
	Essential (E)	Other tasks identified in DP matrices	
	Deep	Actions (see DP matrices)	
	Close	Actions (see DP matrices)	
	Rear	Actions (see DP matrices)	
<b>Sustainability</b>			
<b>Deductions</b>			

**Note:**

- (a). Adversary action (phase and main effort) content is added in the next Joint Military Appreciation Process step (Course of Action (COA) Analysis).

**Table 4B.2: Example of a simple synchronisation matrix (completed)**

<b>Friendly action</b>	Phase	Shape	
	Main effort	Strike/surveillance/early warning	
<b>Adversary action</b>	Phase	Shape	
	Main effort	Air defence	
<b>Time</b>			<b>Indicative forces required (see DP matrices)</b>
<b>Tasks</b>	Specified (S)	VAP in place (S, E) Surveillance of Country X waters (I)	VAP FE, AP3-C, FFG
	Implied (I)		
	Essential (E)		
	Deep	Strike Country X TAI1, SF insertion NAI1,  AEW radar NAI2	F/A-18, F/A-18F, SF, ACPB
	Close	SF insertion TI NAI 2, TI NAI3 subs LOC NAI4	SF, C-130, SSG
	Rear	VAP and ATLS prep (mainland AUS)	GBAD, F/A-18
<b>Sustainability</b>		High usage of PGM	
<b>Deductions</b>		Gained air superiority— DP 1	

**Note:**

- (b). In reality, the synchronisation matrices will be populated by very detailed DP matrices and so become much more complicated than this indicative example. The plans staff produce a separate synchronisation matrix for each phase of each friendly COA. The J2 staff produce a separate synchronisation matrix for each phase of each adversary COA.

## ANNEX 4C

## COMMANDER'S DECISION POINT MATRIX

Table 4C.1: Example of a commander's decision point matrix

CDP	Time	Adversary condition	Friendly force condition	Commander's options
1	D+1 to D+6	<p>Country X deterred from early lodgement in Country Y</p> <p>SSG located and fixed</p> <p>Limited CAP capability in vicinity of (IVO) Country Y – unable to achieve local air superiority</p> <p>NTG/ATG not transitioning for joint exercise to offensive operations</p> <p>ABN force deployment postponed/cancelled</p> <p>Fishing fleet located and fixed</p>	<p>Forward mounting base operational</p> <p>NTG IVO Country Y</p> <p>SSG IVO Country Y</p> <p>ISR assets on Country X ports and airfields (TAI 3/3A &amp; 4/4A)</p> <p>2x ABN Coy Gp/ SASR elements plus supporting elements at a minimum of 24 hrs NTM</p> <p>1, 10, 11, 33, 37, 75 and 77 SQNs operationally ready</p> <p>Aircraft &amp; crews plus logistics support fully operational for protracted fighter/ strike operations</p> <p>MCM/ASW assets in Country Y and on approaches</p>	<p><b>Option 1</b></p> <p>Progress with COA</p> <p>Reinforce maritime/ air presence</p> <p><b>Option 2</b></p> <p>Implement branch</p> <p>Pre-emptive airborne lodgement in Country Y</p> <p>Reinforce and defend</p> <p><b>Option 3</b></p> <p>Operational pause</p> <p>Force preparations to set conditions for CDP 2 (strike)</p>

## ANNEX 4D

## SUGGESTED COURSE OF ACTION DEVELOPMENT BRIEF FORMAT

Table 4D.1: Suggested Course of Action Development brief format

LEAD	SUBJECT
COS/J5	Purpose of brief and timing
COS/J5	Situation review
J2	Changes (only) to current situation, environment effects and JIPOE
J5/J3/J2	<p><b>COA brief</b></p> <p>Outline the range of COA options and associated DP then, for each detailed COA, brief:</p> <ul style="list-style-type: none"> <li>• outline COA objective and supporting diagram</li> <li>• detailed COA statement</li> <li>• adversary COA exploited, countered or risk managed</li> <li>• effects achieved</li> <li>• main effort</li> <li>• CDP, branches and sequels</li> <li>• risk deductions and risk statement</li> <li>• COA integration and coordination (synchronisation)</li> <li>• time and phasing</li> <li>• tasks within JFAO deep, close, rear and/or domains</li> <li>• supporting functions (eg legal, targeting and IO)</li> <li>• COA force assignment and C2 structure.</li> </ul>
J3	Joint or environment/component operations considerations
J2	Intelligence key supporting concepts

LEAD	SUBJECT
J1	Personnel and health key supporting concepts
J4	Logistic support key supporting concepts
J6	<p>Communication and information systems key supporting concepts:</p> <ul style="list-style-type: none"> <li>operational environment analysis on CIS</li> <li>adversary analysis (nodes, C2, information flows, mostly likely and most dangerous COA, CIS capabilities, critical nodes, EMS usage)</li> <li>friendly force analysis (C2, possible nodes and information flows, available CIS assets)</li> <li>presentation of COA (outline communications diagrams, EW concept, services to be provided, locations, resources required, mission critical paths and support to decisive points, C2)</li> <li>CIS shortfalls</li> </ul>
Specialist staff (as required)	Specific support function staff as required. Note: the command and staff organisation of the HQ will dictate how the supporting functions are managed and hence how the functions are briefed. May include external liaison officers from multinational partners and other government departments.
Commander	Select COA for analysis

## CHAPTER 5

### STEP FOUR: COURSE OF ACTION ANALYSIS

#### Executive summary

- This step allows planners to identify the advantages and disadvantages of each course of action.
- Course of Action Analysis involves two sub-steps:
  - prepare to conduct war game
  - conduct war game.
- The key to successful Course of Action Analysis is the war game process that validates each course of action to determine workability, strengths and weaknesses.

#### INTRODUCTION

5.1 Course of Action (COA) Analysis is the fourth planning step. It analyses friendly COA against adversary COA or threat scenarios using a selected wargaming method. A war game simulates, by whatever means, a military operation bringing together two or more actors (opposed or not) to study the consequences of their interaction. The object is to expose flaws in the friendly COA particularly when pitched against adversary COA, so as to refine and improve the friendly COA. The military experience and operational art of commanders and staff are paramount to validate and verify each friendly COA against the adversary's most likely and most dangerous COA, or any non-adversarial threat scenarios.

5.2 **Inputs.** Inputs are the COA that were developed during COA Development plus additional input from the Joint Intelligence Preparation of the Operational Environment (JIPOE).

5.3 **Sub-steps.** There are two sub-steps in COA Analysis:

- a. prepare to conduct war game, including:
  - (1) determine participants
  - (2) staff organisation
  - (3) orchestration
  - (4) determine war game start state
  - (5) select war game method
  - (6) select war game recording method.
- b. conduct war game.

5.4 **Outputs.** At the conclusion of this step each COA has been waged, the results have been recorded and actioned, and as a result each COA has been improved. Specific outputs of this step include:

- a. robust, modified COAs
- b. updated synchronisation matrices and other supporting matrices
- c. refined lists of named areas of interest (NAI) and target areas of interest (TAI)
- d. a COA Analysis brief.

5.5 **Aide-memoire.** A COA Analysis aide-memoire is in Annex 5A.

### **Joint Intelligence Preparation of the Operational Environment input to Course of Action Analysis**

5.6 All steps of the JIPOE, including step four (determine threat COA/scenario), must be completed and available prior to COA Analysis. The intent of COA Analysis is to compare, usually through wargaming, all threat COA/scenarios against all friendly COA, using as many combinations as time will allow. The intent is to expose flaws in the friendly COA against threat COA/scenario, so as to ultimately improve the friendly COA. Perhaps obvious, but it is worth noting that COA Analysis does not amend or improve the adversary's anticipated COA.

5.7 J2 staff contribute to COA Analysis in the roles of friendly force senior intelligence officer, collection manager (CM), counterintelligence (CI) officer and threat intelligence officer to model the threat COA/scenario. If intelligence staff numbers are not sufficient to provide personnel for all four roles, the friendly and threat intelligence officer roles should be filled first.

5.8 The friendly force senior intelligence officer's responsibility during COA Analysis is to advise the joint planning group (JPG) of the intelligence-related shortfalls in any friendly COA, to recommend improvements to the plan and to identify risks associated with the plan. The CM is responsible for integrating friendly intelligence collection (IC) into the friendly COA. The CI officer advises on threat IC to validate operations security (opsec) measures, including force protection-related risks. The person acting in the role of the threat intelligence officer is normally responsible for outlining the threat COA/scenario during the analysis.

5.9 Appreciating that any competent adversary will respond to friendly operations and seek to thwart them, J2 staff are expected to develop indicator lists and warning matrices that assist in suggesting that a specific threat action is underway or about to commence. COA Analysis allows the JPG to test and improve indications and warnings, based on the outcome and, if necessary, to develop or augment contingency plans, branches and sequels.

5.10 CI inputs to COA Analysis enable the commander to protect the friendly plan and enhance opsec processes. The identification of threat collection capabilities and operations enables the staff to recognise where, when and why indicators of friendly force activity may be revealed. Key indicators of friendly disposition, capability or intent can be hidden by destroying or deceiving threat collection, by amending the



plan, or may require the commander to accept the risk of loss of security. Additional commander's critical information requirements (CCIR) may also be identified at this point.

## **Wargaming**

5.11 A war game is the tool that facilitates meaningful analysis of each COA. It could be as simple as a conceptual discussion in response to a series of 'what if' questions, or it could involve a complex, long-term computer simulation activity, testing new theories, technologies and doctrine. However simple or complex, successful wargaming requires a number of key ingredients:

- a. an agreed start state
- b. the portrayal of a sequence of events towards a desired end state
- c. one or more friendly COA
- d. adversary COA/threat scenarios developed during JIPOE
- e. evaluation criteria
- f. a method of recording deductions and adjustments.

5.12 The process, rules and assessment criteria should be consistent throughout COA Analysis. Furthermore, staff should understand their war game responsibilities and remain objective.

5.13 The purpose of wargaming is to:

- a. identify the advantages and disadvantages of each friendly COA
- b. assist the commander to make decisions based on a judgement of defined and acceptable risk
- c. synchronise friendly force activities to achieve the superior commander's intent
- d. enhance and improve friendly force COA.

5.14 Preferably, each COA should be wargamed through to the intended end state. The more time and detail applied, the more useful the results. Normally there will not be enough time to conduct in-depth wargaming for more than two or three friendly COA, against the adversary COA or threat scenarios. When possible, it is advisable to wargame at least each friendly COA against the adversary's most likely and most dangerous COA.

5.15 Wargaming validates potential commander's decision points (CDP) identified for each COA. Ideally, wargaming will ensure friendly CDP are timed to occur prior to relevant threat CDP to ensure the commander retains decision superiority. Wargaming may also identify additional CDP, decisive points (DP), branches and/or sequels.

5.16 As a war game progresses, the commander and staff consciously visualise the flow of tasks and actions to identify potential events and requirements that are then used to enhance and improve each COA or reveal unworkable COA. Friendly and threat actions are reviewed to ensure that the friendly COA retains the initiative, and achieves the mission and end state.

### **Operational risk**

5.17 Key events may be identified during COA Analysis that clarify and refine risks to the mission that had been analysed in early planning (see Chapter 1 and Annex 1C). Risk management may take the form of additional branches and/or sequels within the COA and designating further CDP to initiate them. During the wargaming of DP, there is an opportunity to further define the threats and hazards, expand on mitigation strategies, and articulate the residual risks remaining. This level of residual risk is a key element in considering which COA will be selected as the final concept of operations (conops) for development. The commander needs to either accept the risk or elevate it for approval by the most appropriate higher authority. It is only after COA Analysis that a complete picture of residual risk becomes apparent.

## **SUB-STEP ONE: PREPARE TO CONDUCT WAR GAME**

5.18 Successful COA Analysis requires the conduct of a war game only after careful and detailed preparation. Preparation includes determining participants, staff organisation, orchestration, determining the war game start state, method and recording method.

### **Determine participants**

5.19 The scope of COA Analysis will depend on the number of headquarters (HQ) staff involved, from the core JPG through to specialist planning groups, subordinate and superior HQ representation or specific force elements (FE). Too many participants, however, can distract from capturing essential modifications to the plan and could add unnecessary complication.<sup>51</sup>

### **Staff organisation**

5.20 Staff involved in the war game may be organised into joint or component HQ, or as decided by the commander or chief of staff (COS). The staff organisation used directly affects the way information is presented and recorded, as well as the way the friendly and threat COA are analysed.

5.21 Normally, the COS or deputy HQ commander arbitrates and the commander provides direction during the war game. The commander may participate in the entire process or only during significant events. Whoever leads, coordination and control of the war game is a key requirement for success. The initial war game may be the first

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<sup>51</sup>. The conduct of a rehearsal of concept (ROC) drill after the completion of planning but before the execution can be a way to involve personnel who were unable to participate during the war game and to identify additional aspects of the plan that can be further improved. A ROC drill should not be confused with wargaming during this planning step.

time that all the planning staff have assembled in one place, which can detract from the process, so rigorous discipline and focus is essential.

**5.22 Indicative staff responsibilities.** Indicative staff responsibilities for COA Analysis are:

- a. **Commander.** The commander should maintain an overview of all analysis. Specific tasks the commander may undertake include:
  - (1) agree and direct efforts for resolving CCIR for CDP
  - (2) direct priorities for key resources—for example, special forces or specialist health capabilities.
- b. **Chief of staff.** The COS normally coordinates all staff responsibilities and, in the absence of the commander, leads the war game and analysis. Alternatively, the J5 may lead the analysis; however, this could reduce the effectiveness of cross functional coordination. The coordinator brings the analysis together and identifies issues able to be resolved within the HQ and those requiring synchronisation based on commander's guidance or direction. Specific responsibilities may include:
  - (1) analysing the risk for each COA and refining mitigation measures
  - (2) drafting CCIR for CDP.
- c. **Operations (J3) and plans (J5) staffs.** The J3 and J5 staff execute the friendly force aspects of the war game. They contribute to the major manoeuvre and combat aspects of a COA and may involve FE operations staff to enable greater fidelity in subordinate planning, including control and coordination issues. Key tasks for the J3 and J5 staffs in the analysis are to:
  - (1) consider the manoeuvre aspects of the friendly forces allocated for each COA
  - (2) direct the recording of updates for synchronisation matrices for each COA
  - (3) refine the situation overlays including NAI, TAI, and DP and CDP matrices
  - (4) confirm CCIR that support CDP
  - (5) identify any shortfalls in rules of engagement
  - (6) assist COS to analyse the risk for each COA and refine risk mitigation measures.
- d. **Intelligence (J2) staff.** The J2 staff input includes the latest JIPOE and executing the adversary's most likely and most dangerous COA. J2 staff also identify opportunities for IC operations, including support for targeting and opsec. During the analysis, intelligence staff may also:

- (1) analyse the intelligence-related risk for each COA and determine measures for reducing risk according to adversary COA
  - (2) identify adversary actions, projected losses and provide the master target list (MTL) for each COA wargamed. In particular, a MTL sub-component, the joint target list, will be refined and prioritised into the joint prioritised target list (JPTL)
  - (3) articulate the degree of confidence in the assessment of each COA
  - (4) identify information requirements to support CDP including updating and verification of NAI and TAI
  - (5) identify risk posed by adversary intelligence and related capabilities
  - (6) identify essential elements of friendly information that may be visible to adversary IC to support opsec planning.
- e. **Personnel and logistics (J1/4) staff.** The J1/4 staff considers personnel support and sustainability issues during the analysis including:
- (1) determining casualty liability
  - (2) determining potential logistics and sustainability risks with options to ameliorate shortfalls.
- f. **Communication and information systems (J6) staff.** J6 staff consider communication and information systems (CIS) management aspects of the COA including:
- (1) identifying potential weaknesses in CIS and probable solutions
  - (2) analysing information management issues and determining any associated risks.
- g. **Specialist staff functions.** Specialist staff that may provide benefit to the outcome of the war game are identified, allocated responsibilities and provide advice about their area of subject matter expertise. Participating specialist staff may include experts in military law, gender advice, information operations, targeting, geospatial information, special operations, counter-improvised, asymmetric or unconventional threats, and advisors from other government departments.

## Orchestration

5.23 Orchestration includes briefing the staff on the scope, level of involvement and staff organisation, war game method(s), including recording method(s), to be used and a reminder of the wargaming rules. Wargaming in its simplest form involves the JPG staff performing the friendly force, adversary force and recorder roles. Specialist staff provide input based on a detailed understanding of their respective Service or specialisation.

## Determine war game start state

5.24 The war game should commence as close as possible to either a specific date/time, the start of a specific COA phase, a DP or CDP, or other suitable point. It could also commence where the friendly and adversary force plans begin to interact (ie both friendly and adversary plans need to be in the same time and space for the war game to facilitate analysis). The COS, or person responsible for the conduct of the war game, will determine this start point in consultation with J2 and J5 staff. To enable the war game to be conducted effectively, the following information is required:

- a. **Friendly forces data.** Friendly forces are considered in terms of either indicative FE or as a specific joint task force (JTF) and their disposition, readiness and capability at the war game start point assessed.
- b. **Adversary course of action and decisive points.** J2 staff outline the adversary COA developed in JIPOE step four and identify major activities and DP.
- c. **Significant factors.** Significant factors that affect COA Analysis are derived from commander's guidance and the planning that has been conducted. Significant factors may include acceptable risk, force protection and time analysis.
- d. **List commander's critical information requirements and assumptions.** List all outstanding CCIR and critical assumptions before commencing the war game.

## Select war game method

5.25 The methods for wargaming vary depending on the level of analysis required and time available. Irrespective of the war game method chosen, analysis of the entire operational environment (OE) should be conducted whenever possible. There are various methods available to conduct wargaming, which can be used separately or in combination:

- a. **Time-event.** This method is the most frequently used in operational level planning and analyses a COA using a time-driven, logical sequence of tasks, actions and DP. This method is beneficial in highlighting the sequencing of activities throughout the OE in the deep, close and rear areas at any time during the COA, allowing for ease of updating the associated synchronisation matrices.
- b. **Avenue in depth.** This method is useful for modelling the manoeuvre of a key capability or component over a number of operational phases and across a large area of the OE, focusing on specific opportunities and threats. It can also be used to focus on a single line of operation (LOO) within a multiple LOO COA. An example might be to wargame the manoeuvre of an amphibious task group from the rear to the close during the preparatory and shaping phases.
- c. **Time box.** This method focuses on one critical activity or DP of a COA. The method is useful if time is extremely limited and only the critical DP can be

wargamed. As it focuses on a single portion of the COA, it may not fully take into account those activities occurring elsewhere in the OE. Thus, one example of the practical use of this method would be to analyse in detail a single action, the success of which is vital to the achievement of a particular DP or operational objective.

- d. **Belt.** This method may be used where there are multiple actions occurring simultaneously over a wide area of the OE. It takes into account the interdependency of numerous DP to be achieved in a short space of time. This entails the analysis of a 'vertical' slice through all LOO of a COA based on related or dependent DP. An example might be to analyse major air activities across a broad front during a specific phase.

5.26 **Computer simulation.** Computer or other artificial systems may be used to support the conduct of wargaming. These systems allow for the play of any portion of a COA any number of times with different inputs as required. As most systems are time dependant, a scenario may be run at high speed several times with differing inputs to achieve a spread of results. However, the preparation of such simulation systems may be time intensive; development of the plan, construction of computer algorithms, and development of system requirements, may restrict their use to deliberate planning only.

### Select war game recording method

5.27 COA Analysis results can be recorded and displayed using a war game matrix, narrative method, the sketch note method, or a combination. It is important for the staff to identify and provide a method that suits a commander's analytical and decision-making style. Recording results ensures that information is displayed in a manner that assists during the final stage of planning, helps prepare the conops, and enhances DP, CDP and synchronisation matrices.

5.28 A description of each recording method is given below.

- a. **War game matrix.** A war game matrix is a very effective method of recording results. It is useful for capturing the time and space relationship of an operation and ensuring all elements are incorporated. The war game matrix is based on the synchronisation matrix and provides the framework for updating the synchronisation matrix. It may be organised according to JTF, component or areas—deep, close and rear—and displays the detailed coordination required for the conops.
- b. **Narrative.** The narrative method describes the operation in sentence form. It provides extensive detail and clarity, but is time consuming to design and review. It is also difficult to transfer data from the narrative to the synchronisation matrices. The narrative method is best used in deliberate planning.
- c. **Sketch note.** The sketch note method employs a sketch and brief notes outlining major activities, DP and tasks. All pertinent data for each major activity, DP and task is recorded on a war game worksheet during its conduct. This method is quick and effective, but can be cumbersome when transferring detail to synchronisation matrices.



## HYPOTHETICAL EXAMPLE

### XVII. PREPARE TO CONDUCT WAR GAME

In accordance with the planning time line, the third day of planning commenced with COA Analysis. COS, who had been briefed the previous evening by the J5, decided to wargame all three friendly COA against the most likely and most dangerous adversary COA—so a total of six scenarios would be conducted during wargaming. COS would arbitrate, with the J5 playing the role of the AUS JTF commander and J2 staff coordinating Ajaxium inputs. The J5 and J2 each selected three members of their staff to assist them during the war game. Additional members of the J5 staff attended to take notes during the war game and thereby ensure that accurate records were kept—enough staff were present that both the war game matrix and narrative methods of war game recording could be used, enabling post-analysis cross referencing.

Some members of the J35 team also attended the war game as observers, in preparation for assisting the J5 staff develop the conops into a plan ahead of operations. Representatives of the J1/4 and J6 staff, as well as the legal officer, Department of Foreign Affairs and Trade liaison officer and the senior gender advisor also attended the war game.

The COS, J5 and J2 had previously agreed that the time-event method would be used for the war game and that the start state would reflect the expected situation at D-3 (the operational timeline had established that this was potentially as soon as 36 hours away). COS briefed the participants on this method and start state, and the J5 and J2 then briefed on the disposition of friendly and adversary forces at the start state. The war game was now ready to begin.

### SUB-STEP TWO: CONDUCT WAR GAME

5.29 COA Analysis is a disciplined process to enable the commander and staff to visualise the flow of an operation and identify major activities and the robustness of each DP. These may result in modifications to workable COA and reveal unworkable COA.

5.30 The commander and staff must be cautious when assessing war game results. The process attempts to visualise the plan as it unfolds, focusing on resultant activities and possible decisions required; it is not a prediction of what will happen. In all likelihood, the adversary and friendly forces will not react exactly as the war game predicted. However, moving through the operation reduces risk and exposes gaps in problem solving.

#### Wargaming rules

5.31 The reliability and quality of products are dependent on adherence to some general rules. These rules are designed to ensure the integrity of the wargaming process and to avoid bias. They include:

- a. **Impartiality.** Remain objective and impartial. Personalities should not have an undue influence over the process. It is critical that staff recognise this



when they are wargaming their input for both friendly and threat COA. Staff should not become intellectually or emotionally attached to a particular COA.

- b. **Credibility.** Ensure each COA remains credible. If at any time during the war game a COA becomes implausible, the war game should be stopped and the COA removed as an option, or modified to ensure it becomes credible.
- c. **Independence.** Each friendly COA should be war gamed against each threat COA separately.

### War game process

5.32 The commander confirms and directs which adversary COA or threat scenario will be analysed. The process involves wargaming each major activity or DP in turn, depending on the war game method selected. This is usually done using agreed time increments. The war game allows staff to analyse selected major activities, DP and CDP within each phase and identify the tasks the force must accomplish. The war game for each COA may begin with a briefing, focusing on each phase of each COA in a logical sequence.

5.33 Wargaming relies heavily on judgement and experience. The war game consists of an action from one side, concurrent action from the other side, and a review sequence. This process quickly identifies strengths and weaknesses for every DP within each COA. COA are modified as weaknesses are found, which ensures force assignment is appropriate and allocated tasks are realistic. To save time, only workable COA are completely analysed, normally through to the end state or culmination, whichever is the sooner.<sup>52</sup>

### War game action sequencing

5.34 It is crucial that this process is coordinated and adjudicated appropriately. Each staff member should bring a thorough understanding of the capabilities and limitations of their respective specialist area, which is crucial to a realistic appreciation of each COA. Participants involved in the war game should be aware of the threat capabilities and doctrinal procedures.

5.35 The war game is conducted using an action, action and review sequence. Both plans are analysed concurrently in time and space, although some recognition of initiative can be incorporated.<sup>53</sup> Commander and staff assessment of the expected situation determines whether a force has sufficient initiative for the purpose of the war game to warrant a clear advantage in sequencing activities. There is no set criteria for making this assessment and planners therefore need to exercise careful judgement. There are, however, some obvious indicators—for example, a force that is in defence is much less likely to have the initiative than a force that is on the

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<sup>52</sup>. Reaching a culminating point is a risk to the success of a campaign or operation and an amendment to the plan will be required if this seems possible. For further information about culminating points see Chapter 4.

<sup>53</sup>. Initiative can be understood as operational momentum or decision superiority.

offensive. Likewise, a force that is acting with the element of surprise is much more likely to have the initiative than their adversary.

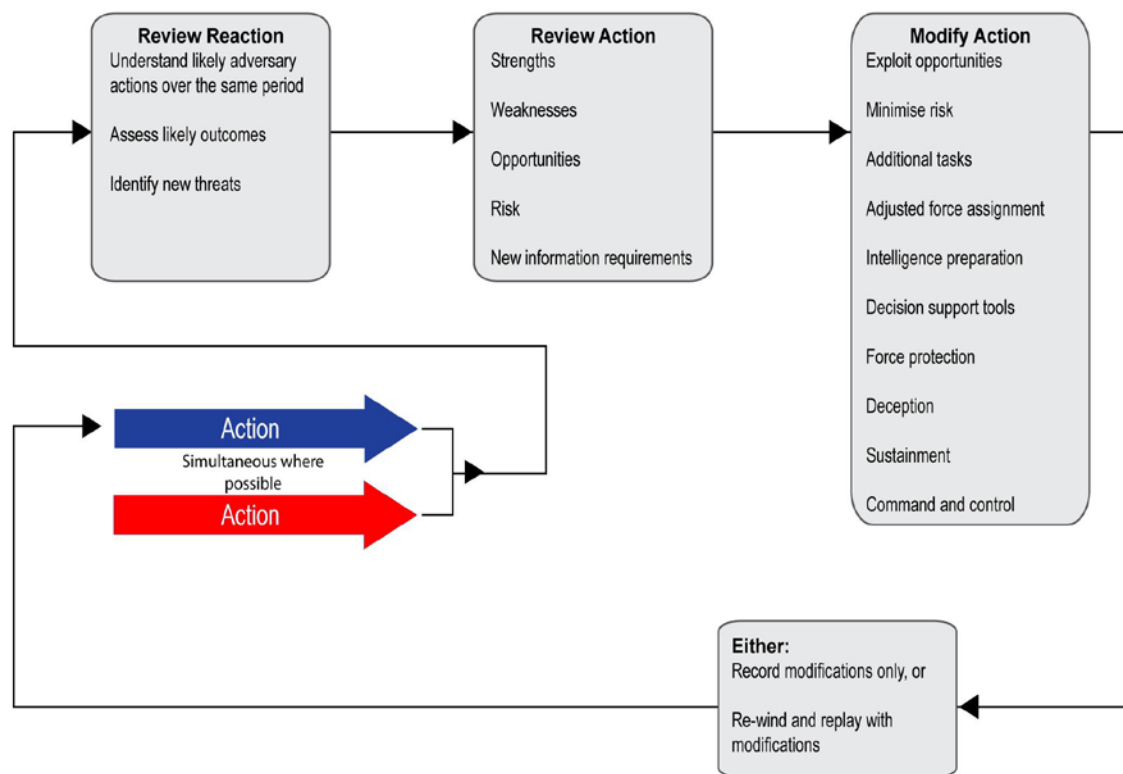
5.36 The war game is continued for each major activity until a decisive outcome is achieved, including identification of possible new branches and sequels, or the COA culminates. Any new branches and sequels applicable to the final COA selected by the commander should also be waged.

5.37 Since both friendly and adversarial forces may be manoeuvring and interacting simultaneously, this prompts the commander and planning staff to consider what circumstances are required to maintain decision superiority and, conversely, what might the adversary do to seize their own decision superiority. Depending on time and simulation support, a coincident or parallel running of activities may be possible that will give the war game a realistic flow.

5.38 The requirements for each sequence are addressed according to the following headings and depicted in Figure 5.1.

- a. **Action.** Staff position the respective FE in their start locations in accordance with the expected force dispositions at the selected war game start point. Staff describe actions by FE at a given time and place. This is done by articulating the tasks that those FE will likely be conducting using friendly and adversary synchronisation matrices.
- b. **Action.** Staff position opposing FE in accordance with the selected COA and describes the effect they will have on the OE. All possible actions should be stated. This includes actions from FE outside the joint force area of operations (JFAO) that could influence operations. The dispositions of all FE and their interaction with the opponent's actions must be identified and explained. Actions and assets are recorded on the war game record, which is later used to refine the friendly synchronisation matrices.
- c. **Review.** A full review concludes the sequence. It analyses the 'so what' response to the action/action run of events. The aim is to refine and improve friendly force actions in light of plausible adversarial action. This involves agreement on the likely outcomes of the unmodified actions as they stand.

5.39 As part of the review sequence any new threats should be identified, along with a consideration of additional tasks or FE needed to minimise the risk to friendly force actions. The review may also provide a chance to exploit new opportunities depending on whether the adversary or friendly forces have a degree of decision superiority.

**Figure 5.1: Action, action and review sequence**

5.40 During these sequences of action, action and review, the war game lead and staff refine the capabilities and resources that each action may require. If the demand for resources exceeds the available forces, then force employment priorities must be established and forces allocated to a particular task or activity re-examined. Conversely, it may be determined that the force allocation is surplus in which case excess forces may be allocated to supporting another DP or phase.

5.41 It is important to note that subsequent action after the review process may incorporate modifications, tasks and resources only within the framework of the existing COA. If it results in a change of main effort or the identification of a new DP, it may suggest that the COA has reached a culminating point unless additional branches or sequels are added. There is little benefit in continuing the war game at this point. Instead, rewind the war game to the last viable phase, DP or CDP and introduce a branch or sequel.

### Wargaming results

5.42 Results should be recorded immediately they become obvious. Observations should be used to improve COA, to update synchronisation matrices, and considered for use in deception plans or rehearsals. Insights from COA Analysis may identify:

- a. enhanced and viable friendly COA
- b. COA advantages and disadvantages
- c. COA CDP, main and supporting effort requirements

- d. residual risk
- e. possible branches and sequels, as well as requirements for deception and surprise
- f. subordinate commander actions and activities, and priorities derived from DP matrices
- g. command and control measures, including task organisations
- h. COA JPTL refinements
- i. synchronisation of manoeuvre
- j. refined NAI, TAI, DP and supporting CDP including known and additional major tasks and activities
- k. adversary and friendly force casualty projections
- l. refined synchronisation matrices.

**5.43 Branches and sequels.** Inherent within the wargaming process is the identification and analysis of a range of branches and sequels. These should be cross-referenced through the war game record to CDP on the respective COA. Within each COA there should be opportunities to achieve an objective with only minor variations to the basic theme. The decision to activate a branch is determined by a CDP, which should be wargamed to ensure the triggers and warnings are framed appropriately.

**5.44** Sequels, on the other hand, are significant shifts in focus, effectively becoming new LOO, and activated by a CDP. Adversary sequels will have been identified by the JIPOE, and considered during planning.

**5.45 Commander's critical information requirements.** As a result of wargaming each COA, DP, CDP, TAI and NAI will be reviewed. In addition, the specific CCIR needed to support each CDP will be confirmed. Wargaming will also assist in refining the draft IC plan formulated in JIPOE step four, enabling the commander to make best use of collection assets.

## HYPOTHETICAL EXAMPLE

### XVIII. CONDUCT WAR GAME

The first war game followed the LOO that had been established for the 'land force heavy' COA (see the diagram included in Part XV of this hypothetical example). It was determined that Ajaxium had the main momentum, since their military had been preparing to invade Jimalia for some weeks and is physically closer than the AUS JTF. Despite there being no doctrinal requirement for sequential analysis based on who has the initiative (action-action-review should involve simultaneous movement of friendly and adversary forces if possible), J2 staff described first the Ajaxium forces initial actions for their most likely COA (the most dangerous COA would be wargamed separately later on). J5 staff then described the planned AUS operations in the same time period. After both sides had described their actions and moved their forces accordingly, COS led a review, probing all staff about aspects of the plan such as risk, possible opportunities to be exploited, supporting force requirements, command and control, and other factors. Improvements to the plan were identified and recorded, and synchronisation matrices were updated to reflect any modifications and refinements.

Once this review was completed for the first allotted time period, the action-action-review process was repeated for the next time period. This continued until the plan had been wargamed from commencement until successful conclusion of the operation or culmination. Where friendly and adversary forces came into direct contact during the war game, the COS determined which forces sustained what losses on the basis of probability, erring on the side of the adversary (but staying within the bounds of plausibility) so that weaknesses in the plan could be more comprehensively identified and addressed. At the conclusion of the war game, a list had been compiled of several modifications. These included small changes (such as the deployment of additional specialist FE that may be required at short notice for a task not foreseen during earlier planning) and significant changes (such as the re-sequencing of some DP along the LOO, which would necessitate alterations to the planned sequence of events, force structure and priority of tasks).

Once the war game concluded the material was reset to the start point and another war game conducted for the same friendly COA, but this time against the adversary's most dangerous COA. Then a third war game tested the next friendly COA against the adversary's most likely, and so on, until a total of six war games had been conducted. Modifications were made to all three COA as analysis unfolded.

## BRIEF

5.46 COA Analysis normally concludes with a brief to the commander, which details the updated COA and their relative merits in achieving the mission. Staff recommend, and the commander confirms, which COA are to be compared. This informs a decision about which COA is to be developed into the conops. If the commander has been involved in the conduct of the war game, this brief may be informal, not conducted at all, or combined with the Decision and Conops Development brief.

### Annex:

5A Course of Action Analysis—aide-memoire

## ANNEX 5A

## COURSE OF ACTION ANALYSIS—AIDE-MEMOIRE

Table 5A.1: Course of Action Analysis—aide-memoire

INPUTS	SUB-STEPS	OUTPUTS
War game lead/COS guidance  JMAP  Completed JIPOE	<b>4. Prepare to conduct war game:</b>  a. direct scope  b. organise staff  c. explain responsibilities  d. explain orchestration  e. determine war game start state:  (1) significant factors  (2) critical assumptions  (3) friendly force data (dispositions, readiness, capabilities)  (4) adversary COA including DP and CDP.  f. select war game method:  (1) time-event  (2) avenue in depth  (3) time box  (4) belt.  g. select war game recording method:  (1) war game matrix  (2) narrative	<ul style="list-style-type: none"> <li>• staff prepared and oriented</li> <li>• data and COA prepared for war game</li> <li>• war game method selected</li> <li>• war game recording method selected</li> </ul>

	(3) sketch note.	
JMAP JIPOE step four	<p>5. <b>Conduct war game.</b> For each friendly COA against each adversary COA:</p> <p>a. war game action sequencing is either both forces acting simultaneously, or the force with a clear initiative can act first:</p> <p>(1) action</p> <p>(2) action</p> <p>(3) review.</p> <p>b. record and validate insights and risks (both physical as well as information/opsec), mitigation and unresolved issues, to improve the plan, including:</p> <p>(1) DP and CDP (including associated CCIR)</p> <p>(2) NAI and TAI</p> <p>(3) broad branches and sequels for contingency planning</p> <p>(4) considerations for supporting plans.</p> <p>c. take workable COA and using war game records, modify COA to be more robust; mitigate risk leaving residual risk</p> <p>d. take unworkable COA and using war game records, modify COA as a basis for contingency or deception planning.</p>	<ul style="list-style-type: none"> <li>workable COA with risk understood</li> <li>unworkable COA as basis for other plans</li> <li>requirements for supporting plans</li> <li>recorded COA advantages and disadvantages, and residual risk</li> </ul>



## CHAPTER 6

STEP FIVE: DECISION AND CONCEPT OF OPERATIONS  
DEVELOPMENT**Executive summary**

- Decision and Concept of Operations Development involves three sub-steps:
  - Compare courses of action
  - Select preferred course of action
  - Develop concept of operations.
- The approved concept of operations forms the basis for developing the operation plan.

## INTRODUCTION

6.1 In this fifth and final step of the Joint Military Appreciation Process (JMAP), the commander compares the strengths and weaknesses of each friendly course of action (COA) enhanced and improved during the COA Analysis. The commander decides which COA is to be developed into a concept of operations (conops) that will form the basis for the operation plan (oplan) to be executed. Once developed, the conops is passed to the superior commander for approval.

6.2 While the comparison and decision activity is listed as a separate step in the planning process, the commander and staff could possess sufficient detail to decide on the best COA immediately following COA Analysis. Indeed, they might be left with only one COA that could achieve mission success. Notwithstanding, there will be little, if any, gap in the planning effort and flow between COA Analysis and deciding on the best COA, but the two are separated for convenience of explanation.

6.3 **Inputs.** Inputs are the COA that were amended as a result of COA Analysis and an update of the Joint Intelligence Preparation of the Operational Environment (JIPOE).

6.4 **Sub-steps.** There are three sub-steps to Decision and Conops Development:

- a. compare COA
- b. select preferred COA
- c. develop conops.

6.5 **Outputs.** Output from this step is:

- a. the commander's selected COA
- b. a fully developed conops.

6.6 **Aide-memoire.** A Decision and Conops Development aide-memoire is in Annex 6A.

## Joint Intelligence Preparation of the Operational Environment input to Decision and Concept of Operations Development

6.7 During Decision and Conops Development, the intelligence staff will continue to research and resolve outstanding priority intelligence requirements and brief the commander and Joint Planning Group (JPG) as required. They will also continue to update the analysis of the operational environment as appropriate, as well as the collection plan, to be provided as part of the conops.

6.8 **Synchronisation.** Intelligence synchronisation occurs in two areas: intelligence support to planning (the JIPOE); and intelligence support to operations (the intelligence support plan). Intelligence support to joint operations planning is the basis for subsequent intelligence support planning at subordinate headquarters (HQ), such as joint task force or component HQ.

### SUB-STEP ONE: COMPARE COURSES OF ACTION

6.9 The aim of comparing friendly COA is to determine which has the highest probability of successfully achieving the objectives and desired end state, taking into account the most likely and most dangerous adversary COA. In addition, the commander assesses the residual risk associated with each COA. COA that are not selected during the comparison may be kept as a basis for contingency options, or may also be used in deception planning to support the selected COA.

6.10 In comparing COA, any comparison technique may be used that results in staff providing the best recommendation and the commander making the best decision. Some comparison techniques are suggested below.

#### Course of action comparison techniques

6.11 **Numerical analysis.** The numerical analysis decision matrix contains the following three components:

- a. **Courses of action.** These are the remaining modified COA.
- b. **Criteria.** The criteria are usually identified by the commander as priorities during COA Development and include:
  - (1) suitability to mesh with strategic communication and information operations
  - (2) duration and fiscal implications
  - (3) flexibility and use of decisive points (DP)
  - (4) adherence to the principles of war<sup>54</sup>

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<sup>54</sup>. For further information about the principles of war see [Australian Defence Doctrine Publication \(ADDP\)—Doctrine—Foundations of Australian Military Doctrine](#).

- (5) application of operational joint functions<sup>55</sup>
- (6) support of doctrinal principles for the type of operation being conducted
- (7) the level of risk against perceived payoff (cost versus gain).

c. **Weighting.** The weighting factor of each criterion is based on its relative importance to the commander's guidance and priorities.

6.12 Each COA is ranked according to its ability to achieve the criteria. So, from three COA, the best would score three and the weakest score one for each criterion. In Table 6.1, for mission and essential tasks, COA 1 is rated a '2', COA 2 is rated a '1' and COA 3 is rated a '3', the best COA with regard to the selected criterion. Each COA rating is then multiplied by the criterion weighting. Again, using the mission and essential tasks criterion example, the weighted results are COA 1 = 6, COA 2 = 3 and COA 3 = 9.

6.13 The scores are then totalled giving a raw and weighted order. In the example in Table 6.1, all raw scores are the same, but applying the weighting factor reveals an order of COA 3, 1 then 2. COA 3 is identified as potentially being the strongest COA.

**Table 6.1: Example numerical analysis decision matrix**

Criteria	Wt	COA 1	COA 2	COA 3
		Raw/Weighted	Raw/Weighted	Raw/Weighted
Mission and essential tasks	3	2/6	1/3	3/9
Sustainability	2	2/4	3/6	1/2
Principles of war	2	2/4	1/2	3/6
Risk	1	2/2	3/3	1/1
Total		8/16	8/14	8/18
Rank		<b>2</b>	<b>3</b>	<b>1</b>

6.14 The benefit of a numerical analysis is that it provides a relatively simple means of determining a preferred COA based on given criteria. The disadvantage of this method is that commanders will often require more substantial justification than a numerical score before they select one COA over another. For this reason, the advantages and disadvantages COA comparison technique should be used to support the staff's recommendation.

6.15 **Advantages and disadvantages analysis.** This technique involves listing the advantages and disadvantages of each COA against selected criteria. It is

<sup>55</sup>. For further information about the operational joint functions see [ADDP 3.0—Campaigns and Operations](#).

particularly useful when combined with other techniques. The matrix allows staff to expand upon those criteria that the commander indicated as the most important. Additionally, it may be used to summarise each COA. An example is shown in Table 6.2.

**Table 6.2: Example of advantages and disadvantages**

COA	Advantages	Disadvantages
1	<ul style="list-style-type: none"> <li>+ Surprise and security</li> <li>+ Compensates for some tactical weaknesses</li> <li>+ Decision superiority</li> <li>+ Less casualties</li> </ul>	<ul style="list-style-type: none"> <li>– Potential loss of domestic and international support</li> <li>– Jeopardises moral authority</li> <li>– May compromise alliances</li> </ul>
2	<ul style="list-style-type: none"> <li>+ Pre-positioning</li> <li>+ Strengthens moral authority</li> <li>+ Flexibility</li> </ul>	<ul style="list-style-type: none"> <li>– Long-term sustainability</li> <li>– Vulnerability of forward deployed forces</li> <li>– Highly dependent on host nation support</li> </ul>
3	<ul style="list-style-type: none"> <li>+ Moral authority and international acceptance</li> <li>+ Domestic support</li> </ul>	<ul style="list-style-type: none"> <li>– Cedes military initiatives</li> <li>– Lacks decision superiority</li> <li>– May result in attrition of own forces</li> </ul>

**6.16 Broad categories analysis.** Unlike the numerical analysis, this technique does not weight criteria. The assessment for each criterion is simply expressed as a positive (+), neutral (0) or negative (-). Against each criterion, COA are compared to provide a broad awareness of the merits of one COA over another. The advantage of the broad category method is that it is simple and relatively quick. This approach is useful in indicating each COA strengths and weaknesses and is particularly useful if staff are uncertain how to weight criteria or feel the weighting will unrealistically skew the comparison result.

**6.17** Like the numerical analysis, this technique alone will rarely provide the commander a comprehensive argument as to why one COA should be selected over another. Table 6.3 shows an example of a broad categories analysis decision matrix.

**Table 6.3: Example broad categories analysis decision matrix**

Factor	COA 1	COA 2	COA 3
Mission, essential tasks	+	-	+
Sustainability	0	+	-
Principles of war	0	-	+
Risk	+	+	0
Total	2+	0	1+
Rank	1	3	2

6.18 **Staff ranking by branch.** Staff ranking by branch is simply use of the other matrices to analyse criteria by principal staff officers or by individual staff branch members. This can then be recorded in a staff decision matrix such as the example in Table 6.4. Each staff branch may conduct their own analysis of each COA before the staff's combined comparison is made.

**Table 6.4: Example staff decision matrix**

	COA 1	COA 2	COA 3	COMMENTS
J1	✓			
J2	✓	✓	✓	
J3		✓		
J4	✓		✓	
J5	✓		✓	
J6	✓			
J06	✓		✓	
Component commanders	✓	✓		
<b>Total ticks</b>	<b>7</b>	<b>3</b>	<b>4</b>	

6.19 Commanders and/or staff branches identify the most appropriate comparison method. It should be stressed that the use of any method is simply a means to differentiate between COA based on criteria established by the commander.

**HYPOTHETICAL EXAMPLE****XIX. COMPARE COURSES OF ACTION**

Once the three friendly COA—dubbed ‘land force heavy’, ‘land force light’ and ‘offshore’ for ease of reference—had been modified as a result of the war game, the commander needed to decide which to develop into a conops for execution. They determined to make this decision following a mix of two techniques. The first would be an advantages and disadvantages analysis, and this would be enhanced by a staff decision matrix so that the commander could gauge preferences across the HQ. The results of these two comparisons are shown in the following tables.

**Advantages and disadvantages of each course of action**

<b>COA</b>	<b>Advantages</b>	<b>Disadvantages</b>
Land force heavy	<ul style="list-style-type: none"> <li>+ Pre-positions forces to respond to adversary most dangerous COA</li> <li>+ Best supports information activities plan</li> <li>+ Enables high degree of operational synergy with host nation</li> </ul>	<ul style="list-style-type: none"> <li>– Highly dependent on host nation consent</li> <li>– Large logistics support requirements</li> <li>– Relatively the most monetarily expensive option</li> </ul>
Land force light	<ul style="list-style-type: none"> <li>+ Comprehensive use of air power</li> <li>+ Limited number of ground personnel means smaller logistics support requirements</li> <li>+ Embedded personnel able to assist Jimalian military directly</li> </ul>	<ul style="list-style-type: none"> <li>– Limited land forces are more vulnerable to adversary most dangerous COA</li> <li>– Requirement for rapid deployment of additional forces if situation degenerates is vulnerable to limited APOD/SPOD facilities</li> </ul>
Offshore	<ul style="list-style-type: none"> <li>+ Strategic flexibility</li> <li>+ Resupply afloat means minimal logistic support requirements</li> <li>+ Relatively the least expensive monetary option</li> </ul>	<ul style="list-style-type: none"> <li>– Collection of human intelligence difficult</li> <li>– Yields initiative to adversary</li> <li>– Vulnerable to limited APOD/SPOD facilities</li> </ul>

**Staff decision matrix**

	<b>Land force heavy</b>	<b>Land force light</b>	<b>Offshore</b>
J1/4	✓	✓	✓
J2	✓	✓	
J3	✓		✓
J5	✓	✓	
J6	✓	✓	✓
J06	✓	✓	✓
Air component commander		✓	

Maritime component commander			✓
Land component commander	✓		
Special operations component commander	✓	✓	
Logistics component commander	✓		✓
<b>Total ticks</b>	<b>9</b>	<b>7</b>	<b>6</b>

### SUB-STEP TWO: SELECT PREFERRED COURSE OF ACTION

6.20 On completion of the comparison the commander selects the preferred COA. If the commander modifies a proposed COA, the staff may need to revisit some or all of the previous JMAP steps. If time permits, COA Analysis should then be completed again in full.

6.21 Once a COA has been selected, the commander's statement of intent and critical information requirements may be refined. The selected COA is now developed into a conops which, once approved by higher authority, is the basis for the oplan and supporting plans. These are likely to have been drafted as planning progressed. The oplan, in turn, informs the preparation and issue of orders.

#### Commander's decision brief

6.22 Sub-steps one and two together constitute the decision portion of this JMAP step. After completing the analysis and comparison, staff identify the preferred COA and make a recommendation to the commander. If required, staff may conduct a formal briefing for the commander to obtain a preferred COA decision. Alternatively, the commander may simply decide on a COA and direct the staff to develop the conops. A suggested decision brief format is in Annex 6B.



## HYPOTHETICAL EXAMPLE

## XX. SELECT PREFERRED COURSE OF ACTION

Taking into account the results of COA Analysis, the two comparison techniques above, and professional judgement and experience, the commander selected the first COA (land force heavy). However, it was also directed that the air elements of the targeting and collection plans from the second COA (land force light) be used instead of its equivalent in the first COA due to this work being better developed. The result would be a hybrid COA that combined the strengths of the first and second COA.

Normally such a decision would result in the conduct of another war game to test the new hybrid COA, however in this instance due to time constraints the commander decided to accept the higher degree of operational risk that accompanied not conducting another COA Analysis step. The J5 did, however, direct that the JPG revisit several of the Mission Analysis and COA Development sub-steps, including:<sup>56</sup>

- **Determine decisive points.** The planning team reviewed aspects of both COA to be integrated and confirmed that there was no requirement for additional DP.
- **Develop lines of operation.** The planning team reviewed the schematic for both COA that would be integrated. They selected several aspects of the diagram for the 'land force light' COA that related to the air targeting and collection plan and incorporated these into the existing diagram for the 'land force heavy' COA. The result was an adjustment to the relative positioning of some DP along some line of operation.
- **Develop detailed courses of action.** This is where the main integration of the two COA occurred. Aspects of the 'land forces heavy' plan were adjusted to accommodate the air targeting and collection aspects of the 'land forces light' plan, leading to modification in the following areas:
  - the joint force area of operations
  - the force element requirements
  - the main effort during Phase 1
  - sequencing
  - integration of supporting functions.
- **Test courses of action.** Although a full war game was not conducted, the J5 nevertheless tested the hybrid COA to ensure that it was feasible, acceptable, suitable, sustainable and distinguishable.

Once these aspects of the JMAP had been revisited, and the J5 was satisfied that the hybrid COA was workable, the commander was briefed a second time. The commander was satisfied with the new hybrid COA and authorised its development as the conops.

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<sup>56</sup>. This list is indicative only. The JMAP steps that will need to be revisited will vary depending on the scenario being planned, the aspects of the COA that need to be integrated or changed, and the time available.

### SUB-STEP THREE: DEVELOP CONCEPT OF OPERATIONS

6.23 The conops is a detailed description of how an operation will be conducted. It identifies the functions and processes, and their corresponding interactions and information flows, command and control, stakeholders, and roles and responsibilities. A draft conops is usually developed as the JMAP unfolds. During this sub-step, any remaining detail is added to complete the draft and arrive at a fully developed conops.

6.24 **Synchronisation.** Synchronisation should occur throughout joint operations planning and before a conops is finalised to ensure an oplan and any supporting plans, both within and external to the HQ, are compatible. Any plan must also be synchronised with current and future operations. Assisting in this is the completed synchronisation matrix from COA Analysis.<sup>57</sup>

6.25 Once fully developed the conops is passed to the superior commander for approval and may be modified, rejected or approved. If modified, the JPG should review the modification and, if necessary, complete any necessary JMAP steps again to ensure the modification can be incorporated appropriately into the COA. If the conops is rejected, the JPG should reconvene and complete the JMAP steps necessary to produce another viable COA for development into another conops.

#### Concept of operations brief

6.26 A conops brief may be presented in an oral, written or graphic format, or a combination. The conops should contain sufficient detail to convey key aspects of the operation to the superior commander and allow subordinate HQ to commence (or continue) detailed planning. A conops brief format is in Annex 6C.

#### Conclusion of Joint Military Appreciation Process

6.27 When the conops is approved, the superior commander may issue an alert order.<sup>58</sup> Approval of the conops usually signals the completion of the JMAP and the JPG disbands. Any changes to the plan are normally managed by the plans and operations staff as they monitor progress of the operation. At any stage there may be a requirement to re-assemble the JPG and apply the JMAP to plan a significant change to the operation. Throughout an operation, assessment and intelligence information will drive further re-framing of the situation, which will inform future fragmentary orders and revisions to the operation or campaign plan.

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<sup>57</sup>. For further information about synchronisation see Chapter 4.

<sup>58</sup>. For further information about the approval process for a completed conops, see [ADDP 5.0—Joint Planning](#).

**HYPOTHETICAL EXAMPLE****XXI. DEVELOP CONCEPT OF OPERATIONS**

Closure of formal planning was development of a detailed conops, which was drafted by a core group of staff within the JPG, but with contributions from staff across a range of specialty areas throughout the HQ. In accordance with the planning timeline derived at the beginning of planning, the conops was ready by the conclusion of day three. Once approved by the commander, it was passed to strategic level staff for approval. Receipt of this approval signalled the conclusion of the JMAP, although some members of the planning team subsequently drafted a corresponding oplan (see Chapter 7) and then conducted a handover to J35 staff (who had been engaged from an early stage of planning) to assist further administrative activities ahead of implementation.

**Postscript**

Implementation of the plan began immediately after handover to the J35 staff. The next day, a status of forces agreement was concluded with Jimalia while concurrently force elements from each of the three Services were formed into a joint task force (JTF), concentrated, and frantically conducted vital pre-deployment activities. The day after that the JTF HQ and an advanced party deployed to the Jimalian capital, Metropilos, and an amphibious force sailed from AUS bound for Jimalia. The third day after planning was D-Day. Several force elements (FE) were air lifted into Jimalia on D-Day. Some of these initial FE commenced a non-combatant evacuation operation, and aircraft returning to AUS were able to exfiltrate several hundred AUS nationals over the next three days. Concurrently, other FE moved quickly along the road from Metropilos to the Jimalian controlled oil fields inside the disputed area, securing them on D+1.

Due to the hybrid COA that had been developed, the initial FE inserted included several combat aircraft. These began routine flights over the Jimalian controlled part of the disputed area on D-Day and continued this routine, sending a strong message of deterrence to the Ajaxium military. On D+2 the amphibious force from Australia arrived and commenced disembarking in Metropilos. Once landed, these forces were tasked to conduct a thorough route clearance of the road to the disputed area, to commence repairs on an abandoned World War Two-era airfield closer to the disputed area (so that this could be put into use by AUS forces), and to develop a storage and distribution facility at Metropilos as part of the logistics support plan. Although much remained to be consolidated, by the end of D+3—only eight days after the JMAP had commenced—it was assessed that enough AUS FE were now in Jimalia that they would be capable of adequately responding should Ajaxium forces cross the border. The work of the JPG had not been in vain.

**Annexes:**

- 6A Decision and Concept of Operations Development—aide-memoire
- 6B Suggested decision brief format
- 6C Concept of operations brief format

## ANNEX 6A

## DECISION AND CONCEPT OF OPERATIONS DEVELOPMENT— AIDE-MEMOIRE

**Table 6A.1: Decision and Concept of Operations Development—aide-memoire**

INPUTS	SUB-STEPS	OUTPUTS
All analysed COA	<b>1. Compare COA:</b> a. COA comparison techniques selected  b. selected comparison techniques applied to each COA.	<ul style="list-style-type: none"> <li>• COA comparison techniques selected and applied to each COA</li> </ul>
COA decision tools	<b>2. Select preferred COA:</b> a. COA comparison results briefed to commander  b. commander decides on the COA to be developed into conops  c. commander selects COA to be used as branches, sequels, contingency or deception plans to support selected COA.	<ul style="list-style-type: none"> <li>• COA selected for conops</li> <li>• COA selected as branch, sequel, contingency, deception plan</li> </ul>
All selected COA documents and relevant JMAP outputs	<b>3. Develop conops.</b> Refine synchronisation matrices and confirm: a. NAI and TAI b. DP and CDP c. branches and sequels d. develop the oplan and supporting plans e. prepare and issue orders/instructions.	<ul style="list-style-type: none"> <li>• Conops</li> <li>• Oplan and supporting plans</li> <li>• Orders/instructions</li> </ul>

## ANNEX 6B

## SUGGESTED DECISION BRIEF FORMAT

Table 6B.1: Suggested decision brief format

LEAD	SUBJECT	JMAP STEPS
COS/J5	<b>Brief purpose</b> Purpose of brief and timing	
COS/J5	<b>Mission</b> Superior commander's intent Own mission Own CF analysis Own forces status CCIR Operational design schematic LOO	Mission Analysis COA Development
J2	<b>Intelligence</b> Adversary mission Adversary COA selected by commander Adversary CF analysis	JIPOE Mission Analysis COA Development
J5/J3	<b>COA</b> For selected COA: <ul style="list-style-type: none"> <li>• Range of COA</li> <li>• COA selected for conops dev</li> <li>• COA selected for contingency and/or deception</li> </ul>	COA Development COA Analysis

LEAD	SUBJECT	JMAP STEPS
J5/J3	Subordinate commander(s) operations planning considerations, risk and guidance required for detailed planning	N/A
J2	Intelligence collection and force protection considerations, risk and guidance required for detailed planning	COA Analysis
J1	Personnel support considerations, risk and guidance required for detailed planning	COA Analysis
J4	Logistic support considerations, risk and guidance required for detailed planning	COA Analysis
J6	Communication and information systems support considerations, risk and guidance required for detailed planning	COA Analysis
J00/Commander	Confirm COA for conops development	

## ANNEX 6C

**CONCEPT OF OPERATIONS BRIEF FORMAT**

1. The commander's concept of operations (conops) is a verbal or graphic statement, in broad outline, of their intent in regard to an operation or campaign. The concept is designed to give an overall picture of the operation. A conops may be presented orally, as a written document, in graphic form or a combination. Table 6C.1 shows a conops briefing format. Once approved, the conops is then developed into an operations plan (oplan).

**Table 6C.1: Concept of operations brief format**

LEAD	SUBJECT	EXPLANATION
Commander/COS	<b>1. Intent of higher commander(s), including intended desired end state.</b>  <b>2. Critical assumptions.</b>	<ul style="list-style-type: none"> <li>• Conveys the military end state. Intent should reflect the vision and convey the thinking of the commander.</li> <li>• These are listed and checked before forces are committed. Thus a need to vary the plan can be identified quickly.</li> </ul>
J2	<b>3. Updated intelligence estimate:</b>  a. situation  b. environment effects  c. updated adversary courses of action (COA)  d. assessed adversary Critical Factors (CF) analysis and associated commander's decision points (CDP) and decisive points (DP).	<ul style="list-style-type: none"> <li>• This will be drawn from the JIPOE, based on the most likely adversary COA. This allows identification of the need for changes due to unexpected developments. It should also include an assessment of the adversary CF, which provides a focus for all planning.</li> </ul>



LEAD	SUBJECT	EXPLANATION
Commander/COS	<p><b>4. Commander's intent.</b></p> <p><b>5. Outline conops.</b> A broad indication of how the mission is to be achieved and an outline of the lines of operation chosen highlighting the CDP, DP and objectives.</p> <p><b>6. The general grouping of forces.</b></p> <p><b>7. The effect(s) to be produced on the adversary (as applicable).</b></p>	<ul style="list-style-type: none"> <li>• This describes the commander's mission. It allows subordinates to analyse their allocated tasks in context of the overall operation. Tasks are linked with specific units and described. Responses to alternative adversary actions are stated. The commander's intent for the mission is included.</li> </ul>
J5/J3	<p><b>8. Detailed conops:</b></p> <p>a. scheme of manoeuvre (deep, close, rear or domains) by phase</p> <p>b. address each component.</p> <p><b>9. Main effort for each phase.</b></p> <p><b>10. Phase boundaries,</b> whether time or trigger governed, taking into account critical timings.</p> <p><b>11. Specified tasks and groupings of forces,</b> possibly zone oriented (deep, close, rear) and scheme of execution, including any use of deception.</p> <p><b>12. Phase command and control,</b> based on responsibility for tasks, and delineating degrees of authority.</p> <p><b>13. Rules of engagement</b> for each phase.</p>	

LEAD	SUBJECT	EXPLANATION
	<b>14. Critical cross functional considerations,</b> including:  a. operational security  b. offensive support  c. targeting  d. information activities  e. pre-planned contingency and alternative solutions.	
J2	<b>15. Concepts for intelligence operations:</b>  a. outline concept of intelligence collection  b. link collection to PIR, DP (assessment)  c. outline concept of counterintelligence. Relate to operational security plan.	

LEAD	SUBJECT	EXPLANATION
J1/J4	<b>16. Concepts of personnel, logistics and health support:</b>  a. outline concept of support to zones of operation  b. outline support phase, matched to operational phases  c. key locations  d. next highest commander's support priorities  e. respective support priorities  f. higher support provided  g. summarise support issues (significant, critical, unusual functions, internal and external priorities):  (1) before operations  (2) during operations  (3) after operations.  h. significant personnel/ logistics/health risks.	
J6	<b>17. Communication and information systems details.</b>	
COS/J5/J3	<b>18. Command and signal.</b>	
Commander/COS	<b>19. Vulnerabilities and risks</b> and how will they be minimised.	

## CHAPTER 7

### PLAN DEVELOPMENT AND EXECUTION

#### Executive summary

- The plan and supporting plans are finalised and promulgated through an operation order or operation instruction.
- Upon execution, responsibility passes from the plans staff to the operations staff to manage implementation of the plan.

*Make it so.*

**Jean-Luc Picard<sup>59</sup>**

#### INTRODUCTION

7.1 Once the superior commander approves the concept of operations (conops) the plan, usually an operation plan (oplan), and supporting plans are finalised and promulgated through an operation order (opord) or operation instruction (opinst). During planning, the oplan and supporting plans would have been drafted by plans staff in anticipation of approval. Production of the final oplan would be carried out by both J5 and J3 staff (usually J53 and J35). The operations staff would then promulgate the opord.

7.2 Execution involves issuing orders, monitoring and assessing the operation through to completion, continually synchronising and coordinating activities until receipt of a cease order, which terminates the operation. Upon execution of the oplan, the operations staff manage the day to day tasking and activities. Plans staff may assist with the monitoring function and may also plan additional branches and sequels as required.

#### Joint Intelligence Preparation of the Operational Environment input to plan development and execution

7.3 During the plan development and execution stage of planning, the intelligence staff continue to focus on resolving outstanding priority intelligence requirements (PIR) and updating the PIR list as required. Additionally, they should continue to refine the collection plan. New intelligence is briefed to the staff as appropriate. The operations staff need to know the results of responses to PIR, while the plans staff need to identify whether there is a need to plan new branches and/or sequels.

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<sup>59</sup>. Captain Jean-Luc Picard (played by Patrick Stewart), *Encounter at Farpoint* (pilot episode in the television series *Star Trek: The Next Generation*), written by Gene Roddenberry (first broadcast 28 September 1987).

7.4 Collection planning will incorporate the requirement to inform commander's decision point (CDP) matrices. Intelligence staff also play a key role in providing information that feeds the assessment analysis regarding how successfully decisive point (DP) conditions are being achieved.

### Concept of operations endorsement procedure

7.5 Once the conops is endorsed by the Commander's Planning Group, it is briefed to the Strategic Command Group for Chief of the Defence Force (CDF) approval. Once approved by CDF, it may be further briefed to the National Security Committee if required by the first pass/second pass process. After approval, the conops is issued to the operational level commander (usually Chief of Joint Operations (CJOPS)) to be developed into one of the planning outputs outlined below.

7.6 Once the conops has been approved, CDF issues an alert order. The alert order directs Service Chiefs to assign forces to CJOPS for the execution of the operation. The alert order may include additional strategic guidance such as rules of engagement, task amendments and in some cases limitations not previously contained in the CDF Planning Directive or warning order.

7.7 For further information about the conops endorsement procedure see [Australian Defence Doctrine Publication \(ADDP\) 5.0—Joint Planning](#). This publication also contains examples of a CDF warning order, alert order, execute order and cease order, as well as opord, opinst, campaign plans and oplan.

### PLAN DEVELOPMENT

7.8 Based on the commander's final guidance and the approved conops, staff complete the oplan and supporting plans, and issue appropriate orders. CJOPS may also use these orders to inform a commander joint task force (CJTF). Once the superior commander accepts the approved conops, the following activities occur:

- a. **Warning order.** A warning order is prepared and issued (if this has not already occurred).
- b. **Refinement of the execution synchronisation matrices.** Once the conops is selected, information from the war game record is used to update and refine the synchronisation matrices. The synchronisation matrices display the detailed coordination of friendly activities across the operational environment. CDP and DP matrices are also refined, along with named and targeted areas of interest.
- c. **Development of the operation plan and supporting plans.** Once the synchronisation matrices are completed, the oplan and supporting plans are developed using the synchronisation matrices as the coordination guide. This ensures that all force elements are synchronised and combat power tailored efficiently.
- d. **Preparation and issue of orders.** Once the oplan is complete, the staff may brief the plan, if required. This brief is used to ensure all headquarters (HQ) staff understand the oplan and commander's intent. This brief may also be used as a handover from the HQ plans staff to HQ operations staff. Handover

points, if any, will largely be a function of individual HQ structures, manning and standard operating procedures. Opord or opinst are then prepared and issued.

### Supporting plans

7.9 The number, type and scale of supporting plans is determined by command direction, level of HQ, type of mission and standard operating procedures. Supporting plans may include:

- a. manoeuvre, including joint fires and offensive support
- b. targeting
- c. information operations and electronic warfare
- d. force protection
- e. intelligence support, including collection
- f. sustainment, including personnel, health, logistics and movements
- g. communication and information systems.

### Drafting and completing supporting plans

7.10 There are three methods for drafting and completing supporting plans:

- a. **Concurrent planning.** Ideally, the oplan and supporting plans are completed concurrently. However, supporting plans require key inputs from the oplan and generally lag behind its development. To maximise concurrent planning, key staff from branches, specialist functions and subordinate HQ should be involved in planning from the outset.
- b. **Consecutive planning.** The oplan and supporting plans are often developed sequentially, to minimise time loss. This requires active anticipation of required inputs and outputs to the oplan and supporting plans.
- c. **Integrated planning.** The best option to reduce planning time, if available, is to conduct integrated planning. Key HQ and subordinate staff, should be involved in planning at the earliest opportunity. The range of staff required should be carefully considered rather than simply designating the relevant HQ planning staff. Subordinate HQ intelligence staff, in addition to specialist targeting and IO planners, should be involved in the joint intelligence preparation of the operational environment and planning generally.

## EXECUTION

7.11 In the HQ Joint Operations Command context, CDF issues an execute order to CJOPS. CJOPS then issues an execute order to the CJTF pertinent to that operation. During the execution phase, as strategic circumstances change, CDF guidance is provided through revisions or amendments to the CDF execute order. At

the operational level CJOPS may issue fragmentary orders to adjust the opord as circumstances change.

### Headquarters staff responsibilities

7.12 **Commander.** The commander directs that appropriate staff work is completed and released for action by subordinate HQ and units. In deliberate planning situations, such execution is achieved through release of the formal sequence of warning order, planning directives, oplan and then opord/execute order. In immediate or crisis planning situations, circumstances will dictate time available and flow of planning outputs.<sup>60</sup>

7.13 **Operations staff.** During execution, operations staff are responsible for executing the plan and provide oversight and detailed coordination of the plan.

7.14 **Intelligence staff.** During execution, intelligence staff are responsible for supporting both current operations and further planning. Intelligence staff validate the adversary COA by assessing its dispositions and activities in named and targeted areas of interest. This information assists in populating friendly CDP matrices. For further information about the role of intelligence staff during execution see [Australian Defence Force Publication 2.0.1—Intelligence Procedures](#).

7.15 **Plans staff.** During execution the plans staff monitor the broader campaign plan (if devised) and update or plan new branches and sequels, with assistance from specialist staff as required. If new information indicates the situation and/or desired end state requires revision, consideration is given to re-framing the problem and commencing a fresh appreciation process.

### Other responsibilities

7.16 The CJTF is responsible for ensuring that ongoing assessment of operational progress is rigorously conducted, and that execution of the plan is continuing to progress towards the desired campaign or operation end state.

7.17 Execution, including ongoing synchronisation, re-framing, planning branches and sequels, issuing fragmentary orders, and assessment continues until the end state is achieved and a cease order received. HQ staff then develop post activity reports, and identify and promulgate lessons to enhance future operations.<sup>61</sup>

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<sup>60.</sup> For further information about the different requirements of deliberate and responsive planning, see [ADDP 5.0—Joint Planning](#).

<sup>61.</sup> In HQJOC, the lessons learned function is performed by the J8 staff.



## GLOSSARY

*The source for approved Defence terms, definitions and abbreviations is the Australian Defence Glossary (ADG), available on the Defence Protected Network at <http://adg.eas.defence.mil.au/adgms/>. Note: The ADG is updated periodically and should be consulted to review any amendments to the data in this glossary.*

### TERMS AND DEFINITIONS

**adversary**

A party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged.

**alert order (alerto)**

Directs Service Chiefs to force assign force elements to an operation.

Notes:

1. Draws upon a number of strategic planning documents including the Chief of Defence Force (CDF) Planning Directive and CDF Warning Order.
2. If a warning order has not been issued, the alert order initiates operational planning.

**amplify**

Make larger or greater (as in amount, importance or intensity) or increase the strength or amount of.

**area of intelligence interest (All)**

The area in which a commander requires intelligence on those factors and developments likely to affect the outcome of current and future operations.

**assumption**

A supposition on the current situation or a presupposition on the future course of events, either or both assumed to be true in the absence of positive proof, necessary to enable the commander in the process of planning to complete an estimate of the situation and make a decision on the course of action.

**block**

To deny access to a given area, or to prevent an advance in a particular direction.

**branch**

An option at a commander's decision point along a line of operation that allows the commander flexibility to anticipate decisive points by deviating from, and returning to, that line of operation.

**breach**

Break through or secure passage through a defence, obstacle, firewall or fortification.

**bypass**

To manoeuvre around an obstacle, position, or adversary force to maintain the momentum of advance.

**campaign**

A set of military operations planned and conducted to achieve a strategic objective within a given time and geographical area.

**canalise**

To limit or force the movement of individuals, groups, or organisations to a specified direction.

**capture**

Gain possession of specified personnel, materiel, equipment, infrastructure or information.

**cease order (ceaseo)**

An order to conclude military operations as directed.

**centre of gravity (COG)**

The primary entity that possesses the inherent capability to achieve an objective or the desired end state.

**clear**

Remove all adversary forces and eliminate organised resistance in an assigned area.

**coerce**

Compel an actor to adopt desired behaviours by threat of force.

**collection plan**

A plan for collecting information from all available sources to meet collection requirements and for transforming those requirements into orders to collection elements.

**commander's critical information requirements (CCIR)**

The critical information a commander needs to make decisions.

Note: Comprises of priority intelligence requirements, friendly force information requirements and essential elements of friendly information.

**commander's decision point (CDP)**

A point in time and space at which a commander must make a decision to influence the operation in a particular target area of interest.

Note: Must be offset from the point where the action has to take place, to allow sufficient lead time for action to be initiated.

**commander's intent**

A formal statement, usually in the concept of operations or general outline of orders, given to provide clear direction of the commander's intentions.

**comprehensive approach**

A multinational approach that responds effectively to complex crises by orchestrating, coordinating and deconflicting military and non-military activities.

**concept of operations (conops)**

A clear and concise statement of the line of action chosen by a commander to accomplish the mission.

**contain**

Restrict the freedom of manoeuvre of an adversary force to a specified area.

**control**

Maintain physical influence over a specified area or group to prevent its use by an adversary.

**co-opt**

Appropriate as one's own or assimilate, take or win over into a larger or established group.

**counter**

Meet or answer another in return.

**course of action (COA)**

A possible plan that would achieve an objective or the desired end state.

**cover**

The action by military forces to protect by offence, defence or threat of either or both.

**critical capability (CC)**

An action (verb) done by the centre of gravity which enables it to achieve an objective or the desired end state.

**critical factor (CF)**

A critical capability, critical requirement or critical vulnerability.

Notes:

1. Critical factors are identified during centre of gravity analysis.
2. The key term is 'critical'. A system may consist of many things, but few are likely to be critical.

**critical requirement (CR)**

A thing (noun), resource, or means that is essential for a critical capability to enable a centre of gravity to function.

**critical vulnerability (CV)**

Those critical requirements, or components thereof, that are inherently targetable and vulnerable to neutralisation, defeat or destruction in a way that will contribute to undermining a centre of gravity.

**culminating point**

The point in time and location where a force will no longer be stronger than the adversary and risks losing the initiative.

Notes:

1. This may be due to reduced combat power, attrition, logistics, dwindling national will or other factors.
2. To be successful, the operation must achieve its objectives before reaching its culminating point.

**deceive**

To mislead the adversary by manipulation, distortion, or falsification of evidence to induce them to react in a manner prejudicial to their interests.

**decisive point (DP)**

A significant operational milestone that exists in time and space or the information domain which constitutes a key event, essential task, critical factor or function that, when executed or affected, allows a commander to gain a marked advantage, or contributes to achieving success.

**decrease**

To diminish gradually in extent, quantity, strength, power etc.

**defeat**

Diminish an adversary's effectiveness such that they are either unable or unwilling to achieve their objective.

**defend**

To employ or deploy combat capability to prevent, resist, repel or destroy an adversary attack before it can achieve its objective and, during the conduct phase, to accept decisive engagement.

**degrade**

Reduce the effectiveness of a capability such that the function still operates, but not fully.

**delay**

Prevent someone from arriving at a location before a specified time or event, while avoiding decisive engagement.

**demonstrate**

Exhibit the operation or use of (a capability, device, process, product, or the like).

**deny**

Prevent use of a specified thing.

**destroy**

Damage an object or an adversary force so that it is rendered useless to the adversary until reconstituted.

**deter**

Persuade someone that the consequences of a course of action would outweigh potential gains and/or expected costs.

**dislocate**

Render an actor's capabilities irrelevant by not allowing them to be employed at a critical time and place.

**disrupt**

Break apart an adversary's formation and tempo, interrupt the adversary timetable, cause premature and/or piecemeal commitment of forces.

**dissuade**

Turn a person or group away from a particular course.

**educate**

Impart detailed knowledge of facts or circumstances to select communities for the purpose of enhancing attitudes through understanding.

**effect**

The consequence of an action or cause, which impacts physical, physiological, psychological or functional capabilities.

**empower**

Give authority or power to, whether officially or perceived.

**end state**

The political and/or military situation to be attained at the end of a campaign or operation, which indicates that the strategic objective(s) has been achieved.

**enhance**

To increase or make greater the capabilities of a force or a people.

**essential elements of friendly information (EEFI)**

Critical exploitable information concerning friendly dispositions, intentions, capabilities, morale, knowledge and potential vulnerabilities that, if compromised, could threaten the success of friendly force.

**essential task**

A specified or implied task that an organisation must perform to accomplish the mission.

Note: An essential task is typically included in the mission statement.

**execute order (executo)**

An order to initiate military operations as directed.

**exploit**

Generate an operational advantage by building upon a success, discovery, achievement or knowledge.

**fix**

Prevent an adversary from moving from a specific location or for a specific period of time in order to generate an operational advantage.

**friendly force information requirement (FFIR)**

Information regarding the activities or capabilities of own or adjacent units.

**fuse**

Combine or blend together.

**guard**

To protect the main force by fighting to gain time while also observing and reporting information, and to prevent adversary ground observation of and direct fire against the main body by reconnoitring, attacking, defending, and delaying.

**high-value target (HVT)**

An asset which is likely to be required for completion of the adversary's mission.

**implied task**

A task derived during mission analysis that an organisation must perform or prepare to perform to accomplish a specified task or the mission, but which is not stated in the higher headquarters order.

**interdict**

Keep an adversary force out of range so that it cannot be used effectively against a friendly force.

**isolate**

Seal off an adversary force from its sources of support, to deny it freedom of movement, and prevent it from having contact with other adversary forces.

**joint (J)**

Activities, operations and organisations in which elements of at least two Services participate.

**Joint Intelligence Preparation of the Operational Environment (JIPOE)**

A systematic, dynamic process for analysing the threat and the environment, considered in the dimensions of space and time.

Note: It is designed to support staff planning and prepare the foundations for informed military decision-making.

**limit**

To reduce or confine within boundaries the options or course of action available to the adversary commander.

**line of communication (LOC)**

A land, water or air route that connects an operating military force with one or more bases of operations, and along which supplies and reinforcements move.

**line of operation (LOO)**

A line linking decisive points to allow sequential progression towards an operational objective or the desired end state.

**main effort (ME)**

A concentration of forces or means, in a particular area, time and phase of an operation, where a commander seeks to bring about a decision.

**master target list (MTL)**

The encompassed listings of targets designated for a campaign or operation, comprising the joint target list, restricted target list and no-strike list.

**mislead**

To create a false perception that leads the opposition to act in a manner detrimental to mission accomplishment while benefiting accomplishment of friendly objectives.

**mission**

A clear, concise statement of the task of the command and its purpose.

**multinational**

Activities, operations and organisations, in which elements of more than one nation participate.

**named area of interest (NAI)**

A geographical area where information is gathered to satisfy specific intelligence requirements.

**neutralise**

Render an adversary element temporarily incapable of interfering with the operation.

**operation (op)**

A series of tactical actions with a common unifying purpose, planned and conducted to achieve a strategic or campaign end state or objective within a given time and geographical area.

**operation instruction (opinst)**

Indicates the commander's intention and possibly the overall plan but leaves the detailed course of action to the subordinate commander.

**operation order (opord)**

A directive, usually formal, issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation.



**operation plan (oplan)**

A plan for a single or series of connected operations to be carried out simultaneously or in succession.

Notes:

1. It is usually based upon stated assumptions and is the form of directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders.
2. The designation 'plan' is usually used instead of 'order' in preparing for operations well in advance.
3. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order.

**operational art (opart)**

The skilful employment of military forces to attain strategic goals through the design, organisation, sequencing and direction of campaigns and major operations.

Notes:

1. Operational art translates strategic into operational and ultimately tactical actions.
2. It requires a commander to:
  - a. identify the military conditions or end state that constitute the strategic objective;
  - b. decide the operational objectives that must be achieved to reach the desired end state;
  - c. order a sequence of actions that lead to fulfilment of the operational objectives; and
  - d. apply the military resources allocated to sustain the desired sequence of actions.

**operational design**

The contemporary application of operational art in producing a schematic that represents the commander's operational approach to a situation.

**operational level**

The level at which campaigns and operations are planned and conducted to accomplish strategic objectives.

**operational objective**

A condition that needs to be achieved during a campaign or operation to enable the desired end state to be reached.

Note: Correct assessment of operational objectives is crucial to success at the operational level.

**operational reach**

The distance and duration across which a force element can successfully employ its military capabilities.

**penetrate**

Break through adversary defence and disrupt the defensive system.

**phase**

A definitive stage of an operation or campaign during which a large portion of the forces and capabilities are involved in similar or mutually supporting activities for a common purpose.

**prevent**

Stop an action from occurring.

**priority intelligence requirement (PIR)**

An intelligence requirement for which a commander has stated a priority.

**protect**

Preserve the effectiveness of personnel, equipment, infrastructure and information.

**recover**

To extract a friendly force, non-hostile individual or group and/or materiel from a location not under friendly control, with or without force.

**retain**

Maintain possession of personnel, equipment, infrastructure and information for friendly use.

**rules of engagement (ROE)**

Chief of the Defence Force directives issued to the Australian Defence Force, in consultation with the Australian Government, which regulate the use of force and activities connected to the use of force.

Note: The document by which the Chief of the Defence Force promulgates rules of engagement is a rules of engagement authorisation.

**secure**

To gain possession of a resource eg personnel, equipment, infrastructure, terrain, or information, without force, to make such disposition as will prevent, as far as possible, its destruction or loss by an adversary's action.

**screen**

Observe, identify and report information through a designated security element, which only fights in self-protection.

**seize**

Gain possession of personnel, equipment, infrastructure and information by force.

**sequel**

An option at a commander's decision point along a line of operation, initiated by a significant shift in operational direction, which identifies a new line of operation to achieve a revised or new objective.

**sequencing**

The ordering of decisive points into lines of operation, and the subsequent ordering of lines of operation into a logical progression in time, space and purpose.

**shape**

Enhance the friendly force's position, delay an adversary's response, or lead an adversary into an inadequate or inappropriate response to set the conditions for decisive action.

**specified task**

A task that is specifically assigned to an organisation by its higher headquarters.

**stabilise**

Impose control and secure an area.

**strategic level**

The level at which nations determine national or multinational security objectives and deploy national resources to achieve them.

**supporting plan**

A plan, complementing the main plan, which provides detailed information concerning specialised and discrete aspects of an operation, and may cover areas such as communications, electronic warfare, movement, administration, public information, and intelligence collection.

**suppress**

Temporarily degrade a capability to enable a friendly action.

**synchronisation**

The arrangement of related and mutually supporting actions in time, space and purpose to maximise their combined intended effects.

**tactical level**

The level at which actions are planned and executed to accomplish operational objectives.

**target**

An entity or object which may be subject to an effect.

**target area of interest (TAI)**

A geographical point or area where key adversary capabilities are vulnerable to targeting by friendly forces.

**undermine**

Weaken someone's capabilities, morale, loyalty or reliability by affecting their military, cultural, economic, societal or political strength.

**war game**

A simulation game in which participants seek to achieve a specified military objective given pre-established resources and constraints.

Notes:

1. Example: a simulation in which participants make battlefield decisions and a computer determines the results of those decisions.
2. The process is called wargaming.

**warning order (wngo)**

A planning directive that describes the situation, allocates forces and resources, establishes command relationships, provides other initial planning guidance, and initiates subordinate unit mission planning.

## SHORTENED FORMS OF WORDS

<b>ADDP</b>	Australian Defence Doctrine Publication
<b>ADF</b>	Australian Defence Force
<b>ADFP</b>	Australian Defence Force Publication
<b>AI</b>	area of intelligence interest
<b>alerto</b>	alert order
<b>AOE</b>	analysis of the operational environment
<b>C2</b>	command and control
<b>CC</b>	critical capability
<b>CCIR</b>	commander's critical information requirements
<b>CDF</b>	Chief of the Defence Force
<b>CDP</b>	commander's decision point
<b>CF</b>	critical factor
<b>CI</b>	counterintelligence
<b>CIS</b>	communication and information system
<b>CJOPS</b>	Chief of Joint Operations
<b>CJSS</b>	common joint staff system
<b>CJTF</b>	commander joint task force
<b>CM</b>	collection management/manager
<b>COA</b>	course of action
<b>COG</b>	centre of gravity
<b>conops</b>	concept of operations
<b>COS</b>	chief of staff
<b>CPG</b>	commander's planning group
<b>CR</b>	critical requirement
<b>CV</b>	critical vulnerability
<b>DFAT</b>	Department of Foreign Affairs and Trade
<b>DP</b>	decisive point
<b>EEFI</b>	essential elements of friendly information
<b>FE</b>	force element
<b>FFIR</b>	friendly force information requirement
<b>HQJOC</b>	Headquarters Joint Operations Command
<b>HVT</b>	high-value target
<b>IC</b>	intelligence collection
<b>IO</b>	information operations
<b>ISR</b>	intelligence, surveillance and reconnaissance
<b>JFAO</b>	joint force area of operations
<b>JIPOE</b>	Joint Intelligence Preparation of the Operational Environment
<b>JMAP</b>	Joint Military Appreciation Process
<b>JOC</b>	Joint Operations Command
<b>JPG</b>	joint planning group
<b>JTF</b>	joint task force

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<b>LOC</b>	line of communication
<b>LOO</b>	line of operation
<b>MA</b>	mission analysis
<b>ME</b>	main effort
<b>MN</b>	multinational
<b>MTL</b>	master target list
<b>NAI</b>	named area of interest
<b>NEO</b>	non-combatant evacuation operation
<b>NSC</b>	National Security Committee
<b>OE</b>	operational environment
<b>opinst</b>	operation instruction
<b>oplan</b>	operation plan
<b>opord</b>	operation order
<b>opsec</b>	operations security
<b>orbat</b>	order of battle
<b>ORM</b>	operational risk management
<b>PIR</b>	priority intelligence requirement
<b>PME</b>	professional military education
<b>RAP</b>	recognised air picture
<b>RASP</b>	recognised air and surface picture
<b>RFI</b>	request for information/intelligence
<b>RMP</b>	recognised maritime picture
<b>ROC</b>	rehearsal of concept
<b>ROE</b>	rules of engagement
<b>SOFA</b>	status of forces agreement
<b>SOP</b>	standard operating procedures
<b>SRP</b>	standing risk profile
<b>TAI</b>	target area of interest



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