NATO STANDARD

APP-28

TACTICAL PLANNING FOR LAND FORCES

Edition A Version 1

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NORTH ATLANTIC TREATY ORGANIZATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

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NATO LETTER OF PROMULGATION

21 November 2019

1. The enclosed Allied Procedural Publication APP-28, Edition A, Version 1, TACTICAL PLANNING FOR LAND FORCES, which has been approved by the nations in the Military Committee Land Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 2631.

2. APP-28, Edition A, Version 1, is effective upon receipt.

3.

4. This publication shall be handled in accordance with C-M(2002)60.

Zoltán GULYÁS
Brigadier General, HUNAF
Director, NATO Standardization Office

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RESERVED FOR NATIONAL LETTER OF PROMULGATION

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
CAN	i. Canada disagrees with some of the terms and/or definitions pertaining to mission analysis, information briefs and decision briefs. Canada will continue to use its own terminology until compatible terms and definitions can be developed; ii. Canada does not agree with the merging of the estimate process into the operations planning process. Canada sees the two processes as distinct and separate the former being done by a commander with no/minimal staff, and the latter by a commander with dedicated staff. Generally, estimates are done at the unit and below level, while the operations planning process is used at the formation level.
DEU	DEU does not recognize air interdiction as part of the Receipt of Mission Brief (para 22.8, subpara 2.f.). In line with the other listed areas (AOO, AIR), DEU replaces air interdiction (AI) with area of interest (AOI). Reservation 2: DEU does not follow the definitions of deep, close and rear operations (para 3.1.4., subpara 3a. – c.), because they are not in line with NATO terminology according to NATOTerm. DEU applies the NATO agreed definition as follows: Deep Operation: An operation conducted against forces or resources not engaged in close operations. Close Operation: Operation conducted at short range, in close contact and in the immediate timescale. Rear Operations: Operations which establish and maintain one's own forces in order to generate the freedom of action to allow for the conduct of close and deep operations.
DNK	DNK doctrine on tactical planning is in its overall substance in line with the doctrine described in STANAG 2631. However STANAG 2631 does not take reconnoiter into account during the planning process. DNK doctrine allows staff recce and recce with subunits in the ORIENT phase (also decribed in Annex B). DNK sees recce as a key element in the planning process.
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

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PREFACE

0001. Purpose

North Atlantic Treaty Organization's (NATOs) recent operations show an increase in the formation and employment of multinational headquarters at the land component command level and below. To improve alliance interoperability and operational effectiveness within these headquarters, a standardised approach to planning tactical operations is required. Allied Procedural Publication (APP)-28, *Tactical Planning for Land Forces*, provides this standardisation.

0002. Scope

a. APP-28 provides a common approach to planning operations at the tactical level. It describes the tactical planning process—a process used by commanders and staffs to analyse a mission, develop, analyse, and compare courses of action, decide on the optimum course of action, and produce a plan and order for execution.

b. To effectively employ the processes and procedures in APP-28, readers must be familiar with the command and control doctrine found in Allied Tactical Publication (ATP)-3.2.2, *Command and Control of Allied Land Forces*. Readers must understand the concept of mission command, the manoeuvrist approach, and the importance of developing mission-type orders. They must also understand the dynamic nature of the operations process to include continuous planning and decision-making throughout an operation. In addition, to effectively plan tactical operations, readers must fully understand the tactics found in ATP-3.2.1, *Allied Land Tactics*.

c. In order to (IOT) understand the interaction of operational and tactical level planning, readers should be familiar with the operational level planning process (OLPP) and the fundamentals of operational planning addressed in Allied Joint Publication (AJP)-5. The tactical planning for land forces is linked to the OLPP described in AJP-5, *Allied Joint Doctrine for Operational-Level Planning*.

0003. Applicability The primary audience for APP-28 is NATO commanders and staffs within multinational headquarters at the land component command level and below. Commanders of tactical formations and units who have a staff use tactical planning for land forces to plan tactical operations. For headquarters established under the lead nation concept, commanders have the option to use their national planning doctrine (See Annex B – Comparison Matrix of NATO Planning Processes).

0004. References APP-28 references several NATO documents in which additional or more complete information on particular subjects is found. References cited are intended to reflect latest versions of documents, unless stated otherwise.

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CHAPTER 1 OVERVIEW OF TACTICAL PLANNING FOR LAND FORCES

1.1. SECTION I—MISSION COMMAND AND THE OPERATIONS PROCESS

1.1.1. Introduction

1. Tactical planning for land forces integrates the activities of the commander, staff, subordinate headquarters, and other partners to understand the situation (to include the formation's/unit's mission) and develop a plan and order to achieve the assigned mission. It expands upon and standardises the decision-making process described in Allied Tactical Publication (ATP)-3.2.2 *Command and Control of Allied Land Forces*.

2. The effective conduct of tactical planning for land forces requires an understanding of the philosophy of mission command, the manoeuvrist approach, and an appreciation of the relationship of planning with the other activities of the operations process. A summary of these topics is provided below.

1.1.2. Mission Command

1. *Command and control* (C2) is the authority, responsibilities, and activities of military commanders in the direction and coordination of military forces and in the implementation of orders related to the execution of operations (ATP-3.2.2). One of the key functions of a commander is to exercise C2 of military forces using the art and science of warfare.

2. The preferred C2 philosophy for allied forces is mission command. Mission command is the conduct of military operations through decentralized execution based on mission-type orders for effective mission accomplishment. Mission command concentrates on the objective of an operation, not on how it's accomplished.

3. Successful mission command results from subordinate leaders at all echelons exercising initiative within the commander's intent to accomplish missions. It requires an environment of trust and mutual understanding (see ATP-3.2.2 for further discussion of C2 and mission command). Successful mission command rests on the following four elements:

a. Commander's intent.

b. Subordinates' initiative.

c. Mission-type orders.

d. Proper resource allocation.

1.1.3. The Operations Process

1. Exercising C2 takes place dynamically through the cyclical nature of the four activities of the operations process (Figure 1-1). Those four activities are *planning*, *preparing*, *executing*, and *assessing*. Commanders, supported by their staff, use the operations process to understand, visualize, and describe operations; make and articulate decisions; and direct, lead, and assess tactical operations. Commanders lead this process.

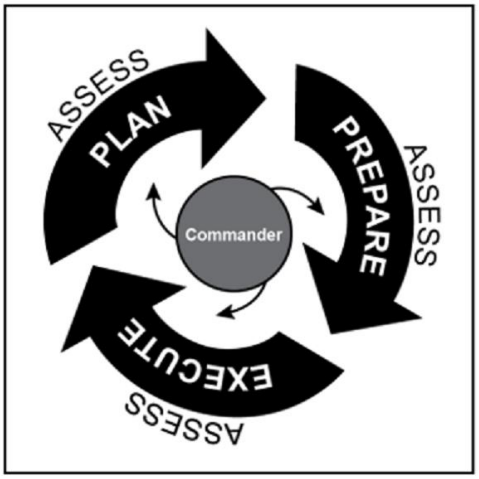

Figure 1-1. The Operations Process[1]

2. The four activities of the operations process are not discrete; they overlap and recur as circumstances demand. While preparing for or executing one operation, the formation/unit *plans* (or at least refines plans) for branches and sequels to the current operation or for the next operation. *Preparation* is also continuous whenever a formation/unit is not executing an operation. Preparing for a specific operation usually starts with the receipt of a warning order (WNGO), always overlaps with planning, and (for some subordinate units) continues through execution. Likewise, *assessing* is continuous and influences the other three activities. Subordinate units within the same command may be in different stages of the operations process at any given time (see ATP-3.2.2 for more information on the operations process). Tactical planning is harmonized with the higher level planning process.[2]

1.1.4. The Manoeuvrist Approach

1. The manoeuvrist approach can be applied to all types of military operations across the spectrum of conflict. The manoeuvrist approach is one in which shattering

[1] Some Nations call this the “Battle Procedure Model.”
[2] At the strategic level, assessing includes Initial Situational Awareness and strategic assessment. At the operational level, it includes Initial Situational Awareness and operational appreciation (See Comprehensive Operational Planning Directive (COPD) for more information).

the enemy's overall cohesion and will to fight, rather than his forces and equipment, is paramount. It is an indirect approach which emphasises targeting the enemy's moral component of his fighting power rather than the physical. Central to the concept is the need to seize, retain and exploit the initiative. This approach is most effective when it is used in conjunction with mission command. This approach involves a combination of lethal and non-lethal means to attack/shape the enemy's understanding, will, and cohesion. The manoeuvrist approach aims to apply strength against identified vulnerabilities to induce shock, through surprise and destruction, leading to the enemy's collapse, which is followed by friendly force exploitation. These effects are generated by ways and means of attack, and are governed by simplicity and flexibility (see Allied Joint Publication (AJP)-3.2, *Allied Joint Doctrine for Land Operations* for more information).

1.2. SECTION II—PLANNING, PLANS, AND ORDERS

1.2.1. Planning

1. Planning includes the art and science of understanding a situation, envisioning a desired future, and devising effective ways to achieve that future. It includes translating the commander's visualization into a specific course of action (COA) for preparation and execution. The purpose of planning is to synchronize the actions of forces in time, space, and purpose to achieve objectives. Effective planning incorporates the philosophy of mission command and the manoeuvrist approach (see AJP-5 for principles of operations planning and guidance for conducting the operational level planning process [OLPP]). Planning can be done by using the OLPP or the tactical planning for land forces.

2. While planning may start an iteration of the operations process, planning does not stop with the production of an operation order (OPORD). Throughout *preparation* and *execution*, the OPORD is continuously refined as the situation changes. Through assessment, subordinates and others provide feedback as to what is working, what is not working, and how to improve the situation. In some circumstances, commanders may determine that the current OPORD (to include associated branches and sequels) is no longer relevant to the situation. In such instances, instead of modifying the current OPORD, commanders will usually direct the development of an entirely new plan.

3. Planning can be a detailed, systematic analysis and evaluation of all factors relating to an operation. It can provide insight into what might occur in order to produce an optimum COA for mission accomplishment. This type of detailed planning anticipates future conditions and events. Alternatively, planning may be hasty, considering only critical aspects to reach an acceptable COA quickly in the face of adversary (enemy) actions. In this case, the commander and staff usually respond to existing conditions and quickly devise a plan for immediate or near-future execution.

4. **Planning Horizons.** At all levels there are three planning horizons: short-term, mid-term and long-term (see Figure 1-2 on page 1-4). A planning horizon is a timeframe commanders use to focus their organization's planning efforts to shape

future events. Planning horizons are relative to each planning level. For example, at the tactical level, long term planning may consist of planning for an end-of-tour end-state representing the progress made towards the operational objectives. The same time-frame at the strategic level would fall within the mid- or short-term planning horizon.

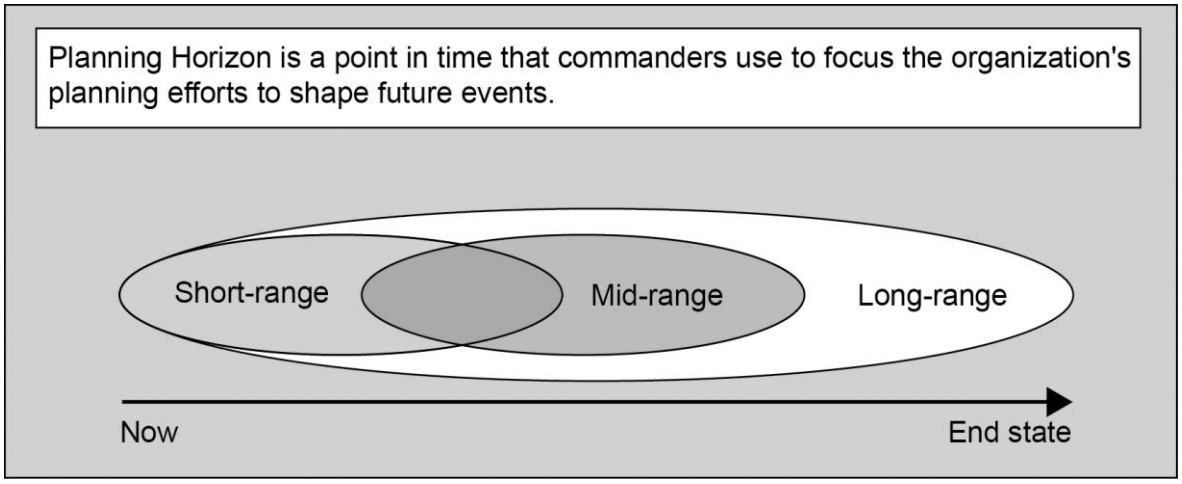

Figure 1-2. Planning Horizons

5. Effective planning requires a sensitive awareness and judicious use of time. Personnel must attempt to complete plans as quickly as possible so as to maximize subordinate commanders' planning time. The staff should use frequent WNGOs to facilitate parallel planning with subordinates.

1.2.2. Plans and Orders

1. A plan/order is a framework from which to adapt, not a script to be followed to the letter. The measure of a good plan/order is not whether execution transpires as foreseen but whether it facilitates effective action and maximizes opportunities in the face of unforeseen events. Good plans and orders foster initiative and promote mission command.

2. Plans and orders come in many forms and vary in the scope, complexity, and length of time they address. Ideally, commanders and staffs develop an operation plan (OPLAN) well in advance of execution. The OPORD is the means by which OPLAN is directed for execution. Usually planning results in a written OPORD complete with attachments. Sometimes planning produces brief fragmentary orders (FRAGO) (see ATP-3.2.2 for NATO plans and orders formats).

1.2.3. Mission-Type Orders

1. Mission command demands commanders, and their staffs, use mission-type orders. A *mission-type order* is an order issued to a subordinate unit that indicates the mission to be accomplished without specifying how it is to be done (Allied Administrative Publication (AAP)-6, *NATO Glossary of Terms and Definitions*). Mission-type

orders should be formulated using the mission statement structure and the NATO five-paragraph order format. At all times orders should be as brief and simple as the situation permits (see ATP-3.2.1 *Allied Land Tactics [Edition B, Version 1]* for more information on mission statement structure). A simple, concise order reduces confusion and saves time, both of which contribute to mission success.

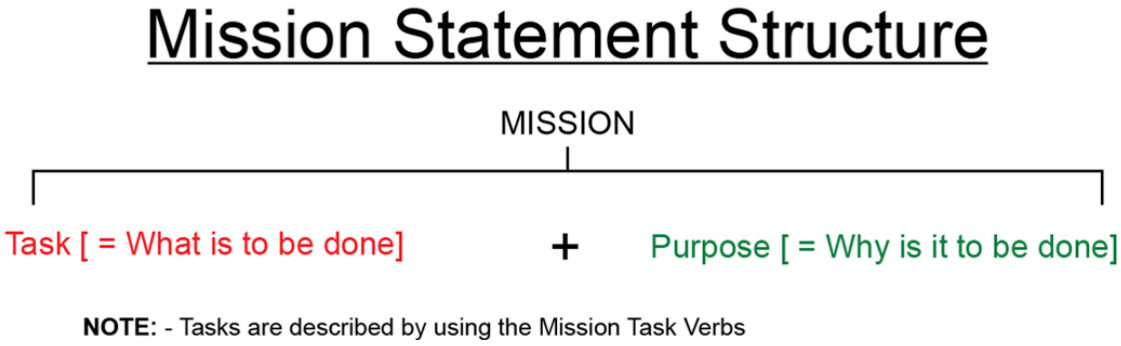

Figure 1-3. Mission Statement Structure

2. Properly drafted mission-type orders provide subordinates the maximum freedom of action in determining how to best accomplish their missions. They still require lateral coordination between formations/units and vertical coordination within the chain of command.

3. Mission-type orders emphasize the mission; commander's intent; concept of operations; task organization; and subordinates' mission/task; while providing only essential coordinating instructions (see ATP-3.2.2 *Command and Control of Allied Land Forces* for further details). Missions/tasks assigned to subordinate units include all the standard elements (who, what, when, where, and why) with particular emphasis on the purpose (why). The purpose within subordinate tasks, along with the commander's intent, guides subordinates' initiative. Effective mission orders limit the number of tasks explicitly assigned to subordinates. They provide just enough detail to coordinate the activities of the force.

1.3. SECTION III—STRUCTURE AND ROLES

1.3.1. General

1. Tactical planning for land forces is an iterative approach to planning tactical operations consisting of seven (7) steps (see Figure 1-4 on page 1-7). Commanders and staffs generally perform these steps sequentially. However, they may revisit steps in any iterative fashion, as they learn more about the situation before producing the plan and/or order (see Annex B for a Comparison Matrix of NATO Planning Processes).

2. Figure 1-4 on page 1-7 depicts the title, key results, and the purpose of each step of tactical planning for land forces. Throughout tactical planning, the staff updates

the running estimates (see paragraph 2.2.5.) and performs intelligence preparation of the operational environment (IPOE) [3] (see paragraph 2.5.3.).

3. Tactical planning is a dynamic process of interrelated activities which includes other processes such as IPOE, targeting, risk management, etc. Tactical planning integrates the seven (7) combat functions (command, intelligence, fires, manoeuvre, protection, information activities, and sustainment) into a synchronised plan and order for execution.

4. Tactical planning includes several formal meetings and briefings between the commander and staff to discuss, assess, and approve or alter planning efforts as they progress. However, experience has shown that optimal planning results when the commander meets informally at frequent intervals with his staff. Such informal interactions can improve understanding of the situation and ensure the staff's planning efforts adequately reflect the commander's visualisation of the operation.

5. Tactical planning drives preparation. Since time is a factor in all operations, commanders and staffs conduct a time analysis (estimate) early in the planning process. This analysis helps them determine what actions are required and when to ensure forces are ready and in position before execution. This may require commanders to direct subordinates to start necessary movements, conduct task organisation changes, begin surveillance and reconnaissance operations, and/or execute other preparation activities before the plan is completed. As commanders and staffs conduct tactical planning, they direct tasks using a series of WNGOs.

1.3.2. Role of the Commander

1. Commanders drive the planning process by focusing the planning efforts with their initial intent, planning guidance, and making key decisions throughout the process. Commanders apply discipline to the planning process to meet the requirements of time, planning horizons, simplicity, amount of detail, and desired outcomes.

2. Commanders act more than simply decision makers in this process, they use their experience, knowledge, and judgment to guide staff planning efforts. Throughout tactical planning, commanders focus their activities on understanding, visualising, and describing operations (see ATP-3.2.2).

1.3.3. Role of the Chief of Staff

1. Depending on the organisation of the unit, the Chief of Staff (COS) is the commander's principal assistant. Commanders normally delegate executive management authority to the COS for the conduct of tactical planning. To manage tactical planning for the commander, the COS must clearly understand his/her commander's intent and planning guidance.

[3] JIPOE is generally conducted at the operational level and the correct term for the tactical level is IPOE.

2. Throughout tactical planning the COS supervises, manages, and coordinates the staff's efforts. This includes establishing timelines for the staff, establishing briefing times and locations, and providing any instructions necessary to complete the plan.

Steps	Key inputs	Key activities	Key outputs
Step 1: **Receipt of Mission**	• Higher headquarters' plan or order or a new mission anticipated by the commander • Warning order	• Alert the staff and other key participants	• Issue commander's initial planning guidance • Issue initial warning order
		Warning Order	
Step 2: **Mission Analysis** a. Order analysis b. Evaluation of factors	• Initial guidance • Higher headquarter' plan and order • Knowledge products from other organizations • Higher headquarters' knowledge and intelligence products • Update running estimates	• Analysis of higher commander's order • Develop a restated mission statement • Formulate commander's initial intent • Develop ICP	• Issue commander's initial intent • Deliver the order analysis briefing • Deliver the mission analysis briefing • Issue additional commander's planning guidance • Deliver commander's initial back brief to higher commander
		Warning Order	
Step 3: **Course of Action (COA) Development**	• Commander's initial intent • Revised commander's planning guidance: - Selection criteria for COA development - Commander's COA development guidance • Assigned and implied tasks, and essential task	• Choose a COA development method • Assess relative combat power • Develop adversary (enemy) COAs • Prepare COA briefing • Validate COAs	• Friendly COAs including sketches • Adversary (enemy) COA(s) including sketches • COA comparison products • COA briefing
Step 4: **COA Analysis**	• Revised planning guidance • COA statements and sketches • Updated assumptions • Updated running estimates • Any new information (from higher HQ, CCIRs etc.)	Preparation for each COA • Select analysis technique • Select ACOA to compare • Select critical events and decision points to analyze Perform • Deliver COA analysis • Summarize and assess results • Refine selected COAs	• Refined COAs • Potential decision points • COA analysis results • Updated assumptions and CCIRs • Revised commander's planning guidance • COA analysis briefing
Step 5: **COA Comparison**	• Updated running estimates • Refined COAs • Evaluation criteria • COA analysis results • Updated assumptions and CCIRs • Revise commander's planning guidance	• Conduct advantages and disadvantages analysis • Compare and rate COAs • Select the staff preferred COA • Prepare and deliver the COA decision brief	• Recommended COAs • COA decision brief
Step 6: **Commander's Decision**	• Updated running estimates • Evaluated COAs • Recommended COAs	• Commander's decision on COA	• Commander-approved COA and any modifications • Refined commander's final intent and CCIRs • Issue final planning guidance
		Warning Order	
Step 7: **Orders Production, Dissemination, and Transition**	• Commander-approved COA and any modifications • Final planning guidance • Updated IPOE	• Plan and order reconciliation • Approve the plan and/or order • Prepare and issue plan and orders	• Approved operation plan and order

ACOA adversary course of action
CCIR commander's critical information requirement
COA course of action
ICP intelligence collection plan
IPOE intelligence preparation of the operating environment
HQ headquarters

Figure 1-4. Steps of the Tactical Planning for Land Forces

1.3.4. Role of the Staff

1. The staff's effort during tactical planning are focused on helping the commander understand the situation and mission, make decisions, and synchronise those decisions into plans and orders. Throughout the planning process the staff continually builds upon its running estimates and provides facts, assumptions, conclusions, and recommendations to their commander.

2. The staff initially focuses its activities on mission analysis. The products developed during mission analysis help commanders understand the situation (to include the formation's/unit's mission) and develop their visualisation for the conduct of the operation. During COA development, the staff employs creative thinking to develop different options to accomplish the mission. The staff assists the commander in deciding on the optimum COA through analysis and comparison of adversary (enemy) and friendly COA's using the evaluation criteria set forth by the commander. The staff will prepare the plan and order following the commanders selection of a COA.

1.3.5. Modifying Tactical Planning

1. Tactical planning can be as detailed as time, resources, experience, and the situation permits. Commanders require sufficient planning time and staff support to thoroughly examine two or more COAs and devise a fully synchronised plan and order. Completing all seven steps of tactical planning as described in this publication can be both time and staff intensive. This typically occurs when planning for a new mission. Once an operation is underway a commander may alter the steps of tactical planning to fit time-constrained circumstances. In time-constrained conditions, commanders assess the situation, update their visualization, and direct the staff to perform only those tactical planning activities that aid his decision-making process. In extremely compressed situations, commanders rely on intuitive decision-making techniques (see Chapter 5 for Planning in a Time-Constrained Environment and Annex F Time-Saving Techniques).

CHAPTER 2 PHASE I – UNDERSTANDING THE SITUATION AND PROBLEM

2.1. General

Tactical planning consists of three phases and seven steps. The phases and steps are:

1. Phase 1 – Understanding the Situation and Problem
    a. Step 1 – Receipt of the Mission
    b. Step 2 – Mission Analysis
        (1) Step 2a – Order Analysis
        (2) Step 2b – Evaluation of Factors
2. Phase 2 – Consider and develop COAs
    a. Step 3 – COA Development
    b. Step 4 – COA Analysis
    c. Step 5 – COA Comparison
3. Phase 3 – Communication
    a. Step 6 – Commander’s Decision
    b. Step 7 – Orders Production, Dissemination, and Transition

4. Some steps include briefings to exchange information between commander and staff. For exchange of information during tactical planning with your subunits, warning orders are included in some steps. For exchange of information during tactical planning with the higher headquarters back-briefs are scheduled (see Figure 2-1, Tactical Planning for Land Forces Overview on page 2-2).

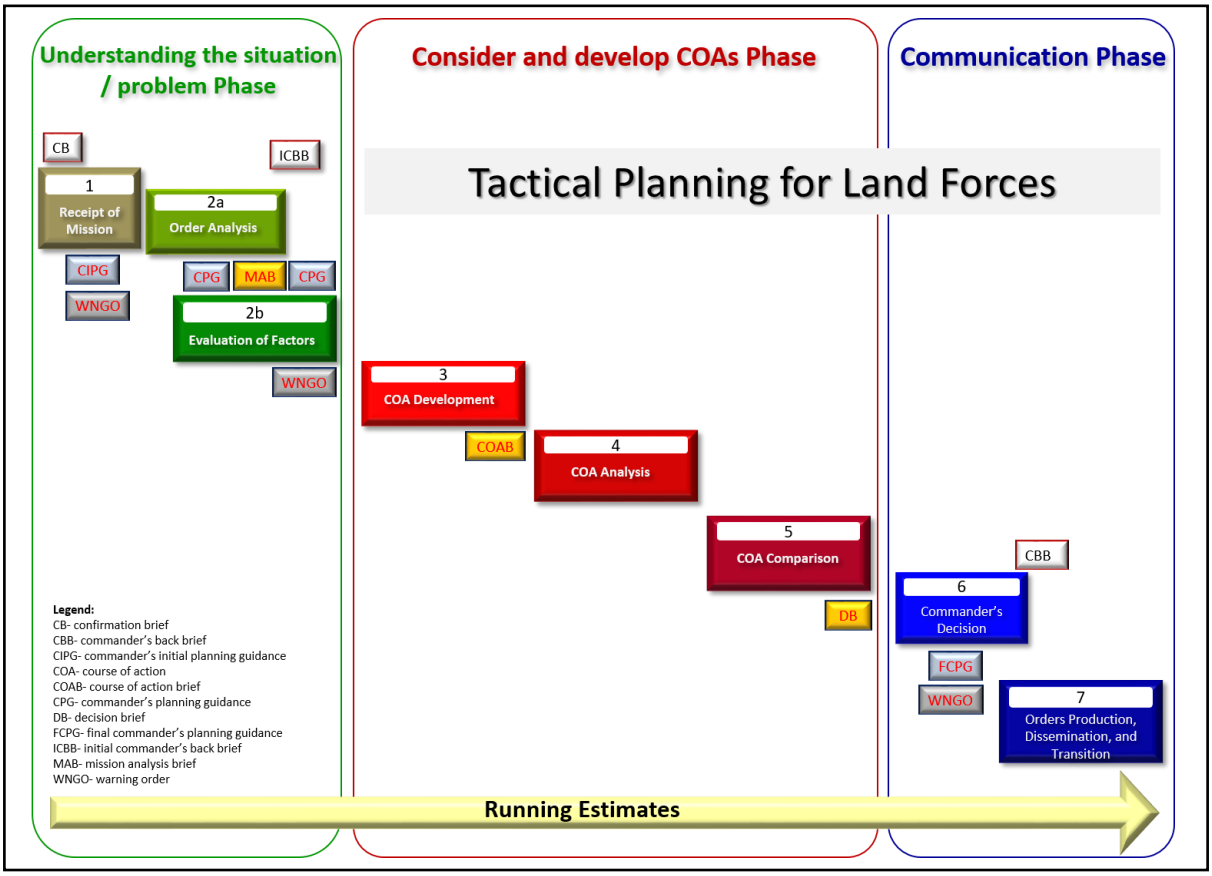

Figure 2-1. Tactical Planning for Land Forces Overview

2.2. SECTION I: PHASE I – STEP 1: RECEIPT OF MISSION

2.2.1. General

Commanders initiate tactical planning upon receipt of a new mission or when the situation changes. Tactical planning is not developed in isolation but within the context of the higher headquarters' plans/orders. Commanders and staffs often begin tactical planning in the absence of a complete and approved higher headquarters' OPORD. In these instances, the headquarters begins a new planning effort based on a WNGO. The purpose of step 1 is to alert the staff and subordinate formations/units and prepare for mission analysis. Figure 2-2, Step 1 *Receipt of the Mission*, on page 2-3 shows the key inputs, activities, and outputs of this step.

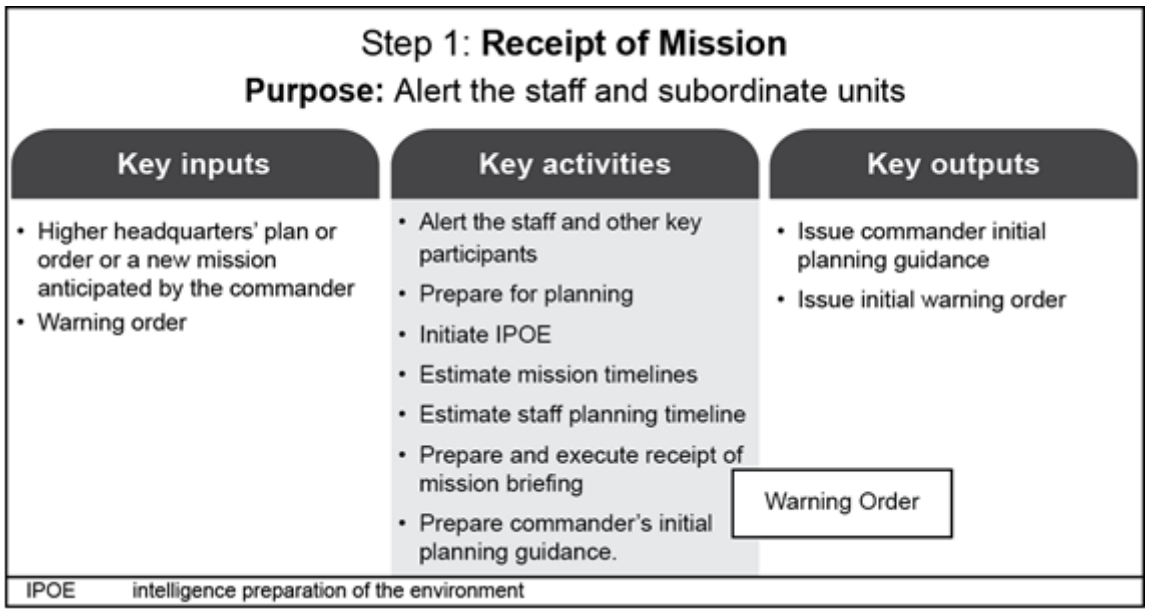

Figure 2-2. Step 1–Receipt of the Mission

2.2.2. Alert the Staff and Other Key Participants

As soon as a unit receives a new mission (or when the commander directs changes based on changes to the situation), the staff is alerted to the pending planning requirement. Unit standing operating procedures (SOP) should identify members of the planning staff who participate in planning. Depending on the situation, the headquarters also notifies other military, civilian, and host-nation organizations of pending planning events.

2.2.3. Prepare for Planning

1. Once notified of the new planning requirement, the staff prepares for mission analysis by gathering the necessary tools. These tools include but are not limited to:

   a. Current running estimates.

   b. Higher headquarters' and other organizations' intelligence and assessment products.

   c. All documents related to the mission and area of operations (AOO) including higher headquarters' WNGOs, OPLANs and OPORDs, maps and terrain products, and operational graphics.

   d. Estimates and products of other military and civilian agencies and organizations.

   e. SOPs from internal and higher headquarters (HQ).

f. Appropriate NATO doctrine publications such as AAP-06, *NATO Glossary of Terms and Definitions* (STANAG[4] 3680); AAP-15, *NATO Glossary of Abbreviations Used in NATO Documents and Publications*; AAP-39, *NATO Handbook of Land Operations Terminology* (STANAG 2248); APP-6, *NATO Joint Military Symbology* (STANAG 2019); and ATP-3.2.1, *Allied Land Tactics* (STANAG 2605).

2. Staff officers carefully review the reference sections of the higher headquarters' OPLANs and OPORDs (located before paragraph 1 [Situation]) to identify documents related to the upcoming operation.

2.2.4. Initiate Intelligence Preparation of the Operational Environment

IPOE is an elaborate, time-consuming process during which multiple products and overlays have to be produced. Therefore, it is essential the higher HQ provide their IPOE products to its subordinate units by no later than (NLT) the end of Step 2 - *Mission Analysis*. This enables subordinate headquarters to prepare and present the products and conclusions of the Area Evaluation and Actor Evaluation in Step 1, thereby considerably shortening the time needed for planning. The area evaluation provides tailored products and conclusions about the terrain (Combined Obstacle Overlay [COO], Modified Combined Obstacle Overlay [MCOO] etc.) and weather (weather forecast and -matrix). The actor evaluation provides tailored information about organisation, doctrine and vulnerabilities of adversaries and enemies.

2.2.5. Update Running Estimates

1. Effective plans hinge on accurate and current running estimates. Upon receipt of mission, each staff section begins to build upon its running estimates. This continues throughout the remaining steps of both tactical planning and the operations process. The staff constantly considers the effects of new information and updates the following:

a. Facts.

b. Assumptions.

c. Adversary (enemy),[5] Terrain and Weather, Troops and Support, Time, and Civil considerations.

d. Conclusions and recommendations.

2. Running estimates always include recommendations for anticipated decisions. During planning, commanders use these recommendations to select feasible, acceptable, suitable, unique, and flexible COAs for further analysis. During preparation

[4] STANAG – Standardization Agreement.

[5] **Adversary**, as defined by NATO is "a potential hostile element and against which the legal use of force may be envisioned." Enemy, a person who is hostile to you.

and execution, commanders use recommendations from running estimates in decision making.

2.2.6. Estimate Mission Timelines

1. Timelines are determined at this stage. An estimate of the mission timeline is prepared by listing –in reverse order - all actions that must be completed from and assigning time periods to each of those actions. When an H-hour is given the time appreciation begins and works back from it. The more complex the operation the more detailed the timeline estimate should be.

2. Studying the time frame includes consideration of the mission's duration, environmental conditions under which it will occur (season, day/night duration, moon phases), critical dates (historical commemorations, religious festivals, etc.), and determining any possible restraints that these factors may place on operations. The result is an assessment of the conditions under which the mission will take place, any limitations that will impact the accomplishment of the mission, and a timeline of key activities.

2.2.7. Estimate Staff Planning Timelines

1. During receipt of mission, the commander and staff prepare an initial staff planning timeline estimating resources available to plan, prepare, and begin execution of an operation. This initial assessment helps commanders determine:

a. Time available to plan and prepare for the mission for both headquarters and subordinate formations/units.

b. Which outside agencies and organisations to contact and incorporate into the planning process.

c. The staff's experience, cohesiveness, and level of rest or stress.

2. Time, more than any other factor, determines the detail to which the commander and staff can plan. The commander and staff balance the desire for detailed planning against the need for timely action. The commander issues guidance to subordinate formations/units as early as possible to provide them with the maximum amount of time possible to conduct their own planning and preparation. As a rule, commanders utilize one third of the time available to do their own planning and allocate the remaining two-thirds to their subordinate commanders.

3. Based on the commander's initial allocation of time, the COS develops a staff planning timeline that outlines how long the headquarters can spend on each step of tactical planning. The staff planning timeline indicates what and when products are due, who is responsible for them, and who receives them. It serves as a benchmark for the commander and staff throughout tactical planning.

2.2.8. Prepare and Deliver *Receipt of Mission* Briefing

1. In order to highlight information that is already available for tactical planning, the commander and key staff have a quick meeting to summarize what is available and where to find it. The intent is not to brief the complete content of all running estimates and IPOE products but only the most recent and relevant changes. In this way, the commander and staff can determine what information is still missing and start identify information requirements.

2. The Receipt of Mission brief may consist of the following:

   a. Superior headquarters' commander's intent (two echelons up).

   b. Higher headquarters' commander's mission, intent, and concept of operation (one echelon up).

   c. Formation's/Unit's role in the overall plan.

   d. Mission of each adjacent formation/unit and their relationship to the higher headquarters' plan.

   e. Initial results of IPOE (evaluation of the environment) and identified relevant actors.

   f. AOO, air interdiction (AI), area of intelligence responsibility (AIR).

   g. Situation of own forces.

   h. Mission timelines.

   i. Estimated Staff planning timelines.

2.2.9. Prepare and Issue Commander's Initial Planning Guidance

Having determined the time available and the scope and scale of the planning effort, a commander issues initial guidance which includes the mission and the higher-headquarters' objective. Although brief, the initial guidance includes, but is not limited to:

   a. Approve mission and planning timelines.

   b. Methods to abbreviate the tactical planning, if required.

   c. Necessary coordination to include exchange of liaison officers.

   d. Information requirements.

   e. Authorized movements and initiation of intelligence collection.

f. Additional staff tasks.

2.2.10. Issue Initial Warning Order

The last activity in Phase I: Step 1 *Receipt of Mission* is to issue a WNGO to subordinate and supporting units. The WNGO follows the format in ATP-3.2.2 *Command and Control of Allied Land Forces*, Annex G, Appendix 1. It should include at a minimum the type of operations, the general location of the operation, the initial timeline, and any movement or intelligence collection to be initiated.

2.3. SECTION II: PHASE I – STEP 2: MISSION ANALYSIS

2.3.1. General

Tactical planning continues with *Mission Analysis*. NATO defines *mission analysis* as a logical process for extracting and deducing from a superior's orders the tasks necessary to fulfil a mission (AAP-39 NATO Handbook of Land Operations Terminology) Commanders (supported by their staffs and informed by subordinate and adjacent commanders and by other partners) gather, analyse, and synthesize information to orient themselves to the current conditions of the operational environment. The purpose of Step 2 is to understand the situation and the formation's/unit's mission. The resulting mission statement is a clear, concise statement of the task of the command and its purpose. A task/mission is generally given to subordinate commanders by a higher commander, especially at lower tactical echelons, and can be found in paragraph 3 (Execution) of higher command's OPORDs and may be restated at lower levels if necessary. A subordinate commander only deviates from his given mission in exceptional circumstances (i.e. the situation develops such that the original mission is no longer valid or feasible). However, in all instances the commander must act in accordance with his superior commander's (two echelons up) intent. Figure 2-3 on page 2-8 shows the key inputs, activities, and outputs of mission analysis.

NOTE: NATO is dividing Step 2 into two sub-steps. Sub-step 2A is *Order Analysis*. Sub-step 2B is *Evaluation of Factors*. An explanation of each sub-step follows.

Figure 2-3. Step 2–Mission Analysis

2.4. SECTION III: PHASE I – SUB-STEP 2A: ORDERS ANALYSIS

2.4.1. General

The purpose of sub-step 2A is to understand the assigned mission. Order analysis helps commanders identify *what* the command must accomplish, *when* and *where* the tasks must be performed, and most importantly *why (*the purpose of the operation). In parallel, the staff will start with sub-step 2B - *Evaluation of Factors* to assess the influence of these factors on accomplishment of the mission. At the end of sub-step 2A, the commander briefs the information and his conclusions to guide the staff analysis. Sub-step 2A incorporates the following activities:

a. Analyse the higher commander's order (one echelon up).

b. Develop (a restated) mission statement.

c. Formulate a commander's initial intent.

d. Develop an additional planning guidance to the staff.

e. Brief the staff.

2.4.2. Analysis of the Higher Commander's Order

1. A commander and staff (i.e. S3 or G3) thoroughly analyse the higher headquarters' plan or order. First they determine how their formation/unit, by task and purpose, contributes to the mission; commander's intent, and concept of operations of the higher headquarters in relation to own forces, time and space, information, and risks to the mission. The commanders and staff analyse the following:

a. Superior commander's intent (two echelons up).

b. Higher commander's mission, intent, and concept of operations (one echelon up).

c. Formation's/unit's role in the overall plan.

d. Missions of adjacent formations/units and their relationship to the higher headquarters' plan.

NOTE: A commander may use visualise aids, such as a sketch, to support his briefing to the staff on how he sees the operation unfolding.

2. A key aspect of *Mission Analysis* is identifying what the formation/unit must do to meet the higher commander's intent. NATO defines *mission analysis* as a logical process for extracting and deducing from a superior's orders the tasks necessary to fulfil a mission (AAP-39). Commanders and staffs analyse the following to help determine how to accomplish the mission:

a. Superior commander's intent (two echelons up) and my formation's/unit's role in the overall plan.

b. Missions or role of the adjacent formations/units and their relationship to the higher headquarters' plan.

c. Determine specified and implied tasks.[6]

d. Determine essential tasks.[7]

e. Determine any constraints and restraints.[8]

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[6] A ***specified task*** is a task specifically assigned to a unit by its higher headquarters. An ***implied task*** is a task that must be performed to accomplish a specified task or mission but is not stated in the higher headquarters' order. Once the commander and staff have identified the unit's specified and implied tasks, they ensure they understand the task's requirements and purpose.

[7] ***Essential task***—a specified or implied task that must be executed if the mission is to be successful. The unit's essential task becomes the basis for the unit's mission and mission statement.

[8] The commander and his staff identify any constraints and restraints (both of which are types of limitations) that have been imposed on them by the higher commander (i.e. caveats, ROE, red cards, etc.). Constraints are those things a commander must do. Restraints are those things a commander must NOT do. As such, both restrict a commander's freedom of action.

f. Identify critical facts and develop assumptions.

g. Identify risks, opportunities and critical points.

h. Determine if the situation might change and how it will affect the mission.

i. Establish and/or verify ‘go/no go’ and abort criteria for the operation.

j. Establish commander’s critical information requirements (CCIRs), Essential Elements of Friendly Information (EEFIs) and other requests for information (RFIs) and clarifications.

3. **Determine Specified, Implied, and Essential Tasks**

a. The staff analyses the higher headquarters’ order and the higher commander’s guidance to determine their specified and implied tasks. In the context of an operation, a *task* is a clearly defined action or activity specifically assigned to an individual or organization that must be done as it is imposed by an appropriate authority. The “what” of a mission statement is always a task. From the list of specified and implied tasks, the staff determines essential tasks for inclusion in the recommended mission statement.

b. A *specified task* is a task specifically assigned to a unit by its higher headquarters. The specified task is usually found in paragraph 3 of the higher headquarters’ plan (or order) and may also be found in paragraphs 4 and 5. Some specified tasks may be listed in annexes and overlays. They may also be assigned verbally during collaborative planning sessions or in directives from the higher commander.

c. An *implied task* is a task that must be performed to accomplish a specified task or mission but is not stated in the higher headquarters’ order. Implied tasks are derived from a detailed analysis of the higher headquarters’ plan (or order), the enemy situation, the terrain, and civil considerations. Additionally, an analysis of doctrinal requirements for each specified task might reveal implied tasks.

d. When analysing the higher plan (or order) for specified and implied tasks, the staff should also identify any ‘be-prepared’ or ‘on-order’ type missions. A *be-prepared mission* is a mission assigned to a unit and that may be executed depending on the result of its previous action (AAP-06 *NATO Glossary of Terms and Definitions*). Generally a contingency mission, commanders execute it because something planned has or has not been successful. In planning priorities, commanders plan a be-prepared mission after any on-order mission. An *on-order mission* is a mission to be executed at an unspecified time in the future when the order is given (AAP-06). A unit with an on-order mission is a committed force. Commanders visualise task execution in the concept of operations; however, they may not know the exact time or place of execution.

Subordinate commanders develop plans and orders and allocate resources, task-organize, and position forces for execution.

e. Once the staff has identified all specified and implied tasks, they need to understand each task's requirements and purpose. The staff then identifies any essential tasks. An *essential task* is a specified or implied task that must be executed to accomplish the mission. Essential tasks are always included in the unit's mission statement.

4. **Determine Constraints and Restraints**

a. The commander and his staff identify any constraints and restraints (both of which are types of limitations) that have been imposed on them by the higher commander (i.e. caveats, rules of engagement [ROE], red cards, etc.). A *Constraint* is a restriction placed on the command by a higher command which dictates an action or inaction. *Restraints* are a requirement placed on the command by a higher command that prohibits an action. As such, both restrict a commander's freedom of action.

b. Constraints and Restraints are found in paragraph 3 of the OPLAN or OPORD. Annexes to the order may also include constraints/restraints. The operation overlay, for example, may contain a restrictive fire line or a no fire area. Constraints and Restraints may also be issued verbally, in WNGOs, or in policy memoranda.

c. Constraints and Restraints may also be based on resource limitations within the command, such as organic fuel transport capacity, or physical characteristics of the operational environment, such as the number of vehicles that can cross a bridge in a specified time.

d. The commander and staff should coordinate with the staff judge advocate for a legal review of perceived or obvious constraints, restraints, or limitations in the OPLAN, OPORD, or related documents.

5. **Identify Critical Facts and Develop Assumptions**.

a. Plans and orders are based on facts and assumptions. Commanders and staffs gather facts and develop assumptions as they build their plan. A fact[9] is a statement of information thought to be true at the time. Facts concerning the mission variables, adversary (enemy), terrain and weather, troops and support available (friendly forces), time available, and civil considerations—serve as the basis for developing situational understanding for continued planning.

b. An *assumption* is a (in planning) supposition on the current situation and/or the future course of events to complete an estimate of the situation and

[9] *Fact* is a statement about an entity of the real or conceptual world, whose validity is generally accepted (ADatP-02).

decide on the course of action (AAP-06 *NATO Glossary of Terms and Definitions*). An assumption can be a pre-supposition on the future course of events, either or both assumed to be true in the absence of positive proof which are necessary to enable the commander in the planning process to complete an estimate of the situation and make a COA decision. In the absence of facts, the commander and staff consider assumptions from their higher headquarters. They then develop their own assumptions necessary for continued planning.

c. Making assumptions requires commanders and staffs to continually attempt to replace those assumptions with facts. The commander and staff should list and review the key assumptions on which fundamental judgments rest throughout the tactical planning. Re-checking assumptions is valuable at any time during the operations process prior to rendering judgments and making decisions.

6. **Identify Risks, Opportunities and Critical Points**

a. The commander and his staff identify risks to their mission and forces. A *risk* is the extent to which uncertainties and potential events might have an impact on achievement of objectives (AAP-06). A risk is measured by the probability of a threat, the vulnerability of the asset to that threat, and the impact it would have if it occurred. Risk can also be defined as uncertainty of outcome, and can be used in the context of measuring the probability of positive outcomes as well as negative outcomes. A risk can be influenced by corrective measures. A risk can be considered and accepted (calculated risk). A *Critical point* is a possible situation arising and cannot be solved within one means or by own action(s) and makes the mission/assignment impractical. Support from a higher echelon is necessary.

b. Risks not only occur from threat or actions of adversaries (enemies) but can also arise from extreme climate or weather, environment, specific diseases, toxics, and chemical, biological, radiological, and nuclear (CBRN) conditions. They are primarily a threat to the force and have to be dealt with using the Force Protection Process (AJP-3.14 *Allied Joint Doctrine for Force Protection*). Unchecked threats to the force will eventually affect the capabilities of that force to accomplish the mission

c. An *opportunity* is a time or set of circumstances making it possible to do something (Oxford English Dictionary). Opportunities create possible COAs for the commander and staff to investigate and develop. Opportunities can also reveal possible circumstances to exploit and reach the objective of the higher command earlier or with less effort.

7. **Establish and/or verify ‘Go/No Go’ and Abort criteria.**

When it is necessary for a commander to abort a mission - *Abort* is to terminate a mission for any reason other than enemy action. It may occur at any point after the

beginning of the mission and prior to its completion (AAP-06 *NATO Glossary of Terms and Definitions*). Criteria for aborting the mission can be given by the higher command or through caveats. *Caveats* - in NATO operations, any limitation, restriction or constraint by a nation on its military forces or civilian elements under NATO command and control or otherwise available to NATO, that does not permit NATO commanders to deploy and employ these assets fully in line with the approved operation plan (AAP-06). Criteria to stop the upcoming mission before it is even started will be called NO-GO criteria. GO criteria are used to describe conditions to start an operation or a planned and/or prepared branch, or sequel to the upcoming operation.

8. **Identify Commander's Critical Information Requirements**

Order analysis identifies gaps in information required for further planning and decision making during preparation and execution. During order analysis, the commander identifies information requirements. Some information requirements are of such importance to the commander that staffs nominate them to the commander to become a CCIR. Information concerning areas that are either critical to the success of the mission or represent a critical threat are expressed as CCIR. CCIR can cover all aspects of the commander's concern including Friendly Force Information Requirement (FFIR), EEFI, and the Priority Intelligence Requirements (PIR).

2.4.3. Develop a (restated) Mission Statement

1. Based on an understanding of the situation and the essence of the mission, the staff may need to develop a proposed restated mission for the commander's approval. The restated mission becomes the formation's/units mission statement which is a short sentence describing the organization's essential task and purpose. The five elements of a mission statement answer these questions:

   a. Who will execute the operation (formation/unit or organization)?

   b. What is the formation's/unit's essential task?

   c. When will the operation begin (by time or event) or what is the duration of the operation?

   d. Where will the operation occur (AOO, objective, grid coordinates)?

   e. Why will the force conduct the operations (for what purpose)?

2. Upon approval of the restated mission, commanders give guidance for the continuation of mission analysis. A technique is for the commander to develop a list of questions to focus the staff in its evaluation of factors.

2.4.4. Formulate Commander's Initial Intent[10]

1. Based on their understanding of the situation and essence of the mission, commanders develop and issue their commander's initial intent. The *commander's intent* is a clear, concise statement of what the force must do and the conditions the force must meet to succeed with respect to the enemy, terrain, and to the desired end state (ATP-3.2.2 *Command and Control of Allied Land Forces*).

2. The commander may change the initial intent statement as planning progresses and more information becomes available. The commander's initial intent must be easy to remember and clearly understood by leader's two echelons lower in the chain of command. The shorter the commander's intent the better it serves these purposes. Typically, the commander's intent statement contains the operation's purpose, key tasks, and objective (see Figure 2-4 for an example).

3. A commander's initial intent serves three goals:

   a. It provides focus to the staff to analyse the mission, perform evaluation of factors and develop COAs.

   b. It helps subordinate and supporting commanders act to achieve the commander's desired objective without further orders, even when the operation does not unfold as planned.

   c. It guides the subordinate and supporting commanders to exploit fleeting opportunities to reach the envisioned objective of the higher commander sooner or easier than planned.

4. Commanders may visualize their objective in a schematic to promote greater understanding. This visualisation may be broad or detailed depending on the situation. It reflects all elements of the operation.

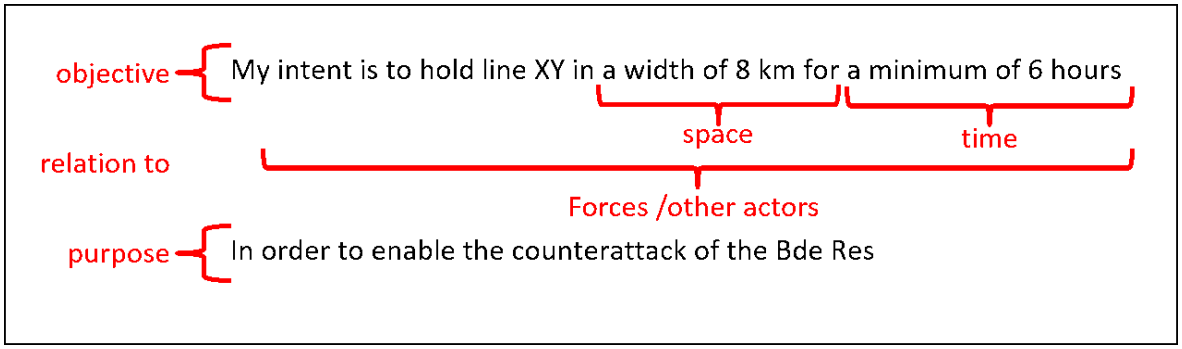

Figure 2-4. Example of Commander's Initial Intent

[10] Commander's Initial Intent captures objective and purpose in relation to forces, space, time and other actors.

2.4.5. Develop Additional Commander's Planning Guidance

1. Commanders may provide initial planning guidance along with their commander's initial intent following the orders analysis. Planning guidance conveys the essence of the commander's visualization. It reflects how the commander intends to employ combat power to accomplish the mission within his higher commander's intent. The commander's planning guidance may include specific COAs he wants his staff to look at as well as any he will not accept. Clear guidance allows the staff to develop multiple COAs without wasting time and effort on those the commander will not consider.

2. Evaluation criteria are 'standards' the commander and staff will later use to measure the relative effectiveness and efficiency of one COA relative to others. Choosing the right criteria during orders analysis helps to eliminate a source of bias prior to COA analysis and comparison. Evaluation criteria address factors affecting mission success. Criteria can change from mission to mission and must be clearly defined and understood by all staff members before starting the analysis method to test the proposed COAs. Normally, the COS initially determines each proposed criterion with weights based on the assessment of its relative importance and the commander's guidance. Commanders adjust criterion selection and weighting according to their own experience and vision. Staff members responsible for each functional area score each COA using those criteria.

3. Commanders use their experience and judgment to add depth and clarity to their planning guidance by ensuring the staff understands the broad outline of their visualization while allowing the latitude necessary to explore different options. This guidance provides the basis for a detailed concept of operations without dictating the specifics of the final plan. As with their initial intent, commanders may modify planning guidance based on staff and subordinate inputs and changing conditions.

4. The table below (Table 2-1 on page 2-16) lists commander's planning guidance by combat function. This list is not intended to meet the needs of all situations nor be all-inclusive. Providing guidance by combat function is also not the only method a commander may use. Commanders should tailor planning guidance to meet specific needs based on the situation and mission rather than address each item. Each item does not always fit neatly into a particular combat function as it may be shared by more than one. For example, although ROE fall under the protection combat function, each other combat function chief has a vested interest in ROE.

5. Commanders issue planning guidance initially during Sub-step 2A *Order Analysis*. They continue to consider additional guidance throughout the tactical planning for land forces including, but are not limited to the following:

   a. Evaluation of factors (revised planning guidance).

   b. Following COA development (revised planning guidance for COA improvements).

c. COA decision (revised planning guidance to complete the plan).

Table 2-1. Examples of Commander's Planning Guidance by Combat Function

Command	Commander's critical information requirements Rules of engagement Commander's location Succession of command	Liaison officer guidance Planning and operational guidance timeline Type of order and rehearsal Communications guidance
Information Activities	Adversary (enemy) capabilities Deception Information and information systems	Initial themes and messages Psychological operations
Intelligence	Information collection guidance Information gaps Most likely and most dangerous (adversary/enemy) courses of action Priority intelligence reports Most critical terrain and weather factors	Most critical local environment and civil considerations Intelligence requests for information Intelligence focus during phases operations Desired enemy perception of friendly forces High-value targets (intelligence product)
Manoeuvre	Commander's intent Course of action development guidance Number of courses of action to consider Number of courses of action to not consider Task organization Task and purpose of subordinate units Forms of manoeuvre Reserve composition, mission, priorities, and control measures	Security and counter-reconnaissance Friendly decision points Critical events Branches and sequels Military deception Risk to friendly forces Collateral damage or civilian casualties Any condition that affects achievement of objective
Fires	Synchronization and focus of fires with manoeuvre Priority of fires High priority targets Special munitions Target acquisition zones Observer plan High-value targets Air and missile defence positioning	Task and purpose of fires Scheme of fires Suppression of enemy air defenses Fire support coordination measures Attack guidance Branches and sequels No strike list Restricted target list
Protection	Protection priorities Priorities for survivability assets Terrain and weather factors Intelligence focus and limitations for security Acceptable risk Protected targets and areas Air and missile defense positioning Operations security (OPSEC)	Vehicle and equipment safety or security constraints Environmental considerations Unexploded ordnance Operations security risk tolerance Rules of engagement Escalation of force Nonlethal weapons Counterintelligence
Sustainment	Sustainment priorities—manning, fueling, fixing, arming, moving the force, and sustaining Soldiers and systems Health system support Sustainment of detainee and resettlement operations	Construction and provision of facilities and installations Detainee movement Anticipated requirements of Classes III, IV, and V Controlled supply rates

6. Orders analysis ends with the conclusions or a set of review questions for the subsequent procedures in Sub-step 2B *Evaluation of Factors*. The commander provides his staff with any additional guidance necessary for further planning. Commanders should always review:

a. What has to be decided and by when.

b. What additional information must be obtained beforehand.

7. In addition, the following may be established:

a. Which questions the evaluation of factors should answer.

b. What assumptions should be the basis for further planning.

c. What planning horizon must be assumed.

d. Which points require priority examination and decisions.

Order analysis determines the focus for the next Sub-step (2B) - *Evaluation of Factors*. All conclusions or review questions drawn from the order analysis must be addressed during the evaluation of factors.

2.4.6. Prepare and Deliver the Order Analysis Briefing

In order to create a common understanding of the upcoming mission, the commander will deliver the *Orders Analysis* brief to the staff, who will utilize this information to analyse the environment in Sub-step 2B - *Evaluation of Factors*. The *Orders Analysis* briefing should consist of the following:

a. The superior commander’s intent (two echelons up).

b. The higher commander’s mission, intent and concept of operations (one echelon up).

c. The formation’s/unit’s role in the overall plan

d. The missions of adjacent formation’s/units and their relationship to the higher headquarters’ plan.

e. Specified and Implied tasks.

f. Essential tasks (if known at this point in time).

g. Constraints and restraints.

h. Facts and assumptions.

i. Risks, opportunities and critical points.

j. ‘Go/No go’ and ‘abort criteria’ for the operation.

k. Initial CCIRs.

l. How the situation might change.

m. How the changing situation might affect my mission.

n. Restated Mission statement.

o. Commander’s initial intent.

p. Additional commander’s guidance.

2.5. SECTION IV: PHASE 1 - SUB-STEP 2B: EVALUATION OF FACTORS

2.5.1. General

The next sub-step in mission analysis is the Evaluation of Factors. In sub-step 2B, the staff analyses the situation in relation to the formation’s/unit’s mission. It includes the following activities:

a. Staff Analysis on specific parts of the order and annexes.

b. Perform IPOE and:

(1) Review terrain and weather to assess implications on own and adversary (enemy) operations.

(2) Review adversary (enemy) forces and other actor’s capacity and capabilities to identify critical vulnerabilities.

(3) Review civil environment (political, military, economic, social, information, and infrastructure [PMESII]).

(4) Review civil considerations such as areas, structures, capabilities, organizations, people, and events (ASCOPE) to identify critical vulnerabilities to protect.

c. Review troops and support available to identify capability shortfalls and vulnerabilities to protect.

d. Review and update time available to plan prepare, execute and assess the upcoming operation.

e. Identify risks and begin risk assessment.

f. Develop CCIRs.

g. Develop the intelligence collection plan.

h. Prepare and present the mission analysis briefing.

i. Develop and issue additional commander's planning guidance (CPG).

j. Develop and issue a WNGO.

k. Deliver an initial commanders back brief.

2.5.2. Staff Analysis on Specific Parts of Order and Annexes

The staff conducts an order analysis for each of their specific fields of expertise on the main text and assigned annexes of the higher order. The Orders Analysis briefing provided by the commander is augmented with additional information found in the annexes regarding:

a. Specified, implied, and essential tasks.

b. Constraints and restraints.

c. Facts and assumptions.

d. 'Go/No go' and 'abort criteria' for the operation.

e. Risks, opportunities, and critical points.

f. CCIRs.

2.5.3. Perform Intelligence Preparation of the Operational Environment

1. IPOE is the systematic process of analysing the adversary (enemy), terrain, and weather in an area of interest to determine their (likely) effects on operations. IPOE begins in mission analysis and continues through the production of the operations order. IPOE identifies critical gaps in the commander's knowledge of the operational environment. Its products enable the commander to assess facts about the environment and make assumptions about how friendly and threat forces may interact.

2. The intelligence staff use IPOE to complete the intelligence estimate and develop detailed adversary (enemy) course of action (ACOA) models that are used by the commander in his selection of a friendly COA. Additional IPOE products include PIR, the production of a combined obstacles overlay, a list of high value targets (HVT), unrefined event templates, etc.

3. The IPOE includes:

a. Review of terrain and weather to assess implications on own and adversary (enemy) operations.

b. Review of adversary (enemy) forces / other actor's capacities and capabilities to identify critical vulnerabilities.

c. Review of the civil environment (PMESII /ASCOPE) to identify critical vulnerabilities to protect.

NOTE: AJP-2.1, *Allied Joint Doctrine for Intelligence Procedures*, includes a detailed discussion of IPOE and its relation to the OLPP. Commanders modify the IPOE as required when planning operations at the tactical level.

2.5.4. Review Troops and Support Available to Identify Capability Shortfalls and Vulnerabilities to Protect

1. The staff examines additions to and deletions from the current task organization, command and support relationships, and the status (current capabilities and limitations) of all units. This analysis also includes capabilities of civilian and military organizations (joint, special operations, and multinational) that operate within the formation's/unit's AOO.

2. From this analysis staffs determine if they have the necessary assets to complete all specified and implied tasks. If deficiencies exist they identify the additional resources required for mission success and forward their request(s) for those resources to the higher headquarters. Staffs also identify any deviations from the normal task organization and provide them to the commander to consider when developing his planning guidance. A more detailed analysis of available assets occurs during COA development.

3. The staff may also conducts a centre of gravity (COG) analysis of own troops to identify critical friendly vulnerabilities.[11] In COA development, measures should be developed to protect these vulnerabilities.

2.5.5. Review and Update Time Available to Plan, Prepare, Execute and Assess the Upcoming Operation

When the staff analyses the information in the annexes, relevant planned actions of higher and neighbouring formations/units should be included and updated in the operational timeline.

2.5.6. Identify Risks and begin Risk Assessment

1. Risk management is the process of identifying, assessing, and controlling risk arising from operational factors and making informed decisions that balance risks against benefits. During mission analysis, the commander and staff identify and assess risks. Develop specific measures to mitigate those risks occurring in COA development.[12]

[11] COG analysis may be optional depending on time and personnel available.
[12] Risk assessment may be optional depending on time and personnel available.

2. The operations staff officer (G-3/S-3), in coordination with the safety officer, integrates risk management into the tactical planning for land forces. All staff sections integrate risk management within their functional areas.

NOTE: AJP-3, *Allied Joint Doctrine for the Conduct of Operations* (Annex D) contains more information on risk management.

2.5.7. Develop Commander's Critical Information Requirements

1. During mission analysis, gaps in information required for further planning and decision making will be identified by the staff as information requirements. Some information requirements are of such importance that the commander will designate them as CCIRs.

2. **Commander's Critical Information Requirements**. A CCIR is an information requirement identified by the commander as being critical in facilitating timely information management and the decision making process. Information that is either critical to the success of the mission or represents a critical threat to it are expressed as CCIRs. CCIRs cover all aspects of the commander's concern including PIR, FFIR, and EEFI.

NOTE: ATP-3.2.2, Annex I, Appendix 1 page I-1-1 CCIRs Figure I-1-1 contains more information.

3. **Priority Intelligence Requirements**. A PIR is an intelligence requirement for which a commander has an anticipated and stated priority in his task of planning and decision making (AAP-39). PIRs are derived from the CCIRs. Their identification and drafting initiates and drives the intelligence process (see AJP-2 *Allied Joint Doctrine for Intelligence* and AJP-2.1 *Allied Joint Doctrine for Intelligence Procedures* for more information). PIRs are normally formulated by the intelligence staff in close cooperation with the commander. PIRs should be limited in number and provide comprehensive and coherent groupings of key issues. They may be enduring or limited to a particular phase or situation. PIRs should be coordinated and consistent with higher, and complementary to lower, command PIRs. They should be written in such a way as to support a decision the commander must make. By formulating a collection strategy (an overarching concept for intelligence and information gathering) the intelligence staff can both determine how PIRs are most effectively satisfied using all possible sources and assets available and how intelligence gaps may be addressed.

4. **Friendly Forces Information Requirement**. An FFIR is information the commander and staff need about the forces available to them to develop plans and make informed decisions. FFIRs provide understanding of the status and capabilities of own and supporting troops. The G-3 manages FFIRs for the commander.

5. **Essential Elements of Friendly Information**.[13] The staff also identifies and nominates EEFI. An EEFI is information that needs to be protected rather than collected. EEFIs identify those elements of friendly force information that, if compromised, would jeopardize mission success. *EEFIs* include things likely to be sought by the adversary (enemy) about friendly intentions, capabilities and activities, so that they can obtain answers critical to their operational success. EEFIs are the basis for collection requirements and related tasking, and coordination with own and external sources.

2.5.8. Develop the Initial Intelligence Collection Plan

The initial intelligence collection plan (ICP) is crucial to information and intelligence collection efforts. The ICP details collection priorities and resources to be tasked and as such sets in motion reconnaissance, surveillance, and intelligence operations. It may be issued as part of a WNGO, FRAGO, or an OPORD. As more information becomes available it is incorporated into a complete ICP to the OPORD.

NOTE: AJP-2 *Allied Joint Doctrine for Intelligence* and AJP-2.1 *Allied Joint Doctrine for Intelligence Procedures* contain additional information on intelligence collection, planning requirements, and assessing collection.

2.5.9. Prepare and Deliver the Mission Analysis Briefing

1. The mission analysis briefing informs the commander of the results of the staff's *order analysis* and *evaluation of factors*. It helps the commander understand, visualize, and describe the operation. As part of the mission analysis briefing, the commander, staff, and other partners discuss the various constraints and restraints, facts and assumptions, risks, opportunities, and critical points pertaining to the situation. Staff officers present a summary of their running estimates for their specific functional areas and how their findings impact, or are impacted, by other functional areas. This helps the commander and staff to focus on the inter-relationships of the mission variables and develop a deeper understanding of the situation as a whole. The commander issues guidance to his staff for continued planning based on the situational understanding gained from the mission analysis briefing.

2. The mission analysis briefing may consist of the following (not in any particular order):

a. Superior commander's intent (two echelons up).

b. Higher commander's mission, intent and concept of operation (one echelon up)

c. Commander's mission statement.

[13] FFIR and EEFI are not the responsibility of the intelligence staffs. Some nations do not recognize EEFI as a component of CCIR see AJP-2 Allied Joint Doctrine for Intelligence, Counter-Intelligence and Security).

d. Commander's initial intent.

e. Specified, Implied and Essential tasks.

f. Facts and assumptions.

g. Constraints and restraints.[14]

h. Risk, opportunities, and critical points.

i. Go / 'No go' and 'abort' criteria.

j. CCIRs.

k. Initial ICP.

l. Updated Operational Timelines.

m. Adversary (enemy) COGs[15] and COAs[16].

n. Terrain analysis products, overlays and conclusions.

o. Weather forecast, matrix and conclusions.

p. Troops and Support (including Forces available and capability shortfalls).

q. Civil environment considerations.

2.5.10. Develop and Issue Additional Commander's Planning Guidance

1. As more information becomes available, the commander and staff refine their initial plan for the use of available time. They compare the time needed to accomplish tasks to the higher headquarters' timeline to ensure mission accomplishment is possible in the allotted time. They compare the timeline to the adversary's (enemy's) assumed timeline and anticipate how the conditions will unfold. From this, they determine windows of opportunity for exploitation, times when the formation/unit will be especially at risk of enemy activity, or when action to arrest deterioration in the local civilian population may be required.

2. The COS also refines the staff planning timeline. The refined timeline includes:

a. Subject, time, and location of briefings the commander requires.

b. Times of collaborative planning sessions and the medium over which they will take place.

[14] **Constraint** is an obligation while a **restraint** is a limitation or restriction.
[15] COG may be optional depending on time and personnel available.
[16] COA may be optional depending on planning timeline and commander's acceptance of risk.

c. Times, locations, and forms of back briefs and rehearsals.

2.6.0. Develop and Issue a Warning Order

Immediately after a commander issues his restated mission statement, initial intent, and planning guidance, his staff sends subordinate and supporting formations/units a WNGO. Depending on the situation, the WNGO may contain:

a. The approved restated mission statement.

b. The commander's initial intent.

c. Changes to the task organization.

d. The formation/unit AOO (sketch, overlay, or some other description).

e. IPOE planning products and overlays including CCIRs.

f. Risk mitigation guidance.

g. Priorities by combat functions.

h. Military deception guidance.

i. Initial information collection plan.

j. Movements/actions to initiate.

k. Updated operational timeline.

2.6.1. Commander's Initial Back-Brief

Phase 1 concludes with the lower commander (subordinate) providing a back brief to his higher commander to ensure they have a shared understanding of both the mission and intent. During this back brief the lower commander may, as required:

a. Request/justify any request for additional resources.

b. Propose control measure amendments.

c. Requests ROE implementation or delegation.

d. Seek clarification and express any major concerns (i.e. risks and critical points).

2.6.2. Supporting Techniques

1. Tactical COG analysis (optional tool).

a. A tactical COG may be considered as the primary entity of a system possessing the critical capabilities necessary to achieve an objective. Both friendly and adversary (enemy) forces have tactical COGs. At the tactical level, a COG is usually a subordinate element of the mentioned entity which, if influenced, neutralized or destroyed, significantly reduces or nullifies that entity's ability to achieve its objective. For example:

(1) In a combat campaign, the tactical COG of a mechanized division may be the armoured battalion (i.e. the one with more tanks, the best crews and/or a more skilled commander).

(2) In a security campaign, the tactical COG, could be the hostile group which is the most successful at coercing the local populace to support the insurgency.

(3) In a peace support campaign, the tactical COG, could be the more influential leader of a local community, who may support or derail the peace process within the area of responsibility (AOR).

b. Staff planners should analyse tactical COGs within a framework of three factors: critical capabilities, critical requirements, and critical vulnerabilities.

(1) Critical capabilities are the primary abilities that merit a tactical COG to be identified as such.

(2) Critical requirements are those essential conditions, resources, and means necessary for critical capabilities to be fully operational.

(3) Critical vulnerabilities are aspects of a tactical COG, if exploited, will do significant damage to a force's ability to achieve its mission. Adversary (enemy) critical vulnerabilities provide aiming points for the application of friendly strengths. Conversely, the identification of friendly critical vulnerabilities enables the commander to focus protection throughout an operation.

c. The staff may conduct a tactical COG analysis when necessary by identifying multiple, proposed friendly and adversary (enemy) tactical COGs during mission analysis. The tactical COG analysis can be a useful tool to focus the commander and staff on what is most important among all the variables and factors influencing the conduct of operations. The key conclusions of the tactical COG analysis should be expressed as tasks or actions to be performed, force requirements, C2 requirements, or CCIRs. (For more information on how to conduct a COG analysis see AJP-5, *Allied Joint Doctrine for the Planning of Operations*, Annex B)

2. The Three column Model

a. Tactical planning for land forces requires constant analysis. It begins with the analysis of the mission, subsequently focuses on the evaluation of all relevant factors, and continues through execution as the operation unfolds so the commander can effectively act/react to the changing situation.

b. One means of planning analysis is through the application of the three-column model (see Table 2-2). In this model, the first column captures all the factors, assumptions and any related questions are generated by the commander and staff during their analysis of the problem. The second column captures the deductions resulting in answering the related questions from column one. The third column summarises the conclusions from the deductions captured in column two. These conclusions can take various forms. For example: a series of RFIs; a set of requests for clarification to the superior commander; tasks to be assigned to units; commander's guidance (including constraints and restraints); etc.

Table 2-2. Three Column Model

Factor / Question Fill in what you have observed and any questions you have	Deduction Here you analyse what this factor could mean for: • Your own unit • Hamper or benefit the upcoming mission accomplishment	Conclusion Here you not what is the impact on own troops or upcoming mission in the form of: • Specified, Implied or Essential Tasks (for staff or unit) • Constraints and Restraints • Facts and Assumptions • Risks, opportunities or critical points • Go/No-Go and abort criteria • Questions to / Clarifications from higher echelon (if unanswered, they will usually generate assumptions) • Guidance
Example:		
• Existing planned SPOD have limited throughput capacity	• Identified ports are not adequate for rapid deployment of large heavy forces.	• Early deployment of enabling forces to maximise or expand SPOD capacity is required (task, unit) • SPOD usage requires detailed de-confliction with HN/IOs/ NGOs (Staff-task , liaison)
	• Other existing ports in this country are not suitable for large ocean going vessels.	• Investigate possibility of establishment of suitable SPOD/APOD in neighboring country. (request higher echelon)
NOTE: a factor can lead to multiple deductions which can also lead to multiple conclusions (see example)		

CHAPTER 3 CONSIDER AND DEVELOP COURSES OF ACTION

3.0. SECTION I: PHASE 2 - STEP 3: COURSE OF ACTION DEVELOPMENT

3.1. General

1. During COA development, planners use the mission statement, commander's intent, planning guidance, and conclusions from the IPOE and evaluation of factors analysis to generate options for the commander for further analysis and comparison. The purpose of the COA development step is to develop one or more options (the how) to accomplish the mission. The COA is a plan with enough detail to compare to ACOA. Planners need to be aware during COA development, the ACOAs can be refined to reflect adversary (enemy) reactions to planned activities of own troops. Figure 3-1 shows the key inputs, activities, and outputs of this step.

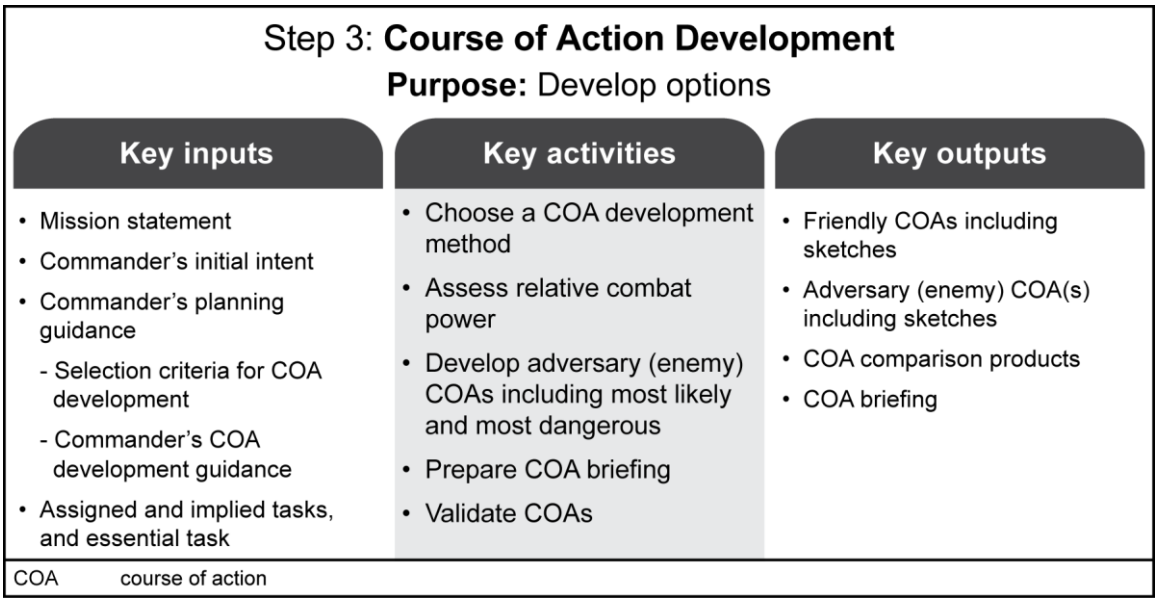

Figure 3-1. Step 3–Course of Action Development

2. The staff develops COAs for follow-on analysis and comparison. These COAs must be a logical product of the preceding decision making efforts. They have to take all conclusions and findings of the evaluation of factors into account.

3.1.1. Choose a COA Development Method

1. There are numerous techniques available to develop COAs. Some planners envision a sequence of actions to achieve given objectives; others consider ways to counter the adversary's (enemies) most dangerous or most likely COA. The remainder of this section offers a series of activities to develop COAs and present them to the commander. These activities include the following:

a. Assess relative combat power.

b. Generate Options.

c. Establish an operational framework.

d. Array forces.

e. Assign tasks (and as required assign headquarters).

f. Develop COA statements and sketches.

g. Validate COAs.

h. Deliver the COA briefing.

i. Select or modify COAs for continued analysis.

3.1.2. Assess Relative Combat Power

1. *Combat power* is the total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time (AAP-06 *NATO Glossary of Terms and Definitions*). Combat power is about applying fighting power through the combat functions of command, information activities, intelligence, manoeuvre, fires, protection, and sustainment time (see AJP-3.2 *Allied Joint Doctrine for Land Operations* for more information). The goal is to generate overwhelming combat power to accomplish the mission at minimal cost to friendly forces.

2. To assess relative combat power, planners initially make a rough estimate of force ratios of manoeuvre formations/units two levels below their echelon. For example, at division level, planners compare all types of manoeuvre battalions with adversary (enemy) manoeuvre battalion equivalents. Planners then compare friendly strengths against adversary (enemy) weaknesses, and vice versa, for each element of combat power. From these comparisons, they may deduce particular vulnerabilities for each force that may be exploited or may need protection. These comparisons provide planners insight into effective force employment options.

3. By analysing force ratios and determining and comparing each force's strengths and weaknesses as a function of combat power, planners can gain insight into:

a. Friendly capabilities that pertain to the operation.

b. The types of operations possible from both friendly and adversary (enemy) perspectives.

c. How and where the adversary (enemy) may be vulnerable.

d. How and where friendly forces may be vulnerable.

e. Additional resources needed to execute the mission.

f. How to allocate existing resources.

4. Planners must not develop and recommend COAs based solely on mathematical analysis of force ratios. Although the process uses some numerical relationships, the estimate is largely subjective. Assessing combat power requires assessing both tangible and intangible factors, such as morale and levels of training. A relative combat power assessment identifies exploitable adversary (enemy) weaknesses by avoiding adversary (enemy) strengths, identifying unprotected friendly weaknesses, and determining the combat power necessary to conduct essential stability tasks.

3.1.3. Generate Options

1. The staff will generate options based on the commander's guidance and the initial results of the relative combat power assessment. A good COA can defeat all feasible adversary (enemy) COAs while accounting for all tactical activities. If time allows, planners should aim to develop several possible COAs. The commander's guidance may limit options based on the time available.

2. The following methods can be used to generate broad options during COA development: brainstorming, movie-method, or war-gaming.

a. Brainstorming is the free suggestion of ideas for possible solutions, with few initial limits on creativity. It requires time, imagination, and creativity but it produces the widest range of choices. The staff must remain unbiased and open-minded when developing proposed options.

b. Movie-method describes the actions like a film which depicts the activities of friendly (combat) units/subunits in a sequence from the current situation to the desired outcome; or the reverse (i.e. reverse planning).

c. War-gaming is like the movie method but also includes the actions and counter-actions of the adversary (enemy).

NOTE: All methods can be done by COA development teams. Results should be recorded using a COA development sheet and the operations timeline/sync matrix (see Annex D).

3. In developing COAs, the staff determines the doctrinal requirements for each proposed operation, including the doctrinal tasks for subordinate units. For example: (1) a deliberate breach requires a breach force, a support force, and an assault force; or (2) conducting stability activities requires the ability to provide a level of civil security, civil control, and certain essential services. In addition, the staff considers the potential capabilities of attachments, other organizations, and agencies outside military channels.

3.1.4. Establish an Operations Framework[17]

1. A number of conceptual frameworks may provide a way to understand and communicate the activities a commander will need to plan, direct and coordinate operations. The frameworks allow the commander to visualise effects and articulate his intent. They also allow the commander and other actors to share a common language and understanding of what is required to be done. It helps to 'operationalize' analysis and planning, and assists with decision support. Understanding the frameworks and their contribution to it allows actors to achieve unity of effort. For the commander and his staff, it also highlights the links between the effects sought and the tactical activities needed to create them. Frameworks can be used at every level of command. The capabilities of a military force may be conceptually viewed and applied through four frameworks: the framework of fighting power; a geographic framework (deep-close-rear); a functional framework; and, an operational framework. Together they allow a commander to visualise employing a force's capability. The type of frameworks selected is less important than the shared understanding of what they mean. The conceptual frameworks can be used to describe how subordinates' missions relate to each other in time, space, function or purpose, and geography. However, they are neither necessarily sequential nor separated into discrete phases (see AJP-3 *Allied Joint Doctrine for the Conduct of Operations* and AJP-3.2 *Allied Joint Doctrine for Land Operations* for further details).

2. A key aspect of any COA is its operations framework. Depending on the situation and commander's planning guidance, the staff may develop a geographical framework, a purpose-based framework, or a combination of the two. ATP-3.2.1 *Allied Land Tactics* provides details on the following frameworks:

a. Deep-close-rear (geographical-based).

b. Decisive-shaping-sustaining (purpose-based).

3. The staff uses a geographical framework when organizing an operation in time and space. In using this framework, the staff organizes the AOO into deep, close, and rear areas. The staff then determines the effects to be created in each area by describing:

a. Deep operations—actions taken against adversary (enemy) forces and resources not engaged in the close area.

b. Close operations—action taken in the close area by forces in direct contact with the adversary (enemy).

c. Rear operations—administrative and logistics actions that occur out of contact with adversary (enemy) forces.

[17] Operations Framework may be optional depending on time and personnel available.

4. Commanders use a purposed-based framework (decisive-shaping-sustaining) when organizing an operation by purpose. When using this framework, the staff starts by developing the decisive operation identified in the commander's planning guidance. The staff verifies that the decisive operation nests within the higher headquarters' concept of operations. The staff also clarifies the decisive operation's purpose and considers ways to mass the effects (lethal and non-lethal) of overwhelming combat power to achieve it.

5. Next, the staff considers shaping operations. The staff establishes a purpose for each shaping operation tied to creating or preserving a condition for the decisive operation's success. Shaping operations may occur before, concurrently with, or after the decisive operation. A shaping operation may be designated as the main effort if executed before or after the decisive operation.

6. The staff then develops the sustaining operations necessary to create and maintain the combat power required for the decisive operations.

3.1.5. Array[18] Forces

1. After determining the operations framework for the COA, planners determine the relative combat power required to accomplish each task. Often planners use minimum historical planning ratios as a starting point. For example historically, defenders have over a 50 percent probability of defeating an attacking force approximately three times their equivalent strength (highlighted in Table 3-1 below).

Table 3-1. Historical Minimum Planning Ratios

Friendly Mission	Position	Friendly : Enemy
Delay		1:6
Defend	Prepared or fortified	1:3
Defend	Hasty	1:2.5
Attack	Prepared or fortified	3:1
Attack	Hasty	2.5:1
Counterattack	Flank	1:1

2. Planners determine whether these and other intangibles increase the relative combat power of the tasked formation/unit to the point that it exceeds the historical planning ratio for that task. If it does not, planners determine how to reinforce the formation/unit. Combat power comparisons are provisional at best. Arraying forces is tricky, inexact work. It is affected by factors that are difficult to gauge, such as the impact of past engagements, quality of leaders, morale, maintenance of equipment, terrain, and time in position. Levels of electronic warfare support, fire support, close air support, and many other factors also affect arraying forces.

[18] Array is defined as [2]an ordered arrangement of troops (Oxford English Dictionary, 2011).

3. Planners then proceed to initially array friendly forces starting with the decisive operation and continuing with all shaping and sustaining operations. Planners normally array ground forces two levels below their echelon. The initial array focuses on generic ground manoeuvre units without regard to specific type or task organization and then considers all appropriate intangible factors. For example, corps level planners array generic brigades. During this step, planners do not assign missions to specific units; they only consider which forces are necessary to accomplish their task.

4. The initial array identifies the total number of units needed and identifies possible methods of dealing with the adversary (enemy). If the number arrayed is less than the number available, planners place additional units in a pool for use when they develop the initial concept of operations. If the number of units arrayed exceeds the number available and the difference cannot be compensated for with intangible factors, then the staff determines whether the COA is feasible. Ways to make up the shortfall include requesting additional resources, accepting risk in that portion of the AOO, or executing tasks required by the COA sequentially rather than simultaneously.

3.1.6. Assign Tasks (and, as required, Headquarters)[19]

1. Following the initial array of forces, the staff assigns a primary task to each grouping of units and ensure each envisioned action has a corresponding purpose. The staff begins by assigning tasks to groupings executing the decisive operation (or main effort), followed by those conducting shaping operations, sustaining operations, and the reserve (see ATP-3.2.1 *Allied Land Tactics* for a list of some of the mission task verbs used when assigning tasks).

2. When assigning tasks, the staff verifies that each grouping is constructed and resourced for success. It considers the adversary (enemy) force and doctrinal requirements associated with completing the tasks and adjusts the groupings as required.

3. In some NATO nations, after determining the initial grouping and tasks, planners complete the task organization by assigning a headquarters to each grouping. When doing so they consider the makeup and task(s) of each grouping and the ability of that headquarters to control that grouping. Task organization takes into account the entire operational organization including any special command requirements (i.e. a passage of lines, an airborne operations, airborne assault, etc.).

3.1.7. Develop Course of Action Statements and Sketches

1. The staff completes each COA by integrating and synchronizing the force and proposed actions across time and space in a COA statement and sketch. The COA statement and sketch portray how the organization will accomplish the mission. The statement describes the purpose and tasks of the main and supporting efforts, the

[19] For some NATO countries, to assign a headquarters is a commander's prerogative and is part of Step 6 - *Commander's Decision*.

reserve, and the sequencing of the operations. The sketch portrays the activities of the main and supporting efforts, and critical manoeuvre control measures (e.g. objectives, boundaries, phase lines, etc.) and fire support coordination measures. The use of a COA development template facilitates the quick development of a COA as it allows different planners to simultaneously work on their field of expertise (see Annex D for templates).

2. A sound COA is more than the arraying of forces. It presents an overall combined arms idea that will accomplish the mission. Each COA is given a characteristic name to distinguish it from other COAs and to allow ease of reference. The COA statement and sketch includes, but is not limited to, the following:

a. Commander's initial intent.

b. Conceptual Framework.

c. Scheme of manoeuvre including main effort.

d. Scheme of fires, military engineering concept, and information operations concept.

e. Identified risks and critical points.

f. Identification of critical friendly events and transitions between phases (if the operation is phased).

g. Designation of the reserve, including its location and composition.

h. CCIR collection concept.

i. Essential stability tasks.

j. Assignment of subordinate areas of operations.

k. Military deception operations (on a need to know basis).

l. Key control measures.

3. **COA Validation**. Each COA must employ different means or methods of addressing the commander's intent and planning guidance. Planners examine each prospective COA for validity using the following screening criteria:

a. **Suitable**. Does the COA achieve the purpose of the operation? Does it comply with the commander's intent and planning guidance?

b. **Feasible**. Does the COA accomplish the mission within the available time, space, and resources?

c. **Acceptable**. Is the COA proportional and worth the cost in personnel, equipment, materiel, time involved, etc.? Is it consistent with the laws of armed conflict?

d. **Unique**[20]. Does the COA differ significantly from the other COAs (such as scheme of manoeuvre, phasing, use of the reserve, and task organization, etc.)?

e. **Flexible**. Does the COA provide the commander options?

3.1.8. Prepare and Deliver Course of Action Briefing

1. After developing COAs, the staff may brief the COAs to the commander as and when the situation dictates. A collaborative session may facilitate subordinate planning.

2. The COA briefing should include:

a. An updated IPOE with focus on the most likely and most dangerous adversary (enemy) COAs.

b. As many threat COAs as necessary or as specified by the commander (at a minimum, the most likely and most dangerous threat COAs).

c. Superior commander's intent (two echelons up).

d. Approved mission statement.

e. Commander's intent.

f. COA statements and sketches, including updated synch matrices.

g. Rationale for each COA, including:

(1) Considerations that might affect adversary (enemy) COAs.

(2) Critical events for each COA.

(3) Deductions resulting from the relative combat power analysis.

(4) Reason(s) units are arrayed as shown on the sketch.

(5) Reason(s) the staff used the selected control measures.

(6) Impact on the civilian environment.

[20] Unique vs exclusivity: AJP-5 uses the term "exclusivity" to mean; Is the COA sufficiently varied from other COAs to clearly differentiate its comparative advantages and disadvantages?

(7) New facts, and new or updated assumptions.

3.1.9. Select or Modify Courses of Action for Continued Analysis

1. After the COA briefing, the commander or his/her representative (COS), selects or modifies those COAs he wants his staff to continue analysing. The commander may also issues additional planning guidance.

2. If commanders reject all COAs, the staff must begin anew. If commanders accept one or more of the COAs, staff members begin COA analysis. The commander may also create a new COA by incorporating elements of one or more COAs developed by the staff.

3.2. SECTION II: PHASE 2 - STEP 4: COURSE OF ACTION ANALYSIS

3.2.0. General

1. The purpose of COA analysis is to enable commanders and staffs to identify difficulties, coordination issues, or probable consequences of planned actions for each COA being considered. It helps them think through the tentative plan. COA analysis may require commanders and staffs to revise parts of a COA as discrepancies arise. COA analysis not only appraises the quality of each COA it also uncovers potential execution problems, decision, and contingencies. In addition, COA analysis influences how commanders and staff's understand a problem and may require the planning process to restart (see ATP-3.2.2 *Command and Control of Allied Land Forces*, Annex D for a detailed discussion of COA analysis). Figure 3-2 shows the key inputs, activities, and outputs for COA analysis.

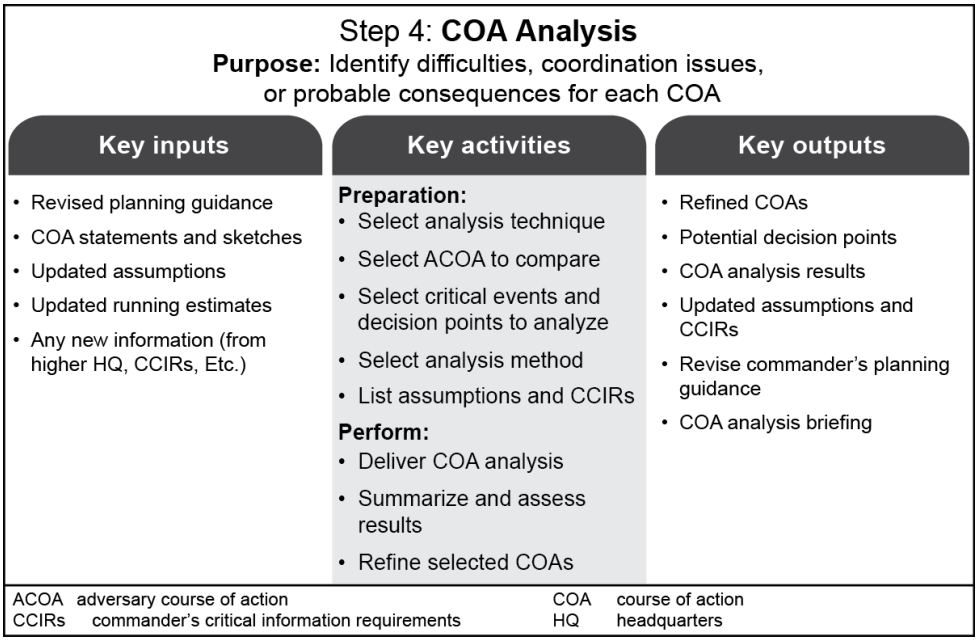

Figure 3-2. Step 4-COA Analysis

2. COA analysis allows the staff to synchronize the seven combat functions for each COA. It also helps the commander and staff to:

a. Determine how to maximize the effects of combat power while protecting friendly forces and minimizing collateral damage.

b. Further develop a visualization of the operation.

c. Anticipate operational events.

d. Determine conditions and resources required for success.

e. Determine when and where to apply force capabilities.

f. Identify coordination needed to produce synchronized results.

g. Determine the most flexible COA.

3.2.1. Preparation

In order to set the right conditions for COA analysis, the following actions are implemented:

1. **Select Analysis Technique**. COAs can be analysed in several ways. Each form has its advantages and disadvantages. Variations of these forms are possible, as are combinations. Making staff participation as extensive as possible best achieves integration. Commanders determine the form to be used in their planning guidance. Forms of COA analysis include:

a. Mentally, whether by the commander personally or one of the staff officers.

b. “Thinking out loud” with others in which the commander may take part.

c. Through a formal procedure (i.e. war-gaming).

d. Using computer simulations.

2. **Select the Adversary (enemy) COA**. The purpose of friendly and adversary (enemy) COA comparison is to set each friendly COA against each adversary (enemy) COA in order to determine which friendly COA will be most successful against anticipate adversary (enemy) COAs. As a time saving technique, it may be optional to compare each friendly COA with the adversary (enemy) most likely COA. This research is organized into successive phases or stages, at each phase or stage taking into account the positive or negative effects of the comparison of the previous phase or stage (losses, delays, attrition, discontinuities, etc.). This will enable deucing risks (must be diminished) and opportunities (must be exploited), and identifying possible

adjustments to a friendly COA (task organisation and synchronization). It will be more effective if delivered with visual aids; maps, reproductions of the battlefields (models or sandboxes, diagrams, or use of COA simulation system.

3. Select critical events and decision points to analyse.

4. Select the analysis method (e.g. belt, box, or avenue in depth).

5. Prepare method to record and display results.

6. List and position all relevant friendly and adversary (enemy) forces.

7. List assumptions and CCIRs.

3.2.2. Perform

1. **Conduct COA Analysis**. For several NATO nations, war gaming is a common approach to analysing COAs. It is a disciplined process with rules and steps that attempt to visualize the flow of the operation. The simplest form of war gaming is the manual method, often using a table-top approach with blow-ups of matrixes and templates. The most sophisticated form of war gaming is computer-aided modelling and simulation. Regardless of the form used, each critical event within a proposed COA should be war gamed using the action, reaction, and counteraction methods of friendly and adversary (enemy) forces interaction. This basic war gaming method (modified to fit the specific mission and environment) is applicable to offensive, defensive, and stability operations.

2. **Summarise Recording and Assess Results**. War gaming results in refined COAs, a completed synchronisation matrix, and decision support templates and matrices for each COA. A synchronisation matrix records the results of a war game. It depicts how friendly forces for a particular COA are synchronised in time, space, and purpose in relation to an adversary (enemy) COA (or other events in stability or defence support of civil authorities operations). The decision support template and matrix portray key decisions and potential actions that are likely to arise during the execution of each COA (see ATP-3.2.2 *Command and Control of Allied Land Forces*, Annex D for a detailed discussion of war gaming in COA analysis. It also includes sample synchronisation matrices, and decision support templates.)

3.2.3. Course of Action Analysis Briefing (optional)

The staff may brief the commander on the results of COA analysis prior to COA comparison. During the briefing, the commander approves any recommended changes to the COAs or request one or more COA be refined before they are compared. The commander may also provide additional guidance for COA comparison.

3.3. SECTION III: PHASE 2 - STEP 5: COURSE OF ACTION COMPARISON

3.3.1. General

The purpose of the COA comparison is to compare friendly COA against ACOA in an objective manner in order to evaluate COAs independently using the criteria approved by the commander. The goal is to identify the strengths and weaknesses of COAs, enable selecting a COA with the highest probability of success, and further developing it into an OPLAN or OPORD. Figure 3-3 shows the key inputs, activities, and outputs of step 5.

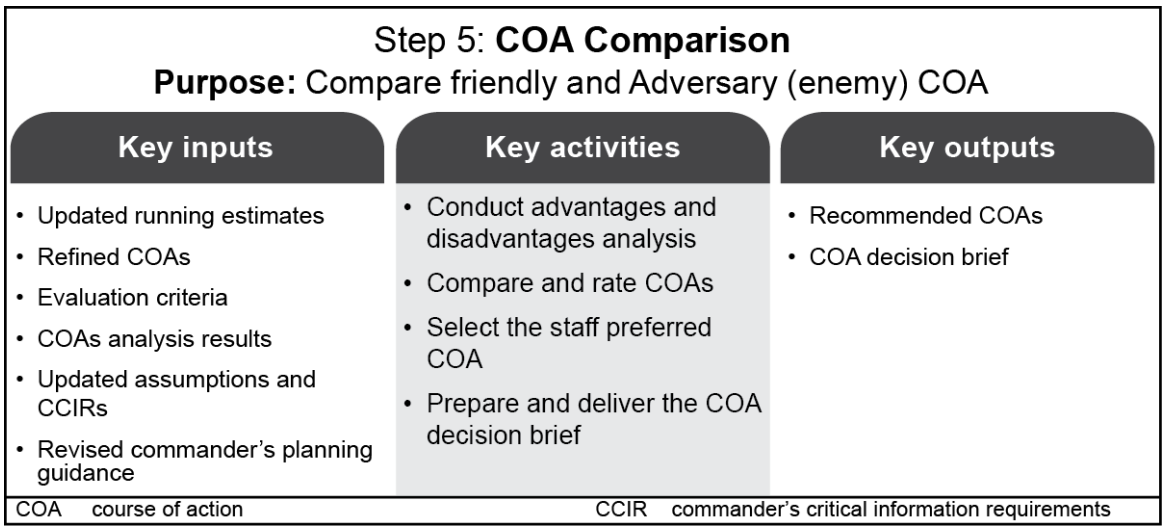

Figure 3-3. Step 5–COA Comparison

3.3.2. Determine COA Advantages and Disadvantages Analysis

COA comparison starts with combat functions subject matter experts (SME) analysing and evaluating the advantages and disadvantages of each COA, based on the rationale from Step 3. Combat function SMEs present their findings for consideration and identify a preferred COA for their combat function. Using the established evaluation criteria, the staff determines the advantages and disadvantages of each COA by comparing the strengths and weaknesses of each in relation to the commander's selection criteria and the ACOAs (see Table 3-2 on page 3-13). The combat functions are described in AJP 3.2, *Allied Joint Doctrine for Land Operations* (command, manoeuvre, fires, intelligence, protection, information activities, and sustainment).

Table 3-2. Sample COA Advantages and Disadvantages

Course of Action	Advantages	Disadvantages
Course of Action 1	Decisive operation avoids major terrain obstacles. Adequate manoeuvre space available for units conducting the decisive operation and the reserve.	Units conducting the decisive operation face stronger resistance at the start of the operation. Limited resources available to establishing civil control to town X.
Course of Action 2	Shaping operations provide excellent flank protection of the decisive operations. Upon completion of decisive operations, units conducting shaping operations can quickly transition to establish civil control and provide civil security to the population in town X.	Operation may require the early employment of the division's reserve.

3.3.3. Compare Courses of Action

1. The staff may use any technique to help the commander make his best decision. A common technique is the decision matrix. This matrix uses evaluation criteria developed during mission analysis and refined during COA development to help assess the effectiveness and efficiency of each COA (see Table 3-3).

Table 3-3. Sample Decision Matrix

Weight[1]	1	2	1	1	2	
Criteria[2] / Course of Action	Simplicity	Manoeuvre	Fires	Flexibility	Mass	Total
COA 1[3]	2	2 (4)	2	1	1 (2)	8 (11)
COA 2[3]	1	1 (2)	1	2	2 (4)	7 (10)

Notes:

1. The COS may emphasize one or more criteria by assigning weights to them based on a determination of their relative importance. Lower weights are preferred.
2. Criteria are those assigned in step 5 of COA analysis.
3. COAs are those selected for COA Analysis with rankings assigned to them based on comparison between them with regard to relative advantages and disadvantages of each, such as when compared for relative simplicity COA 2 is by comparison to COA 1 simpler and therefore is ranked as 1 with COA 1 ranked as 2.

2. The decision matrix is one tool used to compare and evaluate COAs in a thoroughly and logical manner. However, the process may be based on highly subjective judgments that can change dramatically during the course of evaluation. For example, in Table 3-3, the numerical rankings reflect the relative advantages or disadvantages of each criterion on each COA as initially estimated by the COS during mission analysis. Rankings are assigned from 1 to however many COAs exist, in this example, 2. The COS has determined the weight for each criterion based on a

subjective determination of their relative value. Lower rankings are more preferred as they signify a more favourable advantage. Therefore, the lower the number, the more favourable the weight. After assigning ranks to each COA and weights to each criteria, the staff adds the unweighted ranks in each row horizontally and records the sum in the Total column on the far right of each COA. The staff then multiplies the same ranks by the weights associated with each criterion and notes the product in parenthesis underneath the unweighted rank. No notation is required if the weight is 1. The staff adds these weighted products horizontally and records the sum in parenthesis underneath the unweighted total in the Total column to the right of each COA. The staff then compares the totals to determine the most preferred (lowest number) COA based on both unweighted and weighted ranks. Although the lowest total denotes a most preferred solution, the process for estimating relative ranks assigned to criterion and weighting may be highly subjective.

3. The Commander and staff cannot solely rely on the outcome of a decision matrix as it only provides a partial basis for a solution. During the decision making process, planners carefully avoid reaching conclusions from a quantitative analysis of subjective weights. Comparing and evaluating COAs by criterion is probably more useful than merely comparing totalled ranks. Judgments often change with regard to the relative weighting of criteria during close analysis of COAs, which will change weighted rank totals and possibly the most preferred COA.

4. The staff compares feasible COAs to identify the one with the highest probability of success against the most likely adversary (enemy) COA, the most dangerous adversary (enemy) COA, or the most important stability task. Staff officers often use their own matrix to compare COAs with respect to their functional areas.

3.3.4. Identify the Staff Preferred COA

After completing its analysis and comparison, the staff identifies its preferred COA and makes a recommendation. If the staff cannot reach a decision, the COS decides which COA to recommend. When identifying a staff-preferred COA, things to consider (depending on the type of operation) include which COA:

a. Poses the minimum risk to the force and mission accomplishment.

b. Places the force in the best posture for future operations.

c. Provides maximum freedom of action for subordinates to use their initiative (in keeping with the superior commander’s intent).

d. Provides the most flexibility to meet unexpected threats and opportunities.

e. Provide the required assets including the availability and/or establishment of reserves.

f. Have an element of surprise.

g. Provides the most secure and stable environment for civilians in the area of operations.

h. Best facilitates information themes and messages.

3.3.5. Prepare and Deliver a Course of Action Decision Briefing

After identifying their preferred COA the staff delivers a decision briefing to the commander. The COS highlights any changes to each COA resulting from the COA analysis.

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CHAPTER 4 COMMUNICATION

4.1. SECTION I: PHASE 3 - STEP 6: COMMANDER'S DECISION

4.1.0. General

In Step 6, the commander selects a COA for the staff to develop into a plan. After the COA decision briefing, the commander selects the COA that (in his judgement and experience) will best accomplish the mission. If the commander rejects all COAs, the staff starts Phase 2 anew. If the commander modifies a proposed COA or gives the staff an entirely different one, the staff conducts the COA analysis on this new COA and presents the results to the commander with a recommendation. Figure 4-1 shows the key inputs, activities, and outputs of Step 6.

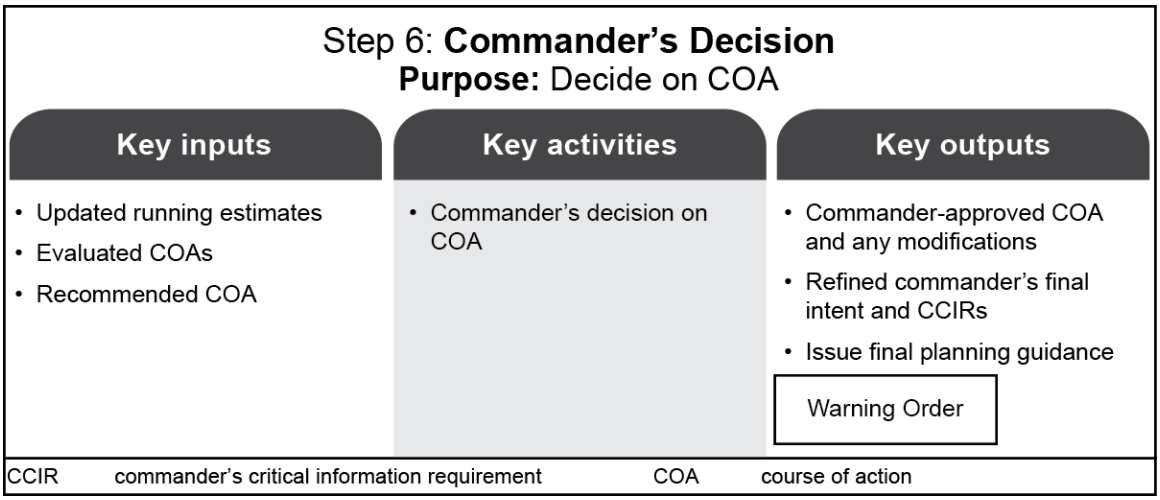

Figure 4-1. Step 6–Commander's Decision

4.1.1. Issue Final Planning Guidance

1. After approving a COA, the commander issues his final planning guidance. The final planning guidance includes a refined commander's intent (if necessary) and any new CCIRs to support execution. It also includes any additional guidance on priorities for the combat functions, orders preparation, and rehearsal. This guidance should include priorities for resources needed to preserve freedom of action and ensure continuous sustainment.

2. If there is time, or as ordered by the higher commander, the commander back briefs his decision to the higher commander. The back brief includes a discussion of any risks in the plan that might imperial accomplishing the higher commander's mission. Whenever possible, a commander should communicate with adjacent and subordinate commander's to discuss acceptable risks prior to the back brief. However, commanders still obtain the higher commander's approval to accept any risk that might imperil accomplishing the higher commander's mission.

4.1.2. Issue Warning Order

Based on the commander's decision and final planning guidance, the staff issues a WNGO to subordinate headquarters. This WNGO contains the information subordinate formations/units need to refine their plans. It confirms guidance issued in person or by other means and expands on details not covered by the commander personally. The WNGO is issued (in accordance with ATP-3.2.2, *Command and Control of Allied Land Forces*, Annex G) after COA approval and normally contains:

a. Mission.

b. Commander's intent.

c. Updated CCIRs and EEFIs.

d. Concept of operations.

e. Tasks assigned to subordinate formations/units.

f. Preparation and rehearsal instructions not included in the SOPs.

g. Final timeline of the operations.

4.2. SECTION II: PHASE 3 - STEP 7: ORDERS PRODUCTION, DISSEMINATION, AND TRANSITION

4.2.1. General

1. The purpose of Step 7 is to produce and transition the plan from the planning cell to the current operations cell, issue the order, and ensure subordinates' understanding of the upcoming operation. Major activities during this step include:

a. Plans and orders reconciliation.

b. Approving plans and orders.

c. Handover of the plan from the planning cell to the operations cell.

d. Prepare and issue orders.

e. Deliver back briefs and conduct rehearsals.

2. The staff prepares plans and orders by turning the selected COA into a clear, concise concept of operations with the required supporting information. The selected COA sketch becomes the basis for the operation overlay. If time permits, the staff may conduct a more detailed war game of the selected COA to more fully synchronize the operation and complete the plan. Figure 4-2 on page 4-3 shows the key inputs, activities, and outputs of Step 7. The staff writes the OPORD in accordance with the

NATO OPORD format located in ATP-3.2.2, *Command and Control of Allied Land Forces*, Annex G.

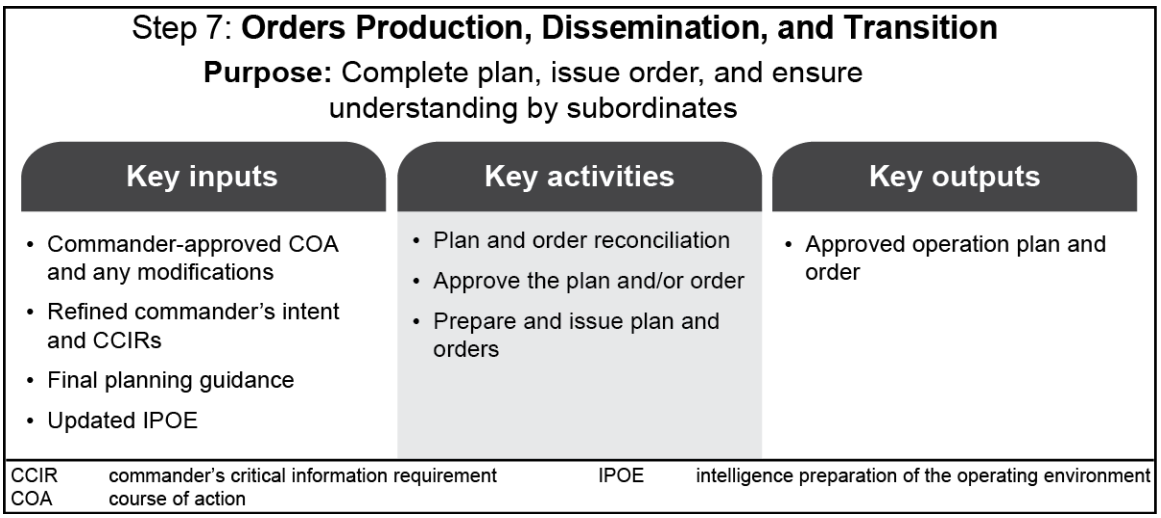

Figure 4-2. Step 7–Orders Production, Dissemination, and Transition

4.2.2. Plans and Orders Reconciliation

Plans and orders reconciliation occurs internally as the staff conducts a detailed review of the entire plan and order. This reconciliation ensures:

a. Plans and orders meet the superior commander's intent.

b. Plans and orders achieve unity of effort.

c. All attachments are complete and in agreement.

d. The staff compares the commander's intent, mission, and CCIRs against the concept of operations and the different schemes of support (e.g. scheme of fires, scheme of sustainment, etc.).

4.2.3. Approving the Plan and/or Order

Commanders review and approve orders before the staff reproduces and disseminates them, unless they have delegated that authority. Commanders normally do not sign attachments but they should review them before signing the plan and/or order.

4.2.4. Transition the Operation Plan or Operation Order from the Planning Cell to the Current Operations Cell (when applicable)

Step 7 is where the transition between planning and current operations occurs; the primary aim is to ensure members of the operations cell fully understand the plan as they will be responsible for managing its execution. Their responsibility includes answering requests for information concerning the order and maintaining the order through fragmentary orders. Once the operations cell has assumed responsibility, the

plans cell is able to focus more of its efforts on sequel, branches and other planning requirements as directed by the commander.

4.2.5. Prepare and Issue the Orders

Orders should be sent electronically to subordinate, adjacent, and higher commanders so they can read them prior to the verbal orders being issued by the commander. Subordinates immediately acknowledge receipt to the higher headquarters. Normally, the higher commander and staff, verbally brief the orders to subordinate commanders in person. Thereafter, the commander may receive confirmation briefings from his subordinate commanders. Confirmation briefings can be conducted collaboratively with several commanders at the same time or with single individual commander. These briefings are best delivered in person.

4.2.6. Prepare and Deliver Back Briefs and Rehearsals

1. Staff Decision Matrix. If time allows, the staff may develop a staff decision matrix (table). The staff decision matrix is an internal, living tool aimed at:

   a. Identifying any unforeseen issues of the operation and their possible consequences (what if?).

   b. Identifying the actions necessary to identify an issue (what should we know? How to know it?) and make a decision (what possible actions to take? when to make the decision for the commander?).

2. The staff decision matrix is refined following back briefs and rehearsals.

3. Rehearsing key combat actions allows participants to become familiar with the operation and to ensure the force understands their role and the timings associated with the operation. As time permits, commanders conduct back briefs, combined arms (i.e. fires) rehearsals, and support rehearsals to ensure subordinates are prepared for the operations (see ATP-3.2.2 *Command and Control of Allied Land Forces,* Annex F for a detailed description of types of rehearsals).

CHAPTER 5 PLANNING IN A TIME-CONSTRAINED ENVIRONMENT

5.0. General

1. An effective staff and planning process greatly facilitates the commander's ability to quickly develop flexible, sound, integrated and synchronized plans. However, even the most effective staff and planning process cannot produce plans anticipating every possible branch or sequel, adversary (enemy) action or reaction, unexpected opportunities or misfortunes, or changes in mission that the higher headquarters may direct. If a staff is to effectively respond to or take advantage of such events it must be capable of planning in a time-constrained environment.

2. Planning in a time-constrained environment demands a staff competent at producing plans and using an abbreviated planning process. However, for a staff to be successful in its application of an abbreviated planning process it must first have a thorough understanding of tactical planning and be adept in its application.

5.1. SECTION I: RESPONSIBILITIES

5.1.1. The Commander's Responsibility

Time is a non-renewable - and often the most critical - resource. When there is insufficient time to perform all of the steps in tactical planning it is the commander who dictates how the staff is to abbreviate the process by providing them with his staff planning guidance. Because changes in staff planning guidance cost time (as the staff is forced to adjust to the new guidance), effective commanders avoid doing so unless the situation absolutely demands it.

5.1.2. The Staff's Responsibility

Staff members must keep their respective running estimates as current as possible. Doing so enables them to quickly provide accurate, up-to-date assessments and move directly into abbreviated tactical planning whenever the situation demands. The importance of keeping running estimates current increases as the amount of time available decreases. Under time-constrained conditions, commanders and staffs become more reliant on running estimates and existing planning products.

5.2. SECTION II: TIME SAVING TECHNIQUES

5.2.1. Time-Saving Techniques

There are numerous 'techniques' and tools enabling commanders and staffs to speed up planning efforts and save time. Some can be implemented and/or used when required, others must be implemented well in advance as they require time to achieve (see Annex F for more information):

a. Commander's increase their involvement in tactical planning (the greater the commander's involvement in planning the faster the staff can plan).

b. Commander's place limitations on COA development, analysis and/or comparison (by limiting the number of COAs to be developed, the amount of detail required for each COA, using less time-consuming techniques [i.e. using mental COA analysis vice war-gaming], etc.). A simplified COAs should describe the commander's final intent by using the following format:

(1) Who (acting force)

(2) What (is doing [main tactical activity])

(3) How (strength, main effort, concept of operation)

(4) When (time of conduct)

(5) Where (area, direction, objective)

(6) Why (purpose)

c. Maximize Parallel Planning (each level of command initiates tactical planning shortly after the next level higher has initiated its own).

d. Maximize Collaborative Planning (the interaction between two or more command echelons involved in tactical planning).

e. Use Liaison Officers (LO).

f. Anticipate and prepare for change (professional staff members prepare planning products as part of their running estimates).

g. Create and employ sound SOPs and standard operating instructions (SOIs).

h. Timely and relevant individual and collective staff training (at all levels within a command).

ANNEX A RELATED ALLIED PUBLICATIONS AND STANAGS

A.1 General

A.1.1. North Atlantic Treaty Organization (NATO) nations have concluded a wide range of agreements on various matters and more are under negotiation. A selection of the more prominent publications is listed in AJP-3-2, *Allied Joint Doctrine for Land Operations*, Annex 3A.

A.1.2. It is noted that standardization agreements (STANAGs) are not normally circulated directly to users, unlike allied publications (APs). Their contents are included in national and command instructions (for example, training pamphlets and SOPs).

A.2. Policy Documents

A.2.1 MC 0362/1; NATO Rules of Engagement

A.3. Operational Doctrine

A.3.1 AJP-2; *Allied Joint Doctrine for Intelligence, Counter-Intelligence, and Security Doctrine* (STANAG 2190) Ed A Ver 2 February 2016.

A.3.2 AJP-2.1; *Allied Joint Doctrine for Intelligence Procedures* (STANAG 2191) Ed B June 2016.

A.3.3 AJP-3; *Allied Joint Doctrine for the Conduct of Operations* (STANAG 2490) Ver B March 2011.

A.3.4 AJP-3.2; *Allied Joint Doctrine for Land Operations* (STANAG 2288) Ver A March 2016.

A.3.5 AJP-3.4; *Non-Article 5 Crisis Response Operations* (STANAG 2180) Ver A October 2016.

A.3.6 AJP-3.4.4; *Allied Joint Doctrine for Counter-Insurgency* (COIN) (STANAG 2611) February 2011.

A.3.7 AJP-3.4.9; *Allied Joint Doctrine for Civil-Military Cooperation* (STANAG 2509) Ed A Ver A February 2013.

A.3.8 AJP-3.9.2; *Land Targeting* (STANAG 2285) May 2006.

A.3.9 AJP-3.14; *Allied Joint Doctrine for Force Protection* (STANAG 2528) Ed A, Ver 1 April 2015.

A.3.10 AJP-5; *Allied Joint Doctrine for the Planning of Operations* (STANAG 2526) Ed A, Ver 1 2018.

A.3.11 AJP-3.10; *Allied Joint Doctrine for Information Operations* (STANAG 2518) Ed A Ver 1 December 2015.

A.4. Tactical Doctrine

A.4.1 ATP-3.2.1; *Allied Land Tactics* (STANAG 2605) November 2009.

A.4.2 ATP-3.2.2; *Command and Control of Allied Land Forces* (STANAG 2199) Edition B Ver 1 December 2016.

A.4.3 AAP-39, *NATO Handbook of Land Operations Terminology* (STANAG 2248) Ed B Ver 1 December 2015

A.5. Other

A.5.1 AAP-06; *NATO Glossary of Terms and Definitions* (STANAG 3680) Ed 2016 Ver 1 December 2016.

A.5.2 APP-6; *NATO Joint Military Symbology* (STANAG 2019) Ed D Ver 1 October 2017.

A.5.3 APP-11; *NATO Message Catalogue* Ed D Ver 1 November 2015.

A.5.4 AAP-15; *NATO Glossary of Abbreviations Used in NATO Documents and Publications* 2015.

A.5.5 *Comprehensive Operational Planning Directive* (COPD), Interim V2.0 (2013)

ANNEX B COMPARISON MATRIX OF NATO PLANNING PROCESSES

B.1. Introduction:

B.1.1. Within the operations cycle, the planning process, at all levels consists of a series of phases and steps commanders and staffs use to understand the situation and mission; develop, analyse, and compare courses of action (COAs); decide on a COA; and produce an operation plan (OPLAN) or operation order (OPORD). Each step of the process has various inputs resulting in various outputs. These outputs lead to an increased understanding of the situation facilitating the next step of the process. Commanders and staffs generally perform these steps sequentially; however, they may revisit several steps in an iterative fashion, as they learn more about the situation before producing the plan or order.

B.1.2. The below matrix compares the strategic, operational, and tactical level planning processes of NATO and several of its member nations. More complex, higher level planning processes may require the use of additional steps or sub-steps but the general structure essentially remains the same (i.e. understand the situation/problem, consider and develop COAs, and communicate). For instance, at the Strategic level, “COA Development” includes “Military Options Development” and “Plan Development” includes “Concept of Operations (CONOPS) Development”, “OPLAN Development” and “Force Generation”. At the Operational level, “Mission Analysis” includes “Operational Appreciation” and “Operational Estimate” while “Plan Development” includes “CONOPS Development” and “OPLAN Development”. See *Comprehensive Operational Planning Directive* (COPD) for further details.

Level	Strategic to Operational	Operational	Tactical	Operational to Tactical	Operational to Tactical	Operational to Tactical	Operational to Tactical	Tactical	Operational to Tactical	Operational to Tactical	Tactical	Higher Tactical	Operational to Tactical
Process	NATO COPD Phases	NATO OLPP (AJP-5)	NATO Tactical Planning (APP-28)	CA OPP	DEU MDMP	DNK Tactical Estimate	ESP Tactical Planning Process	FR MEDOT	ITA TLPP	NLD TBM	NOR Planing Process	PRT Military Decision Process	UK Tactical Estimate (6 Step)	US MDMP
UNDERSTAND (Observe) / Understand the situation / problem	Phase 1 - Initial Assessment	1. Initiation of Planning	1. Receipt of Mission	1 - INITIATION (Starts with receipt of a wng O, planning guidance, etc. Ends with issue of own wng O.)	1. Order Analysis	Receipt of Mission Initiation of Planning	1. Receipt of Mission	1. Initiation	1. Receipt of Orders /Situation changes	1. Review the Situation	1. Initial Situation analysis	1. Receipt of Mission	1. Understand the Situation	1. Receipt of Mission
	Phase 2 - Operational Appreciation of Strategic Environment													
	Phase 3a – Mission Analysis	2. Problem and Mission Analysis	2. Mission Analysis a. Order Analysis b. Evaluation of Factors	2 - ORIENTATION (Review of Situation; Mission Analysis; and Mission Statement)	2. Evaluation of Factors	1. Mission Analysis	2. Mission Analysis	2. Orientation (Mission Analysis)	2. Mission Analysis a. Orders b. Factors analysis	2. a. Mission Analysis 2. b. Analysis of the (F) Actors of influence	2. Mission Analysis	2. Mission Analysis	2. Understand the Problem	2. Mission Analysis / CDR Planning Guidance
ORIENT / Consider and develop COAs	Phase 3b - COA Development	3. COA Development	3. COA Development	3. COA DEVELOPMENT COA analysis, validation, and comparison; Cond's Decision (COA approval); and CONOP Development)	3. Identify Friendly COA	2. COA Development, Wargaming and analysis 3. Final analysis, initial orders production, recce plan for staff,	3. COA Development	3. Concept Development	3. COA Development	3. Forumation of potential COAs 4. Development and Validatation of COAs	3. Developing COAs and consept	3. COA Development	3. Formulate & Consider COAs	3. COA Development
	Phase 4a - CONOP Development	4. COA Analysis	4. COA Analysis		4. Comparison of Forces and Capabilities		4. COA Analysis	(COA Dev & Assessment)	4. COA Analysis (Wargame)	5. Analysis of COA		4. COA Analysis	4. Develop & Validate COAs	4. COA Analysis (Wargame)
		5. COA Validation & Comparison	5. COA Comparison		5. Assessing and Weighing Up COA	4. Orders Production	5. COA Comparison		5. COA Comparison			5. COA Comparison	5. COA Evaluation	5. COA Comparison
		6. Command COA Decision	6. COA Approval (Commander's Decision)		6. Decision	Issue initial orders Recce with subunits	6. Decision		6. Commander's Decision	6. Decision	4. Developing the plan	6. COA Approval	6. Commanders Decision	6. COA Approval
ADAPT (Decide) / Communicate	Phase 4b - OPLAN Development	7. CONOP & CONPLAN Development	7. Orders Production Dissemination and Transition	4. Plan (includes plan wargame, plan development, and issue of orders)	Order/Plan Production	5. Completion of orders IAW recce results. Issue Final orders Control and rehearsal of orders.	7. Decision Development	4. Plan Development	7. Orders Production		5. Plan review	7. Plans and Orders Production		7. Orders Production
ACT / Execute and Asses	Phase 5 - Execution	8. Campaign Assessment and Plan Reviews / Revision		5. Plan Review	Issuing of Orders			5. Plan Review	Inspections / movements / reconnaissance / rehearsals / Exploitation / consequence management / Transition / Termination (regrouping)					
	Phase 6 - Transition													

Note: This comparison includes those nations, who submitted National or Army decision making or planning process.

Legend:
CDR: commander
COA: course of action
CONOP: concept of operations
CONPLAN: contingency plan
COPD: Comprehensive Operational Planning Directive
IAW: in accordance with
MEDOT: Methode D'Elaboration D'une Decision Operationnelle Tactique (FR)
MDMP: military decision making process
OLPP: operational-level planning process
OPLAN: operation plan
OPP: Operational Planning Process (CA)
TLPP: Tactical Level Planning Process (ITA)
TBM: Tactical Model (NLD)

Table B-1. Comparison Planning Processes Matrix

ANNEX C TACTICAL PLANNING FOR LAND FORCE QUICK REFERENCE GUIDE

NATO Tactical Planning for Land Forces

Step 1: Receipt of Mission

Purpose

Alert the staff and subordinate units in order to:
- Start necessary preparations for the planning.
- Inform necessary personnel and units.
- Determine which information is already available for the upcoming tactical planning and still has to be obtained.

Comments

INPUTS

1. Received (WNGO) Order, new tasks from higher headquarters (HQ)
2. Updated Running Estimates
3. Updated IPOE products own unit and higher HQ
4. Appropriate Doctrine Publications, Field manuals and SOPs /SOIs.

Legend:
AI – area of interest
AIR – area of intelligence of responsibility
AOO – area of operations
IPOE – intelligence preparation of the environment
SOP- standard operating procedures
SOI – standard operating instructions
WNGO – warning order

ACTIVITIES

COMMANDER:
1. Determine and/or verify the role of own unit in a received order or changed situation.
2. Prepare and issue Commanders Initial Planning Guidance.

STAFF:
1. Prepare for planning.
2. Initiate IPOE (Area Evaluation and Actor Evaluation).
3. Update Running Estimates and prepare conclusions.
4. Identify (potential) relevant (f)actors of influence.
   - Update Actor Diagram.
   - Determine which information is available and which is missing.
5. Start on Mission timelines.
6. Estimate Staff Planning Timelines.
7. Prepare and deliver Receipt of Mission Briefing
   - Role of unit in the operational context.
   - Brief IPOE (Area Evaluation and Actor Evaluation).
   - AOO, AI, AIR.
   - Situation of own forces.
   - Operations timeline.
8. Prepare and issue WNGO.

OUTPUTS

1. A Receipt of Mission Briefing
2. Updated Actor diagram.
3. Mission timelines.
4. Planning Timeline
5. Commanders Initial Planning Guidance
   - (Abbreviated) Planning process to follow include Planning Schedule.
   - Necessary coordination (to include exchange of liaison officers).
   - Initiation of necessary attachments and detachments and authorized movements.
   - Information requirements and initiation of intelligence collection.
   - Additional staff tasks.
6. Warning order.

Annex B, APP-28

ANNEX C TO
APP-28

NATO Tactical Planning for Land Forces

Sub-step 2a: Order Analysis

Purpose

Understand the situation and mission.

Comments

- The Staff will normally start sub-step 2b (Evaluation of Factors) in concurrence with sub-step 2a by the Commander. It is important for the Commander and Staff to exchange relevant information, requested or otherwise, constantly throughout the execution. At the end of sub-steps 2a and 2b, Commander and Staff should have a shared understanding.
- When the environment or problem is complex, tools from Operational Level Planning Process (OLPP) may be used (AJP-5).

INPUTS

1. Received (WNGO) Order or Changed Situation.
2. Step 1 Outputs.
3. Running Estimates.
4. Any New Information from the Higher Headquarters (HQ), Adjacent Units and Attached Units.
5. Any new Information from any Other Relevant Actors.
6. Commander's Initial Planning Guidance.

Legend:
CCIRs-commander's critical information requirements
CONOPS-Concept of Operations
ROE – rules of engagement
WNGO – warning order

ACTIVITIES

COMMANDER (and Select Staff):
1. Analysis of the Higher Commander's Orders:
   - Intent 2-up.
   - Mission, Intent and CONOPS 1-up.
   - Formation's/Unit's Role in the Overall Plan.
   - Mission of Adjacent & Supporting Units.
   - Go/No-Go and Abort Criteria.
   - Facts and Assumptions.
   - Risks, Opportunities and Critical Points.
   - Determine Specified and Implied Tasks, and Essential task.
   - Determine Constraints and Restraints.
     - National Caveats, Red Cards, ROE, etc.
   - Establish the CCIRs
2. Develop a (restated) Mission Statement.
3. Formulate Commander's Initial Intent:
   - Purpose, Outcome/End state
   - Sketch a Schematic.
4. Develop Additional Planning Guidelines for the Staff.
5. Prepare the Mission Analysis Brief.

OUTPUTS

Order Analysis Briefing:
1. A (restated) Mission statement Who, What, Where, When, Why.
2. Commander's Initial Intent, Visualized in a Schematic.
3. Specified and Implied Tasks.
4. Essential Task.
5. Constraints and Restraints.
6. Go/No-Go and Abort Criteria.
7. Facts and Assumptions
8. Risks, Opportunities and Critical Points.
9. List of CCIRs.
10. Additional Commander's Planning Guidance.

Note:
When this sub-step and sub-step 2b have been concluded, the Staff will need to formulate and issue a WNGO.

Annex B, APP-28

NATO Tactical Planning for Land Forces

Sub-step 2b: Evaluation of Factors

Purpose

Understand the situation and mission.

Comments

- The Staff will normally start sub-step 2b (Evaluation of Factors) in concurrence with sub-step 2a by the Commander. It is important for the Commander and Staff to exchange relevant information throughout the execution. At the end of sub-steps 2a and 2b, Commander and Staff should have a shared understanding.
- When the environment or problem is complex, tools from Operational Level Planning Process (OLPP) may be used (AJP-5).

INPUTS

1. Received (WNGO), or changed situation.
2. Step 1 and 2a Outputs.
3. Running Estimates.
4. Any new information from higher headquarters (HQ), adjacent, own, and attached units.
5. Any new information from any other relevant actors.

Legend:
ASCOPE - areas, structures, capabilities, organizations, people, and events (civil considerations
CCIRs-commander's critical information requirements
COA – course of action
IPOE – intelligence preparation of the environment
PMESII - political, military, economic, social, information, and infrastructure
ROE – rules of engagement

ACTIVITIES

STAFF:
1. Order analysis on their specific parts of the order/annexes.
2. Perform IPOE:
   - Review **terrain and weather** to assess implications on own and adversary operations.
   - Review **adversary (enemy)/other actors** capacity and capabilities to identify critical vulnerabilities.
   - Review **civil environment** (PMESII /ASCOPE) to identify critical vulnerabilities to protect.
   - Develop adversary (enemy) COAs including most likely and most dangerous.
3. Review troops and support available to identify capability shortfalls.
4. Review and update time available to plan, execute and assess the upcoming operation.
5. Identify risks and begin risk assessment.
6. Develop Commander's CCIRs.
7. Develop initial intelligence collection plan (ICP).
8. Prepare and deliver the mission analysis briefing.
9. Develop and issue commander's planning guidance.
10. Develop and issue a Warning Order (WNGO).
11. Develop commander's initial back brief

OUTPUTS

1. MISSION ANALYSIS BRIEFING:
   - Conclusions from order analysis and evaluation of factors.
2. Revised commander's planning guidance:
   - Selection criteria for COA development.
   - Guidance on COA development.
3. Commander's initial back brief to higher commander.
4. Warning Order.

Note:
When this sub-step and sub-step 2b have been concluded the COMMANDER may conduct an Initial Commander's Back Brief with his commanding authority.

Annex B, APP-28

NATO Tactical Planning for Land Forces

Step 3: Course of Action Development

Purpose Develop options to accomplish the mission given the factors of influence.

Comments This step is conducted by the Commander and/or Staff, possibly working in COA Development teams.

INPUTS

1. Steps 1 and 2 Outputs:
   - Mission statement
   - Commanders initial intent
2. Running Estimates.
3. Updated assumptions and CCIRs.
4. Any new information from the higher headquarters (HQ), adjacent units, own and attached units.
5. Any new information from any other relevant actors.
6. Assigned and implied tasks, and essential task
7. Revised commander's planning guidance.
   - Selection criteria for COA development
   - Guidance on COA development
   - constraints and restraints
8. Updated IPOE
9. COG analysis (optional)

ACTIVITIES

STAFF:
1. Choose COA development method.
3. Assess Relative Combat Power.
4. Generate Options:
   - Brainstorm, Motion Picture-method, or War-Game.
5. Develop adversary (enemy) COAs including most likely and most dangerous.
6. For each COA fill out a COA development template:
   - A characteristic name.
   - Establish an operations framework.
   - Array forces (TASKORG).
   - COA timeline.
   - Assign tasks (and assign headquarters*).
   - Develop COA statements and sketches/overlay.
   - Start risk mitigation.
   - Validate COA.
   - Capture rationale.
7. Prepare and deliver COA briefing.

COMMANDER:
8. Select and / or modify COAs for continued analysis.

*Note: in some NATO countries assigning headquarters is a Commander's prerogative and is part of step 6 - Commander's Decision.

OUTPUTS

1. COA Briefing to the commander (so that he can select COAs for further development and, as required, provide updated planning guidance to the staff)
2. COAs accepted for further analysis.
3. Friendly COAs including sketches.
4. Adversary (enemy) COAs including sketches
5. COA comparison products (i.e. sync matrices, decision support templates, effects guidance matrices, etc.)
6. Updated assumptions and CCIRs.
7. Revised commanders planning guidance.

Legend:
CCIRs-commander's critical information requirements
COA- course of action
COG center of gravity
IPOE – intelligence preparation of the environment

Annex B, APP-28

NATO Tactical Planning for Land Forces

Step 4: Course of Action Analysis

Purpose

Identify difficulties, coordination issues, or probable consequences for each COA:
- How the various courses of action (COAs) should be amended on the basis of the interactive influence of the other actors.
- How to synchronize the seven Combat Functions for each COA.
- Which Opportunities and Threats (Risks) are associated with each COA.

Comments

Selection of the method is determined by available time and manpower to prepare and execute the COA analysis.

INPUTS

1. Steps 1, 2, and 3 Outputs:
   - Accepted COAs for further analysis.
   - Revised Commanders Planning Guidance
   - COA Statements and Sketches
2. Refined ACOAs.
3. Running Estimates.
4. Updated Assumptions and CCIRs.
5. Any new information from the higher headquarters (HQ), adjacent units, own, and attached units.
6. Any new information from any other relevant actors.

Legend:
ACOAs – adversary courses of action
COAs – course of action
CCIRs-commander's critical information requirements

ACTIVITIES

For each COA:
Preparation:
1. Select the analysis technique:
   - Mentally
   - Thinking out loud
   - War-game
   - Computer Simulation
   - Combination
2. Select the ACOA(s) to compare with.
3. Select critical events and decision points to analyze.
4. Select the analysis method.
   - Belt-, Box- or Avenue method.
4. Prepare method to record and display results.
5. List and position all relevant Friendly and Adversary forces
6. List of Assumptions and CCIRs.

Perform COA Analysis:
1. Conduct COA analysis.
2. Summarize what is recorded and assess the results.
3. Deliver a COA Analysis Briefing (optional).
4. Refine selected COAs.

OUTPUTS

For each COA:

1. Refined COA, COA timeline.
2. Updated potential Decision Points (DP).
3. COA analysis results.
4. Initial assessment measures
5. Updated Assumptions and CCIRs.
6. Revised Commander's planning guidance.

Annex B, APP-28

NATO Tactical Planning for Land Forces

Step 5: Course of Action Comparison

Purpose

Compare friendly and Adversary (enemy) COA:
- Evaluate strengths and weaknesses of each COA.
- Prepare the course of action (COA) with the highest probability of success.

Comments

INPUTS

1. Steps 1, 2, 3, and 4 Outputs.
2. Running Estimates.
3. Refined COAs.
4. Evaluation criteria.
5. COA analysis results.
6. Updated Assumptions and CCIRs.
7. Any new information from higher HQ, adjacent units, own and attached units.
8. Any new information from any other relevant actors.
9. Revised Commander's planning guidance.

Legend:
ACOAs – adversary courses of action
CCIRs-commander's critical information requirements
CONOPS-Concept of Operations
HQ – headquarter
IPOE – intelligence preparation of the environment

ACTIVITIES

STAFF
1. Compare and rate friendly COAs.
2. COAs are compared in different contexts:
   - Comparing COAs inherent advantages and disadvantages.
   - Comparing COAs performance/risk against ACOAs.
   - Comparing COAs against the commander's COA selection criteria.
2. Identify the Staff preferred COA.
3. Prepare and deliver COA Decision Brief.

OUTPUTS

COA DECISION BRIEF:
<u>General</u>
1. Intent 2-up
2. Mission, Intent and CONOPS 1-up
3. Conclusions and results updated IPOE
4. A (restated) Mission statement Who, What, Where, When, Why.
5. Constraints and Restraints
6. Facts and Assumptions
7. Risks, opportunities and critical points
8. List of CCIRs.

<u>For each COA:</u>
- A Characteristic name.
- Commanders Intent.
- CONOPS
- TASKORG
- Summary of COA Analysis.
- Residual Risks which are associated with the COA.

Recommended COA by the Staff

Annex B, APP-28

NATO Tactical Planning for Land Forces
Step 6: Commanders Decision

Purpose

Decide on COA:
- Select COA with highest probability of success.
- Record the rationale for the Commander's Decision.

Comments

INPUTS

1. Steps 1, 2, 3, 4 and 5 Outputs.
   - Evaluated COAs
   - Recommended COA
   - Updated IPOE
2. Running Estimates
3. Assumptions and CCIRs.
4. Any new information from higher HQ, adjacent units, own and attached units.
5. Any new information from any other relevant actors.
6. Revised Commander's Planning Guidance.

*Note: in some NATO countries assigning headquarters is a commanders prerogative and is part of step 6 Commander's Decision.

ACTIVITIES

1. Commander makes his decision (Assigns Headquarters*)

2. Commander prepares and issues his Final Planning Guidance.
- Which contingencies (branches and sequels) still need to be planned.
- How the OPLAN/OPORD needs to be processed and issued.

Legend:
CCIRs-commander's critical information requirements
COA – course of action
CONOPS-Concept of Operations
HQ – headquarters
IPOE – intelligence preparation of the environment
OPLAN – operations plan
OPORD - operations order

OUTPUTS

1. Commander-approved COA with any modifications. May include:
   - Assumptions and CCIRs.
   - Commander's risk tolerance.
   - Commander's Mission statement.
   - CONOPS:
     - Scheme of Manoeuvre/Fires.
     - Engineer and Information Activities Concept.
     - Main Effort.
     - Task organisation matrix.
     - Tasks to subunits.
   - Constraints and Restraints.
2. Commander's final intent.
3. Final Commanders Planning Guidance.
4. Warning Order.

Note:
Following his decision, the commander may Back Brief his higher commander.

Annex B, APP-28

NATO Tactical Planning for Land Forces

Step 7: Orders Production, Dissemination and Transition

Purpose

Produce plan, issue order, and ensure understanding by subordinates.

Comments

INPUTS

1. Steps 1, 2, 3, 4, 5 and 6 Outputs.
2. Updated IPOE.
3. Commander-approved COA and any modifications.
4. Refined commander's intent.
5. Running Estimates.
6. Updated Assumptions and CCIRs.
7. Any new information from the higher headquarter (HQ), adjacent units, own, and attached units.
8. Any new information from other relevant actors.
9. Final commander's planning guidance.

ACTIVITIES

The Staff conducts:
1. Plans and Orders Reconciliation.
2. Approving the Plan and/or Order.
3. Transition of OPLAN or OPORD to current Operations cell (when applicable).
4. Prepare and Issue the Order.
5. Prepare and deliver Back briefs (optional).
6. Prepare and conduct Rehearsals (optional).
7. Prepare and Issue of fragmentary orders (FRAGOs), as required.

OUTPUTS

1. OPLAN or OPORD.
2. FRAGOs, as required.

Legend:
CCIRs-commander's critical information requirements
COA – course of action
IPOE – intelligence preparation of the environment
OPLAN – operations plan
OPORD – operations order

Annex B, APP-28

ANNEX D TEMPLATES

Appendix 1 – Example of a Course of Action Characteristic Matrix

<table>
<tr><td colspan="5">STEP 3 COA: CHARACTERISTIC NAME</td></tr>
<tr><td rowspan="2">MISSION</td><td rowspan="2">CONOPS
INTENT</td><td rowspan="2">Sketch
/Overlay</td><td>Day/Night</td><td></td></tr>
<tr><td>Date
Timings
Phase</td><td></td></tr>
<tr><td>TASKORG</td><td>Scheme of Manoeuvre
Narrative: Includes
Manoeuvreform and evt. Phasing

Tasks to Units
Phase 1
D Task to Units
C Task to Units
R Task to Units
res
ME
Endstate
Phase 2
D Task to Units
C Task to Units
R Task to Units
res
ME
Endstate
…..
Phase x
etc</td><td colspan="3">Sketch</td></tr>
<tr><td>ASSUMPTIONS, CCIR, EEFI</td><td></td><td>CSS Concept
Supply

Maint

MED

Movements /MSR</td><td>SWOT Analysis
STRENGHT

WEAKNESSES</td><td>OPPORTUNITY

THREAT</td></tr>
<tr><td>DECEPTION</td><td>JF Concept

ENGR Concept</td><td>C2 Concept</td><td></td><td></td></tr>
<tr><td>CONPLAN</td><td>Themes and Messages</td><td>Rationale</td><td>Risks</td><td>Staf Validation Check
F: A: C: E: S:</td></tr>
</table>

Appendix 2 – Example of a Sync Matrix

SYNC-MATRIX: CHARCTERISTIC NAME																																																
	Day/Night																																															
	Date	X																							X+1																							
	Timings	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Phase																																															
Enemy Action																																																
Civilian Action																																																
Milestones																																																
Decisionpoints																																																
Control Measures																																																
Movement & manoeuvre	1. Cbt Unit																																															
	2. Cbt Unit																																															
	3. Cbt Unit																																															
	4. Cbt Unit																																															
	etc.																																															
	1. CS Unit																																															
	2. CS Unit																																															
	etc.																																															
Reserve																																																
Reconnaissance																																																
Fires																																																
Protection	Engineer																																															
	Air Defence																																															
	Security																																															
	CBRN																																															
Trains / Echelon																																																
Supply																																																
Maintenance																																																
MED																																																
Command & Control																																																
Close Air Spt																																																
Electronic Warfare																																																
Host Nation																																																
Interagency																																																
NGO																																																

Note: The first column is representative only and can be modified to fit formation needs.

Appendix 3 – Example of a Decision Brief

Item	Action by	Time
Own mission	CoS	
Order Analysis/ Commander's Initial Intent	CoS	
Introduction: • Points already decided • Points to be decided	CoS	
Core elements from the evaluation of factors:[21] • Adversaries/Other Actors • Troops and Support (Friendly Forces) • Terrain and Weather (Geospatial Factors) • Time • Civilian Situation • Other relevant factors, if important for deducing COA	 G2/S2 G5[22] GeoInfo/S2 G5[23] G9/(S2, if no G9) InfoOps/PSYOPS[24] As decided by CoS	
• Common elements of COA • Present the COA	CoS	
Assessment of COAs from the perspective of the cells/centres/advisors, if of relevance	As decided by CoS	
Comparison of forces and capabilities	G5[25]	
Weighing up COA	CoS	
Propose recommended COA (formal end of estimate process)	CoS	
Decision (including modification)	COM	
Summary, guidelines for further staff work/ orders production	COM/CoS	
	TOTAL (approximately)	45 min

[21] CoS determine what subjects the briefing will address and in what sequence
[22] If available and dependent on situation, otherwise G3/S3
[23] If available and dependent on situation, otherwise G3/S3
[24] If available and dependent on situation, otherwise G3/S3
[25] If available and dependent on situation, otherwise G3/S3

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ANNEX E FACTORS

E.1. General.

Six factors—mission, enemy (adversary) forces, terrain and weather, troops and support available (friendly forces), time available, and civil considerations (METT-TC)—comprise the mission variables—the categories into which relevant information is grouped. The commander and staff consider relevant information in each category in all types and forms of military actions. Their relative impact may vary by operation but the command support must consider information from each category.

E.1.2. Mission.

The first factor is always the assigned mission. Understanding the mission provides the focus for planning as well as decision making during execution. The commander analyses his mission or decisions in terms of the higher commander's intent, mission, and concept of operations. As the commander allocates tasks and resources to his subordinates, he ensures his decisions support his decisive operation and his higher commander's intent. He and the staff then view the factors of METT-TC with respect to their impact on mission accomplishment.

E.2. Enemy Forces.

E.2.1. Considerations.

The second factor to consider is the enemy (adversary)—dispositions (to include organization, strength, location, and tactical mobility), doctrine, equipment capabilities, commanders' biography, and probable course of action or intent. One of the most important factors about the enemy—yet most difficult to obtain because of its nature—is the enemy intention. While staff analysis can produce enemy capabilities, it must also evaluate indicators for evidence of enemy intentions. Information about the enemy also includes how the enemy might exploit friendly weaknesses and vulnerabilities.

E.2.2. Sources.

Enemy information comes from many sources, to include the full array of intelligence, surveillance, target acquisition, and reconnaissance (ISTAR) assets, plus combat information. Of all the relevant information, information about the enemy is inherently the most uncertain. Therefore, a designated manager for this information is the assistant chief of staff, intelligence (G2). Enemy information also includes the enemy's speed of advance, tempo of operations, and known strengths and vulnerabilities. Technology must display the enemy force in the same digital frame of reference as friendly force information.

E.3. Terrain and Weather.

E.3.1. Terrain and weather are natural conditions that man has only a limited ability to influence. Terrain and weather are relatively neutral, in contrast with friendly and enemy forces, because they favour neither friendly nor enemy forces unless one side is better prepared to operate in the environment or are more familiar with it.

E.3.2. Information on terrain includes not only data such as features, slope and elevation, soil conditions, and vegetation, but also their impact on vehicle and human speed, maintenance, tempo, trafficability, and manoeuvrability by various types of forces. Terrain information must be regularly updated to take account of the effect of combat, as well as of nature.

E.3.3. Weather and climate have direct and indirect consequences on conducting tactical operations, which the commander must assess and anticipate. Weather is shorter-term but less predictable than climate for planning purposes. The direct consequences immediately affect the operations of friendly or enemy forces, and the relative consequences for each force are a function of preparation by the force rather than favouring one or the other. The indirect consequences of weather and climate are those on other elements of the environment—terrain and human, military and non-military—which either hamper or help military operations of one or both forces. For example, stable weather conditions favour enemy use of chemical or biological agents. Cold weather slows both men and machines, but it also freezes water and allows the force to move across normally wet areas that would otherwise be passable only with greater difficulty.

E.4. Troops and Support Available (Friendly Forces).

E.4.1. Every commander knows the number, type, capabilities, and condition of available friendly troops. He also knows the disposition and situation of his forces without having to visit each unit on the ground. He normally maintains information of friendly forces two echelons below him. He understands subordinates' readiness, including maintenance, training, strengths and weaknesses, commanders, and logistical status. Visits on the ground should serve to confirm reports or to provide direct understanding of the decisive points or factors of the operation. Personal visits provide insights into the intangibles that data and reports cannot capture.

E.4.2. The commander considers his troops available when analysing whether he has enough forces to accomplish his mission. Increasing assets in one area may compensate for a shortage of assets in another. A commander ensures that he provides a subordinate with the right mix of troops to accomplish the mission when he assigns him a mission.

E.5. Time Available.

E.5.1. Time available stems first from consideration of the enemy's time to react effectively to friendly actions. Time available is then considered in terms of the ability

of forces to plan, prepare for, and execute operations. The time available to conduct the operations process varies with the size of the unit, its mission, and the capability of the enemy to conduct his operations process. Time available also depends on useful and usable time. For example, for some activities, hours of darkness would be useable time, while for others darkness would not be useful for action.

E.5.2. Consideration of time available further includes the time that subordinate commanders and units require for their own planning, preparation, and execution.

E.6. Civil Considerations

E.6.1. With the impact of current operations on the civilian population, civil considerations are more a part of the commander's planning factors. Civil considerations are how the man-made infrastructure, civilian institutions, and attitudes and activities of the civilian leaders, populations, and organizations, within an AOO influence the conduct of military operations. Civil considerations are an essential factor of the environment across the range of military operations. Attitudes and activities of the civilian population in the AOO influence the outcome of military operations. Civil considerations of the environment can either help or hinder friendly or enemy forces; the difference lies in which one has taken the time to learn the situation and anticipated possible impacts on the operation.

E.6.2. Human modification of terrain can change the shape of the land or its trafficability. It may also change local weather by modifying local wind or water pathways. The commander considers these man-made features and their results on natural terrain features and climate when he considers terrain.

E.6.3. The consequences of some civil considerations may merely impede the forces' activities, while others affect the military personnel and prevent them from functioning to their full capability. The consequences can often be overcome or even turned to friendly advantage through anticipation and preparation. Careful preparation can turn parts of civil populations into advantages for friendly forces' and disadvantages for enemy forces' operations.

E.6.4. Operations also often require allied land forces to coordinate with international organizations and non-governmental organizations (NGOs). The commander also has legal and moral responsibilities to refugees and non-combatants in the AOO that may include providing them humanitarian assistance. The commander's awareness of civilian infrastructure factors such as the location of toxic industrial materials may influence the choice of a COA and the conduct of operations.

E.6.5. The existence of an independent press guarantees that allied military activities that do not meet allied military standards for dealing with non-combatants will be reported in the NATO, host nation (HN), and international public forums. Commanders must consider the outcome of their decisions and their forces' actions on public opinion.

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ANNEX F TIME-SAVING TECHNIQUES

F.1. Limitations on COA Development, Analysis and/or Comparison.

F.1.1. Decision making in a time-constrained environment usually occurs after a formation/unit has entered the area of operation and begun operations. The following time-saving techniques enable a commander and staff to speed up the planning process in the time-constrained environment. The rapid development of COAs focuses on the critical friction points and the identification of the common elements present in each COA[26]. This planning process can begin following Step 2B *Evaluation of Factors*. The developed simplified COAs should concisely describe the mission statement utilizing the following commander's intent format:

a. Who: [unit/formation] acting force

b. What: [is doing] main tactical activity

c. How: strength, main effort, concept of operation

d. When: time of conduct

e. Where: area, direction, objective

f. Why: purpose

F.1.2. Often, planning cannot encompass all details or phases of an operation because of the developing situation. While preliminary planning should focus on the initial phases of an operation, the planning process must continue in order to stay ahead of the current operational phase.

F.1.3. Developed COAs should be depicted in a simplified sketch focusing on the essentials (see Figure F-1 on page F-2). Available forces should only be represented if they are vital for the commanders understanding of the operation.

F.1.4. Once COA development is complete, the staff should proceed to COA comparison. The comparison of forces and capabilities should be subdivided into:

a. Overall comparison.

b. Local comparison of forces and capabilities including non-military capabilities.

c. Local comparison of combat power.

[26] It is important to note, a staff should be well trained at COA development prior to conducting rapid COA development.

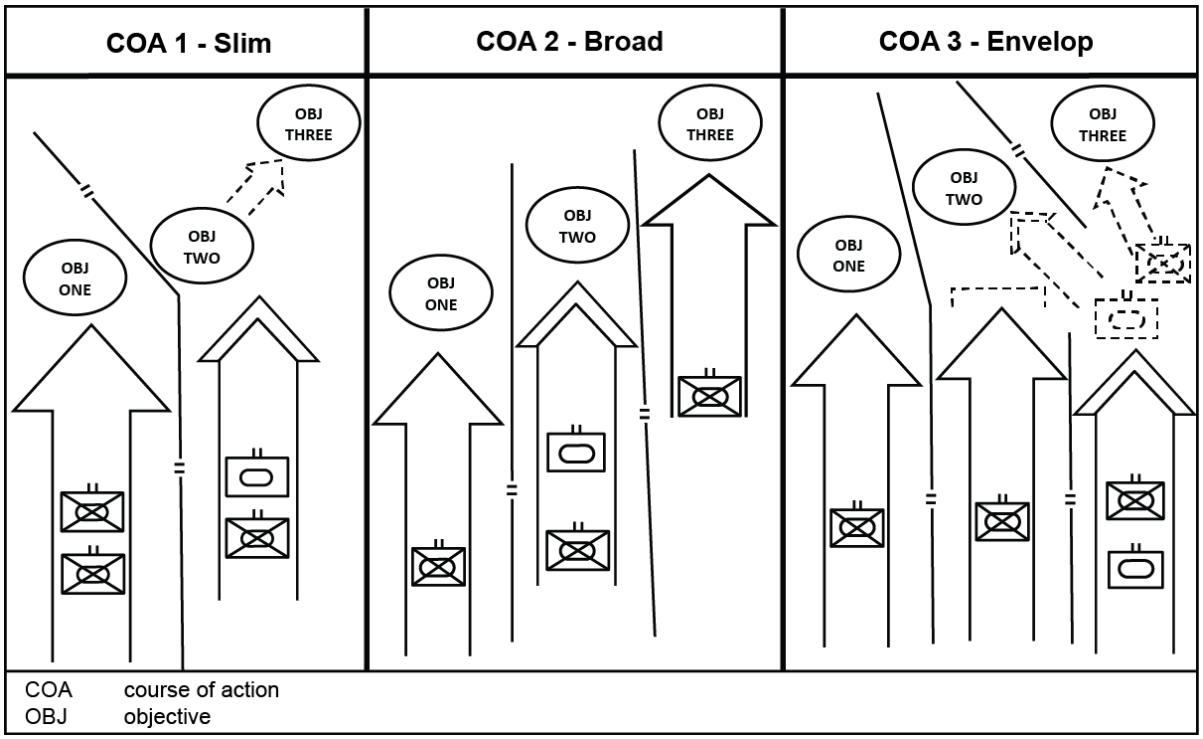

Figure F-1. Example of Simplified COA Sketches

F.1.5. Depending on time available or the type of operation, the overall comparison can be omitted (this is less important in stability operations). The primary focus of COA second comparison being the local comparison of combat power. The result of the process will show the force ratio. A higher number of forces does not imply superiority while a lower number does mean inferior.

F.1.6. In order to identify the best COA for defeating the adversary (enemy), the relative combat power has to be determined. The following factors along with the force ratio are important in assessing combat power:

a. Geospatial factors (result of the evaluation of factors)

b. Availability of forces, including combat support

c. Activity and way of fighting

d. Possible reinforcements

e. Support by neighbours

f. State of readiness

g. Possible sustainment/combat service support

F.1.7. All of these factors enable a staff to assess their combat power for a COA as high, medium or low. If the combat power in a COA is not assessed as high, it will be necessary to consider what measures, if any, are possible to improve it. If there is a significant gap in combat power between COAs, and there are no additional assets to be provided, then the lower COA should be abandoned. Only the remaining COAs will be compared along assessing with each COA advantages and disadvantages. Commanders identify and provide their comparison criteria and the staff may supplement additional criteria, if warranted.

F.1.8. When the pros and cons of the remaining COAs are assessed, the most important advantage and disadvantage of each COA must be emphasized. The number of advantages and disadvantages is not a decisive factor when considering a COA. The recommendation from the staff on the best COA has to be chosen in relation to the tactical situation and the commander's initial guidance. Sometimes a single advantage can be crucial.

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LEXICON
PART I—LIST OF ACRONYMS AND ABBREVIATIONS

This lexicon contains abbreviations relevant to APP-28 and is not meant to be exhaustive. The definitive and more comprehensive list of abbreviations is in AAP-15, NATO GLOSSARY OF ABBREVIATIONS USED IN NATO DOCUMENTS AND PUBLICATIONS.

AAP	allied administration publication
ACOA	adversary course of action
AJP	allied joint publication
AOO	area of operations
APP	allied procedural publication
ASCOPE	areas, structures, capabilities, organizations, people, and events
ATP	allied tactical publication
C2	command and control
CCIR	commander’s critical information requirement
COA	course of action
COG	centre of gravity
CONOPS	concept of operations
COPD	Comprehensive Operational Planning Directive
COS	chief of staff
EEFI	essential elements of friendly information
FFIR	friendly forces information requirement
FRAGO	fragmentary order
HQ	headquarters
ICP	intelligence collection plan
IPOE	intelligence preparation of the operational environment
METT-TC	mission, enemy, terrain and weather, troops and support available (friendly forces), time available, and civil considerations
NATO	North Atlantic Treaty Organization
OLPP	operational-level planning process
OPLAN	operation plan
OPORD	operation order
PIR	priority intelligence requirement
PMESII	political, military, economic, social, information, and infrastructure
RFI	request for information
ROE	rules of engagement
SME	subject matter experts
SOP	standing operating procedures
STANAG	standardisation agreement
WNGO	warning order

PART II—TERMS AND DEFINITIONS

abort

To terminate a mission for any reason other than enemy action. It may occur at any point after the beginning of the mission and prior to its completion. (AAP-06)

adversary

A party acknowledged as potentially hostile and against which the legal use of force may be envisaged. (AAP-06)

assumption

A (in planning) supposition on the current situation and/or the future course of events to complete an estimate of the situation and decide on the course of action. (AAP-06)

be-prepared mission

A mission assigned to a unit and that may be executed depending on the result of its previous action. (AAP-06)

caveats

In NATO operations, any limitation, restriction or constraint by a nation on its military forces or civilian elements under NATO command and control or otherwise available to NATO, that does not permit NATO commanders to deploy and employ these assets fully in line with the approved operation plan. (AAP-06)

centre of gravity

The primary source of power that provides an actor its strength, freedom of action and/or will to fight. (AAP-06)

combat power

The total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time. (AAP-06)

command and control

The authority, responsibilities, and activities of military commanders in the direction and coordination of military forces and in the implementation of orders related to the execution of operations. (ATP-3.2.2 – not NATO Agreed)

commander's critical information requirement

Information requirement identified by the commander as being critical in facilitating timely information management and the decision-making process that affect successful mission accomplishment. (AAP-39)

commander's intent

A clear, concise statement of what the force must do and the conditions the force must meet to succeed with respect to the enemy, terrain, and to the desired end state. (ATP 3.2.2 – not NATO Agreed)

conclusion

The outcome or result reached that requires action in planning or further analysis. (COPD – not NATO Agreed)

constraints

[1]A requirement placed on a commander that dictates action. (COPD – not NATO Agreed); [2]a restriction placed on the command by a higher command which dictates an action or inaction. (This is a new term and definition and will be processed for NATO Agreed status.)

deduction

The implications, issues or considerations derived from the fact(s) with strategic significance. (COPD – not NATO Agreed)

enemy

[1]a person who is hostile to you. 2 a country that your own is fighting in a war. (Oxford English Dictionary, 2011)

essential task

A specified or implied tast that must be executed to accomplish the mission. (This is a new term and definition and will be processed for NATO Agreed status.)

factor

A significant factual statement of information known to be true that has strategic implication. (COPD – not NATO Agreed)

implied task

A task that must be performed to accomplish a specified task or mission but is not stated in the higher headquarters' order. (This is a new term and definition and will be processed for NATO Agreed status.)

mission

A clear, concise statement of the task of the command and its purpose. (AAP-06)

mission analysis

A logical process for extracting and deducing from a superior's orders the tasks necessary to fulfil a mission. (AAP-39)

mission-type order

An order issued to a subordinate unit that indicates the mission to be accomplished without specifying how it is to be done. (AAP-06)

on-order mission

A mission to be executed at an unspecified time in the future when the order is given. (AAP-06)

planning guidance

An intellectual peg in the sand that is valid at the time of deduction. PG must be reviewed (and amended as required) throughout the planning process (later deductions may alter past deductions). (not NATO agreed)

restraint

[1]A requirement placed on a commander that prohibits action. (COPD – not NATO Agreed); [2]a requirement placed on the command by a higher command that prohibits an action. (This is a new term and definition and will be processed for NATO Agreed status.)

risk

(In capability planning) is the extent to which uncertainties and potential events might have an impact on achievement of objectives. (AAP-06)

running estimates

A staff estimate continuously updated based on new information as the operation proceeds. (ATP-3.2.2 – not NATO Agreed)

specified task

A task specifically assigned to a unit by its higher headquarters. (This is a new term and definition and will be processed for NATO Agreed status.)

war game

A simulation of a military operation, by whatever means, using specific rules, data, methods and procedures. (AAP-06)

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APP-28(A)(1)