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MAFJP 5-01.1

**MALAYSIAN ARMED FORCES
JOINT PROCEDURAL
PUBLICATION**



**JOINT MILITARY
APPRECIATION PROCESS
(JMAP)**

3rd Edition 2018

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FOREWORD

1. The aim of this Malaysian Armed Forces Joint Procedural Publication (MAFJP) 5-01.1 Edition 3 is to lay down the basic understanding and mechanics on Joint Military Appreciation Process (JMAP). This publication is specially produced for the MAF by Pusat Peperangan Bersama (PESAMA) for all joint operations and training in the MAF. Officers and non-commissioned officers should use this handbook as a reference and foundation for the execution of JMAP. It contains explanations and examples on the application of JMAP tools and techniques.

2. This publication is designed not only to assist all officers but more importantly staff officers who are going to work and operate in joint service organisation and joint operation environment. This edition has been classified as UNCLASSIFIED so that it can be referred to easily during planning involving members of other government departments and/or military staff from other nations. It is fully interoperable with the latest editions of the equivalent planning doctrine publications of key military allies.

3. This publication is concerned with the application of the JMAP and Joint Intelligence Preparation of the Operational Environments (JIPOE) across the spectrum of conflicts including Military Operations Other Than War (MOOTW). Both individual and staff decision-making are addressed, including the method of applying the process to produce viable and supportable joint plans. It provides military guidance and understanding the concept of JMAP for the Malaysian Armed Forces (MAF) in preparing their appropriate plans using the JMAP in developing Course of Action (COA) and Concept of Operations (CONOP) with regard to Joint Operational Planning (JOP). Detailed discussion of the JIPOE has been removed from this publication and is now located in MAFJP 5-01.2 JIPOE. However, summary of JIPOE has been kept for ease of reference, this change allows for flexibility in updating future editions of both publications.

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4. This edition has been expanded from four to five steps, with a new first step titled Scoping and Framing. This new step encompasses what was Preliminary Scoping, which occurred before JMAP in the previous edition, but now includes Framing, a cognitive approach that ensures staffs has identified the correct problem before detailed planning commences. A single hypothetical example has been used throughout the publication for illustrative purposes. This example presents the publication's core subject matter in an alternative way, to assist in maximising comprehension of the theoretical concepts. However, it is not supposed to be regarded as a prescriptive template for the conduct of operational.

5. Finally, it must be read, understood and practiced regularly for it to be an effective tool to a coherent approach to Joint Operations, planning and appreciation. It is essential that all professional officers of the MAF take cognisance of this procedural to enhance the knowledge on joint planning.

/ Aug 18



TAN SRI DATO' SERI PANGLIMA HAJI ZULKIFLI BIN HAJI ZAINAL ABIDIN
Gen
Chief of Defence Force

CONDITIONS OF RELEASE

1. This publication contains classified information. It is to be safeguarded under rules designed to give the same standard of security as that maintained by the Government of Malaysia for information of similar classification.
2. It is not to be released to another country without the consent of MAF HQ.
3. It is not to be used for other than military purposes.
4. It is not to be divulged to a non-security organisation unless authorised by MAF HQ.

PREFACE

1. **Scope.** This publication sets forth procedural guidance governing the application of operational planning and decision-making process at joint level.
2. **Purpose.** This publication sets the details in the usage of Joint Military Appreciation Process (JMAP) in the joint activities and performance of MAF.
3. **Application.**
 - a. The guidance established in this publication apply to the Commanders of Joint Force Headquarters, Joint Task Forces Headquarters and may also apply when significant forces of one service are attached to forces of another service or when significant forces of one service support forces of another service.
 - b. This publication is authoritative but not directive. Commanders will exercise judgment in applying the procedures herein to accomplish their missions. This procedure should be followed except when, in the judgment of the commanders dictate otherwise. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence for the activities of joint forces unless the Chief of Defence Force in coordination with the other members of Joint Chief Committee has provided more current and specific guidance.

ABBREVIATIONS AND ACRONYMS

AAR	- Air to Air Refuelling
AI	- Area of Intelligence Interest
AIR	- Area of Intelligence Responsibility
ALOC	- Air Lines of Communication
AO	- Area of Operations
AOE	- Analysis of the Operating Environment
APOE	- Air Point of Embarkation
APOD	- Air Point of Disembarkation
C2	- Command and Control
C3	- Command, Control and Communications
C4I	- Command, Control, Communications, Computers and Intelligence
C4ISRT	- Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance and Targeting
CAP	- Combat Air Patrol
CC	- Critical Capability
CCIR	- Commander's Critical Information Requirements
CDF	- Chief of Defence Force
CDP	- Commander's Decision Point
CF	- Critical Factor
CIMIC	- Civil-Military Coordination
CI	- Counterintelligence
CIS	- Communication and Information Systems
COA	- Course of Action
COG	- Centre of Gravity
CONOP	- Concept of Operations
CONPLAN	- Contingency Plan
COS	- Chief of Staff
CPG	- Commander's Planning Group

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CR	- Critical Requirement
CV	- Critical Vulnerability
DP	- Decisive Point
DSM	- Decision Support Matrix
EEFI	- Essential Elements of Friendly Information
EW	- Electronic Warfare
FE	- Force Element
FFIR	- Friendly Force Information Requirement
FMB	- Forward Mounting Base
FSB	- Forward Support Base
S&F	- Scoping and Framing
HQ	- Headquarters
HUMINT	- Human Intelligence
HVT	- High Value Target
IE	- Intelligence Estimate
I&W	- Indications and Warning
IO	- Information Operations
IR	- Information Requirements
ISR	- Intelligence, Surveillance and Reconnaissance
IT	- Information Technology
JF	- Joint Force
JFAO	- Joint Force Area of Operations
JFC	- Joint Force Commander
JFCC	- Joint Force Component Commander
JFHQ	- Joint Force Head Quarters
JIPOE	- Joint Intelligence Preparation of the Operational Environment
JLPP	- Joint Logistics Planning Process
JMAP	- Joint Military Appreciation Process
JOP	- Joint Operational Planning
JOPG	- Joint Operational Planning Group
JOPP	- Joint Operational Planning Process

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JPTL	-	Joint Prioritised Target List
JTF	-	Joint Task Force
JTFC	-	Joint Task Force Commander
JTFHQ	-	Joint Task Force Headquarters
JTL	-	Joint Target List
LOC	-	Lines of Communications
LOO	-	Line of Operation
MAF	-	Malaysian Armed Forces
MD	-	Most Dangerous
ML	-	Most Likely
MN	-	Multi National
MSE	-	Military Strategic Estimate
MTL	-	Master Target List
NAI	-	Named Area of Interest
NATO	-	North Atlantic Treaty Organisation
NATPOL	-	National Policy
NEO		non-combatant evacuation operation
NGO	-	Non-Governmental OrganisationS
NSC	-	National Security Council
NSG	-	National Support Group
OE	-	Operating Environment
OGD	-	Other Government Department
MOOTW	-	Military Operations Other Than War
OPINST	-	Operation Instruction
OPLAN	-	Operation Plan
OpO	-	Operation Order
OPSEC	-	Operations Security
ORBAT	-	Order of Battle
PIR	-	Priority Intelligence Requirement
POL	-	Petroleum, Oils and Lubricants
PSYOP	-	Psychological Operation

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RAP	-	Recognised Air Picture
RASP	-	Recognised Air-Surface Picture
RMP	-	Recognised Maritime Picture
ROE	-	Rules of Engagement
SF	-	Special Forces
SLOC	-	Sea Lines of Communication
SOP	-	Standard Operating Procedure
SPOE	-	Sea Point of Embarkation
SPOD	-	Sea Point of Disembarkation
VAP	-	Vital Area Protection
TAI	-	Target Area of Interest
UN	-	United Nations
WngO	-	Warning Order

GLOSSARY OF TERMS

Administration. The management and execution of all military matters not included in tactics and strategy, primarily in the field of logistics and personnel management.

Adversary. A party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged.

Alert Order. A planning directive that provides essential planning guidance and directs the initiation of execution planning after the directing authority approves a military course of action. An alert order does not authorize execution of the approved course of action.

Approved Foreign National. A person who, by virtue of their nationality, is deemed eligible for evacuation by Malaysian Armed Forces.

Area of Intelligence Interest. That area of concern to the commander, including the area of influence, areas adjacent thereto and extending into enemy territory the objectives of current or planned operations. This areas occupied by enemy forces who could jeopardize the accomplishment of the mission. In terms of intelligence, a commander will have a requirement for intelligence and information of the area of interest for both current and future operations.

Area of Intelligence Responsibility. An area allocated to a commander in which the commander is responsible for the provision of intelligence within the means at the commander's disposal.

Assumption. A supposition on the current situation or a presupposition on the future course of events, either or both assumed to be true in the absence of positive proof, necessary to enable the commander in the process of planning to

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complete an estimate of the situation and make a decision on the course of action.

Assigned Forces. Forces-in-being which have been placed under the operational command or operational control of commander.

Administrative Orders. An order covering administration or logistics commitment such as traffic, supply, maintenance, evacuation, personnel and other administrative details.

Branch. An option for a particular phase within a LOO, designed to anticipate DP and provide the commander with sufficient flexibility to maintain the initiative.

Campaign. A series of related military operations aimed at accomplishing a strategic or operational objective within a given time and space.

Campaign Planning. Planning that integrates both deliberate and immediate planning processes and seeks to orchestrate the ways for tactical means to achieve strategic ends.

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

Chief of Staff. The senior or principal member or head of a staff, or the principal assistant in a staff capacity to a person in a command capacity; the head or controlling member of a staff. For purposes of the coordination of its work; a position that in itself is without inherent power of command by reason of assignment, except that which is invested in such a position by delegation to exercise command in another's name.

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Civil-Military Coordination. The coordination and cooperation, in support of the mission, between the Commander and civil actors, including the national population and local authorities, as well as international, national and non-governmental organisations and agencies.

Coalition. An arrangement between forces of two or more nations, which are not all allies, acting together to accomplish a mission.

Collection Plan. A plan for collecting information from all available sources to meet intelligence requirements and for transforming those requirements into orders and requests to appropriate agencies.

Combined. Between two or more forces or agencies of two or more allies.

Commander's Critical Information Requirements. Comprise information requirements identified by the commander as being critical in facilitating timely information management and the decision-making process that affect successful mission accomplishment. The three key sub-components are critical Friendly Force Information Requirement (FFIR), Essential Element of Friendly Information (EEFI) and Priority Intelligence Requirements (PIR).

Commander's Decision Point. A point in time and space when the commander or staff anticipates making a key decision concerning a specific course of action. Must be offset from the point where the action has to take place, in order to allow sufficient lead-time for action to be initiated.

Commander's Intent. A formal statement, usually in the concept of operations or general outline of orders, given to provide clear direction of the commander's intentions.

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Communications and Information System. An assembly of equipment, methods and procedures and personnel organised so as to accomplish specific information conveyance and processing functions.

Component Commander. A designated commander responsible for the planning and conduct of a maritime, land, air, special or other operation as part of a joint force.

Concept of Operations. A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations. The concept of operations frequently is embodied in campaign plans and operation plans; in the latter case, particularly when the plans cover a series of connected operations to be carried out simultaneously or in succession. The concept is designed to give an overall picture of the operation. It is included primarily for additional clarity of purpose. Frequently referred to as Commander's Concept of Operation (CONOP).

Conflict. A politico-military situation between peace and war, distinguished from peace by the introduction of organised political violence and from war by its reliance on political methods. It shares many of the goals and characteristics of war, including the destruction of governments and the control of territory.

Contingency Plan. A plan for contingencies which can reasonably be anticipated in an area of responsibility. A plan which is developed for possible operations where the planning factors have been identified or can be assumed. This plan is produced in as much detail as possible, including the resources needed and deployment options, as a basis for subsequent planning.

Counter-Intelligence. The aspect of intelligence devoted to destroying the effectiveness of hostile foreign intelligence activities and to the protection of information against espionage, individuals against subversion, and

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installations, equipment, records or material against sabotage.

Course of Action. A possible plan open to an individual or commander that would accomplish, or is related to accomplishment of, the mission. It is initially stated in broad terms with the details finalised during staff war gaming.

Critical Capability. CC are the primary abilities that enable a COG to achieve its desired end state. In essence, they are what the COG does (verb).

Critical Factor. A critical capability, critical requirement or critical vulnerability. Critical factors are derived from centre of gravity analysis.

Critical Information. Specific facts about friendly intentions, capabilities, and activities vitally needed by adversaries for them to plan and act effectively so as to guarantee failure or unacceptable consequences for friendly mission accomplishment.

Critical Requirement. CR are the crucial enablers, means and resources (noun) that allow a COG to perform its CC. They equip the CC to function, and so support the COG, and are essential to the achievement of the operational objectives. A system may consist of many things, but not all will be critical to the achievement of the desired end state.

Critical Vulnerability. CV are those CF that are inherently targetable and open to direct or indirect attack in a way that will contribute to a failure to achieve its objectives. CV are often more detailed elements or components of CR that support and enable CC to function. Detailed analysis of CV will reveal linkages and commonalities which, if targeted or exploited, can achieve an efficient and expeditious indirect effect on the COG.

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Culminating Point. The point in time and location where a force will no longer be stronger than the adversary and risks losing the initiative. This may be due to reduced combat power, attrition, logistics, dwindling national will or other factors. To be successful, the operation must achieve its objectives before reaching its culminating point.

D-Day. The day on which an operation commences or is due to commence. This may be commencement of hostilities or any other operation.

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

Deliberate Planning. Planning process used for Contingency planning, designed as a cyclic process during peacetime conditions and provides the Joint Planning Community an opportunity to develop and refine plans to be used in conflict situations.

Directive. A form of military communication that provides policy guidance or specific action to be taken. It gives direction to recipient in accordance with higher policy decision.

Decision Support Overlay. A graphic and tabulated display depicting Named Area of Interest (NAI), Target Area of Interest (TAI) and Commander's Decision Point (CDP) associated with the plan. It also displays, in tabulated format, the proposed synchronizing of friendly combat power.

Direct Support. The support provided by a unit not attached or under command of the supporting unit or formation, but required to give priority to the support required by that unit or formation.

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Directive Control. A philosophy of command and a system for conducting operations in which subordinates are given clear direction by the superior on their intentions, that is the result required, a task, the resources and any constraints. It includes the freedom to decide how to achieve the required result.

End State – National. The national end-state is the set of desired conditions, incorporating the elements of national power that will achieve the national objectives.

End State – Military. The political and/or military situation to be attained at the end of a campaign or operation, which indicates that the objective has been achieved.

Enemy. Any nation, group or body designated as enemy by the Malaysian Government. Enemy is a strategic term used by the Malaysian Government.

Essential Elements of Friendly Information. Key questions likely to be asked by adversary officials and intelligence systems about specific friendly intentions, capabilities and activities, so they can obtain answers critical to their operational effectiveness.

Essential Task. A specified or implied task that an organisation must perform to accomplish the mission.

Execute Order. An order to initiate military operations as directed.

Force Protection. All measures and means to minimise the vulnerability of personnel, facilities, equipment and operations to any threat and in all situations, to preserve freedom of action and the operational effectiveness of the force.

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Friendly. Friendly refers to forces from allied and other agency or government friendly to our interest.

Friendly Force Information Requirement. Information the commander and staff need to understand the status of friendly force and supporting capabilities.

H-Hour. The specific time on D-Day at which the main operation is to begin.

Human Intelligence. A category of intelligence derived from information collected and provided by human sources/operatives.

Implied Task. A task derived during mission analysis that an organisation must perform or prepare to perform to accomplish a specified task or the mission, but which is not stated in the higher headquarters order.

Information Management. The framework and set of processes by which an organisation captures, analyses, prioritises, stores and ensures the timely dissemination of relevant information for decision-making purposes.

Information Operation. The coordination of information effects to influence the decision making and actions of a target audience and to protect and enhance our own decision making and actions in support of national interests.

Information Requirements. Those items of information regarding the adversary and the environment that need to be collected and processed in order to meet the intelligence requirements of a commander.

Initiating Directive. A directive only issued by CDF to create a force, initiate planning for a contingency or appoint a subordinate commander.

Insurgency. A protracted and organised rebellion by a dissident faction,

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supported by a significant portion of the population, aimed at overthrowing the existing order essentially through unconstitutional means with armed struggle.

Intelligence Collection Plan. A plan for gathering information from all available sources to meet an intelligence requirement. Transforms the essential elements of information into orders or requests to sources within a required time limit.

Intelligence Estimate. An appraisal, expressed in writing or orally, of available intelligence relating to a specific situation or condition with a view to determining the courses of action open to the adversary or potential adversary and the order of probability of their adoption.

Intelligence Process. The process by which information is converted into intelligence and made available to users. The process consists of four interrelated intelligence operations: planning and direction, collection, processing and exploitation and dissemination.

Joint. Activities, operations and organisations in which elements of at least two Services participate.

Joint Force. A general term applied to a force which is composed of significant elements of two or more Services, Navy, Army or Air Force, generally operating under a single commander who is responsible to the CDF.

Joint Intelligence Preparation of the Operation Environment. The analytical process used by joint intelligence organisations to produce intelligence assessments, estimates and other intelligence products in support of the joint force commander's decision making process. It is a continuous process that includes defining the total battlespace environment; describing the battlespace effects; evaluating the adversary; and determining and describing

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adversary potential courses of action. The process is used to analyse the maritime, land, air, space, electromagnetic, cyberspace, and human dimensions of the environment and to determine the adversary capability to operate in each. Products are used by the joint force and component command staffs in preparing their estimates and are also applied during the analysis and selection of friendly courses of action.

Joint Operational Planning Group. A Joint Force planning organisation consisting of designated representatives of the JFHQ principal and special staff sections, joint force components (Service and/or functional), and other supporting organisations or agencies as deemed necessary by the JFC. Joint planning group membership should be a long-term assignment and members should be designated spokespersons for their respective sections or organisations. Responsibilities and authority of the joint planning group are assigned by the JFC. Normally headed by the Chief of Staff or joint force chief planner, joint planning group responsibilities may include, but are not limited to, crisis action planning, including course of action development and refinement, coordination of joint force operation order development, and planning for future operations.

Joint Task Force. A force composed of assigned or attached elements of the Army, the Navy and the Air Force, or two or more services, which are constituted and so designated by a designated higher authority, including the commander of a unified command, a specified command, or an existing joint task force.

Level of Conflict. Describes the level for the planning and command of operations. The three levels are strategic, operational and tactical.

Line of Operation. A line linking decisive points to allow sequential progression towards an operational objective or the desired end state.

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Lines of Communications. All the land, water, and air routes that connect an operating military force with one or more bases of operations, and along which supplies and reinforcements move.

Main Effort. A focus for activities that are considered as crucial to success of the campaign, operation or phase, where a commander thinks is going to prove decisive.

Manoeuvrist Approach. Seeks to shatter the adversary cohesion through a series of actions orchestrated to a single purpose that creates a turbulent and rapidly deteriorating situation with which the adversary cannot cope. It focuses commanders at every level on exploiting adversary weaknesses, avoiding adversary strengths and protecting friendly vulnerabilities.

Master Target List (MTL). The encompassed listings of targets designated for a campaign or operation, and comprise the joint target list, restricted target list and no-strike list.

Mission. A clear, concise statement of the task of the command and its purpose.

Multinational. Activities, operations and organisations, in which elements of more than one nation participate..

Military Operations Other Than War (MOOTW). Operations conducted in hazardous circumstances to relieve distress and improve security in a place where the local civil administration has broken down because of conflict or natural disaster. They include evacuation, diplomacy, humanitarian aid, and peacekeeping.

Named Area of Interest (NAI). The geographical area where information that will satisfy a specific information requirement can be collected. Usually selected

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to capture indications of adversary courses of action, but also may be related to conditions of the operational environment. They provide an objective basis for the employment of intelligence collection assets.

Non-Battle Casualty. A person who is not a battle casualty, but who is lost to their organisation by reason of disease or injury, including persons dying from disease or injury, or by reason of being missing where the absence does not appear to be voluntary or due to adversary action or to being interned.

Non-Combatant Evacuation Operations (NEO). An operation conducted to relocate designated non-combatants threatened in a foreign country to a place of safety.

Offensive Support. Offensive measures taken to support a commander in pursuing this mission, and may be organic to the Service of the supported unit or be provided by another Service, and includes naval surface fire support, fire support from any ground-based weapons system other than small arms, and offensive air support, including air reconnaissance and maritime strike.

Operation. A series of tactical actions with a common unifying purpose, planned and conducted to achieve a strategic or campaign end state or objective within a given time and geographical area.

Operational Art. The employment of military forces to attain strategic and/or operational objectives through the design, organisation, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design and, ultimately, tactical action, by integrating the key activities at all levels of war.

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Operational Design. The contemporary application of operational art in producing a schematic that represents the commander's operational approach to a situation

Operational Environment (OE). The operational environment is the composite of the conditions, circumstances and influences that affect the employment of capabilities and bear on the decisions of the commander. Understanding the operational environment is fundamental to identifying the conditions required to achieve stated objectives; avoiding the effects that may hinder mission accomplishment (undesired effects); and assessing the impact of friendly, adversary, and other actors, as well as the local populace, on the commander's concept of operations (CONOPS) and progress toward attaining the military end state. A holistic view of the operational environment encompasses physical areas and factors and the information environment.

Operational Evaluation. The test and analysis of a specific end item or system, insofar as practicable under Service operating conditions, in order to determine if quantity production is warranted considering the increase in military effectiveness to be gained and its effectiveness as compared with currently available items or systems. Consideration being given to personnel capabilities to maintain and operate the equipment, size, weight, and location, and adversary capabilities in the field.

Operational Level of Conflict. The level of conflict concerned with the planning and conduct of campaigns. It is at this level that military strategy is implemented by assigning missions, tasks and resources to tactical operations.

Operational Objectives. A condition that needs to be achieved during a campaign or operation to enable the desired end state to be reached.

Note: Correct assessment of operational objectives is crucial to success at the

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operational level.

Operational Instruction (OPINST). Indicates the commander's intention and possibly the overall plan but leaves the detailed course of action to the subordinate commander.

Operations Order (OpO). A directive, usually formal, issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation.

Operations Plan. A plan for a single or series of connected operations to be carried out simultaneously or in succession.

Notes:

1. It is usually based upon stated assumptions and is the form of directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders. The designation 'plan' is usually used instead of 'order' in preparing for operations well in advance.
2. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order.

Operational Command. The authority granted to a commander to assign missions or tasks to subordinate commanders, to deploy units, to reassign forces, and to retain or delegate operational and/or tactical control as may be deemed necessary. It does not on itself include responsibility for administration or logistics. May also be used to denote the forces assigned to a commander.

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Operational Pause. A temporary cessation of operations after the attainment of major tactical or operational objectives, but prior to reaching one's own culminating point, to regenerate combat power in preparation for delivery of a decisive blow. Adversarial action can also necessitate an operational pause.

Own. Own refers to troops belongs to the same nation.

Phase. A definitive stage of a campaign or operation during which a large portion of the forces and capabilities are involved in similar or mutually supporting activities for a common purpose. Phasing is required when there is a major change to command and control (C2) arrangements or resources, when certain DPs are achieved, or upon completion of a particular task or group of tasks.

Priority Intelligence Requirement (PIR). An intelligence requirement, stated as a priority for intelligence support, that the commander and staff need to understand the adversary or the operational environment.

Prisoner of War (POW). A detained person as defined in Part 1 Articles 4 and 5 of the Geneva Convention Relative to the Treatment of Prisoners of War of August 12, 1949. In particular, one who, while engaged in combat under orders of his or her government, is captured by the armed forces of the enemy. As such, he or she is entitled to the combatant's privilege of immunity from the municipal law of the capturing state for warlike acts which do not amount to breaches of the law of armed conflict.

Psychological Operations (PSYOP). The planned use of propaganda and other measures to influence the opinions, emotions, attitudes and behaviours of hostile, neutral or friendly groups in such a way as to support the achievements of national objectives.

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Risk Management. The systematic application of management policies, procedures and practices to the tasks of identifying, analysing, evaluating, treating and monitoring risk.

Rules of Engagement (ROE). Directives endorsed by Government and issued by commanders, which delineate the circumstances, and limitations within which military force may be applied to achieve military objectives.

Notes:

1. They do not inhibit or replace but are part of the command function.
2. They may be framed to limit certain actions; alternatively, they may authorise actions to the full extent permissible under domestic and international law.

Sequel. An option at a commander's decision point along a line of operation, initiated by a significant shift in operational direction, which identifies a new line of operation to achieve a revised or new objective.

Specified Task. A task that is specifically assigned to an organisation by its higher headquarters.

Standard Operating Procedure. A set of instructions covering those features of operations which lend themselves to a definite or standardised procedure without loss of effectiveness. The procedure is applicable unless prescribed otherwise in a particular case. Thus, the flexibility necessary in special situations is retained.

Strategic Level of Conflict. That level of war which is concerned with the art and science of employing national power.

Supporting Plan. A plan, complementing the main plan, which provides detailed information concerning specialised and discrete aspects of an operation, and may cover areas such as communications, electronic warfare, movement, administration, public information, and intelligence collection.

Synchronisation. The arrangement of related and mutually supporting actions in time, space and purpose to maximise their combined intended effects.

Tactical Level of Conflict. The planning and conduct of battle and is characterised by the application of concentrated force and offensive action to gain objectives.

Target Area of Interest (TAI). The geographical area where high-value targets can be acquired and engaged by friendly forces. Not all target areas of interest will form part of the friendly course of action; only target areas of interest associated with high priority targets are of interest to the staff. These are identified during staff planning and war gaming. Target areas of interest differ from engagement areas in degree; engagement areas plan for the use of all available weapons whereas target areas of interest might be engaged by a single weapon.

Targeting. The process of selecting targets and matching the appropriate response to them taking account of operational requirements and capabilities.

Task. A particular undertaking either by assignment or derived from the role of the individual or establishment.

War Game. A simulation by whatever means, of a military operation involving two or more opposing forces using rules, data, and procedures designed to depict an actual or assumed real life situation.

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Warning Order. A planning directive that describes the situation, allocates forces and resources, establishes command relationships, provides other initial planning guidance, and initiates subordinate unit mission planning.

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CHAPTER 1

JOINT OPERATIONS PLANNING

Executive Summary

- Successful joint operations depend on commanders making sound decisions that are developed into workable concepts and plans, and executed by subordinates in a timely and appropriate manner.
- The Malaysian Armed Force (MAF) uses the five steps Joint Military Appreciation Process (JMAP) as a tool to assist in decision making and planning operations across all levels of conflict.
- Effective joint operations planning is a formalised, sequenced process involving the commander, headquarters (HQ) and supporting staff.
- Military decision making is both an art and a science involving the application of Operational Art and Operational Design.
- The commander should ensure that the staff clearly understands the degree of operational risk that the commander is prepared to accept.

INTRODUCTION

1001. A national or multinational response to a crisis requires an integrated comprehensive approach of which military action may be only one part. Accordingly, military campaigns and operations should be planned with due regard to the National Strategic End-state, and specifically, to contribute to achieving the Military Strategic End-state. When a military response is required, it should be rapid, appropriate and proportional to the situation. Experience shows that such a military response will be joint and, increasingly, multinational.

1002. At the operational level of conflict, linking strategic objectives with tactical success is achieved through applying operational art. Operational art examines

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how the operational commander needs to translate the military strategic objectives identified at the strategic level of conflict into an operational design for a Concept of Operations (CONOP) that shapes the way an operation may unfold.

1003. **Joint Operations**. The successful conduct of joint operations relies on the ability of commanders to collectively combine the full range of single Service capabilities into a cohesive joint force that can conduct successful operations. Joint operations places the greatest demands on military forces due to the added complexity of such operations, but joint operations are also the operations for which the MAF is equipped and trained.

1004. Successful joint operations also depend on commanders making sound decisions that are developed into workable concepts and plans, and executed by subordinates in a timely and appropriate manner. At the operational level of conflict, staffs assist the commander's decision making process, develop concepts and plans, and ensure orders and instructions are communicated and executed effectively. Mastery in decision making and planning is achieved by the commander and staffs understanding and employing a common planning process.

1005. The MAF uses the five-step JMAP as a tool to assist in decision making and planning operations, including operations other than war. While the JMAP is suitable for use at all levels of conflict, this publication focuses on applying the JMAP at the operational level of conflict.

TYPES OF PLANNING

1006. Military planning includes two broad categories i.e. Force Planning and Joint Operation Planning.

a. **Force Planning.** Force planning is associated with the creation and maintenance of military capabilities. Force planning is conducted by Defence Planning Division or BPP to determine the force structure. However, force planning is not within the scope of this publication.

b. **Joint Operational Planning.** Joint Operational Planning (JOP) is the focus of this publication. It is directed towards the employment of military forces within the context of a military strategy to attain specified objectives for possible contingencies. JOP is conducted within the chain of command that runs from the National Security Council (NSC) through Chief of Defence Forces (CDF) under the advice of Strategic Planning Group (SPG) with the consent of Joint Chiefs Committee (JCC) to the Joint Force Commander (JFC). At national level, CDF in coordination with the Service Chiefs are principally responsible for the unified planning to employ the Armed Forces in support of national security objectives. JOP includes the preparation of plans e.g. Operation Plan (OPLAN) and contingency plan (CONPLAN), orders e.g. Operation Orders (OpO) as well as those joint planning activities that support the development of this operation plans or orders. These activities also incorporate the functions of the Services. JOP is a planning that establishes a prescribed and comprehensive set of procedures to be used in both contingency (deliberate) and crisis action (time sensitive) planning in either joint or combined operations. It is a sequential process performed simultaneously at the strategic, operational and tactical levels of war.

1007. At the strategic level, JOP involves the development of strategic military objectives and tasks in support of the national security strategy and the development of force and materiel requirements necessary to accomplish those tasks. Strategy is the art and science of developing and employing armed forces and other instruments of national power in a synchronised manner to secure national objectives. NSC translates policy into national and military objectives.

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These objectives facilitate the strategic planning. The SPG through JCC will plan at the strategic level of war through participation in the development of the national military strategy.

1008. JOP at the operational level links the tactical employment of forces to strategic objectives. The focus at this level is on operational art which is the employment of military forces to attain strategic and/or operational objectives through the design, organisation, integration and conduct of strategies, campaigns, major operations and battles. Operational art determines when, where and for what purpose major forces will be employed and should influence the enemy disposition before combat. It governs the deployment of those forces, their commitment to or withdrawal from battle and the arrangement of battles in major operations to achieve operational and strategic objectives. JFHQ, being the operational HQ for joint operations will undertake all planning at this level.

JOINT OPERATION PLANNING

1009. There are two types of operations planning, Deliberate Planning (planning for the possible and immediate) and Crisis Planning (planning for things that happen without warning), are explained below:

- a. **Deliberate Planning**. Deliberate planning is 'planning for the possible' and is largely assumption-based, concerned with identifying potential military responses to possible scenarios. It is the start of a process to develop considered military strategic guidance for the employment of the MAF to achieve an End-state in support of Government national strategy. It relies on a mix of assumption-based planning, current strategic guidance and analysis of possible future strategic environments. The Military Strategic Estimate (MSE) is a key planning document. Deliberate planning is 'planning for the likely or certain' and is situation and facts based. The products of the Deliberate Planning are the

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Contingency Plan (CONPLAN) for future use or the OPLAN for current operation. There are five phases in the Deliberate Planning, they are as follows:

- (1) Phase I - Initiation.
- (2) Phase II - Concept Development.
- (3) Phase III - Plan Development.
- (4) Phase IV - Plan Review.
- (5) Phase V - Supporting Plans.

b. **Crisis Planning**. Crisis Planning begins when a significant incident or event occurs and is reported to an appropriate government agency, it ends when the crisis is resolved or forces are withdrawn. The product of the crisis planning is the viable COA but if there is a CONPLAN based on the crisis then it will be upgraded to OPLAN. Crisis Planning is to be conducted in six phases, each of which begins with a crisis action (event, report, order) and ends with a decision. The phases are as follows;

- (1) Phase I - Situation Development.
- (2) Phase II - Crisis Assessment.
- (3) Phase III - Course of Action (COA) Development.
- (4) Phase IV - COA Selection.
- (5) Phase V - Execution Planning.

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(6) Phase VI - Execution.

PLANNING GROUPS

1010. Planning at the operational level involves a number of different planning groups undertaking concurrent, synchronised planning activities across a range of functional and specialist areas. The number and composition of planning groups will be dependent on the nature of the impending operation. Some of the planning groups that may be activated include:

- a. **Commander's Planning Group.** The Commander's Planning Group (CPG) is the senior operations planning group and provides planning guidance throughout the planning process. The CPG refers to the Initiative Directive (ID) and Military Strategy Estimate (MSE) to formulate the Scoping and Framing for the Joint Operations Planning Group (JOPG) to conduct the JMAP.
- b. **Joint Operation Planning Group.** The JOPG is the primary focus for operations planning and is the principal staff-level working group for the development of campaigns and operations. The JOPG also provides direction to other subordinate planning groups. The JOPG is responsible for producing the CONOP and also be tasked to draft orders such as Warning Orders (WngO), Alert Order and Execute Order. Personnel external to the JFHQ may be invited to participate in the JOPG deliberations such as personnel from the designated Joint Task Force headquarters (JTFHQ), combined, coalition or multinational partners, Service HQ, Other Government Departments (OGD) and Non-Governmental Organisations (NGO).
- c. **Other Planning Groups.** The JOPG is assisted by numerous other planning groups which may include logistics, communications,

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effects and other specialist planning groups such as health and movements.

1011. The Joint Operations Planning Process (JOPP) is represented at Figure 1-1.

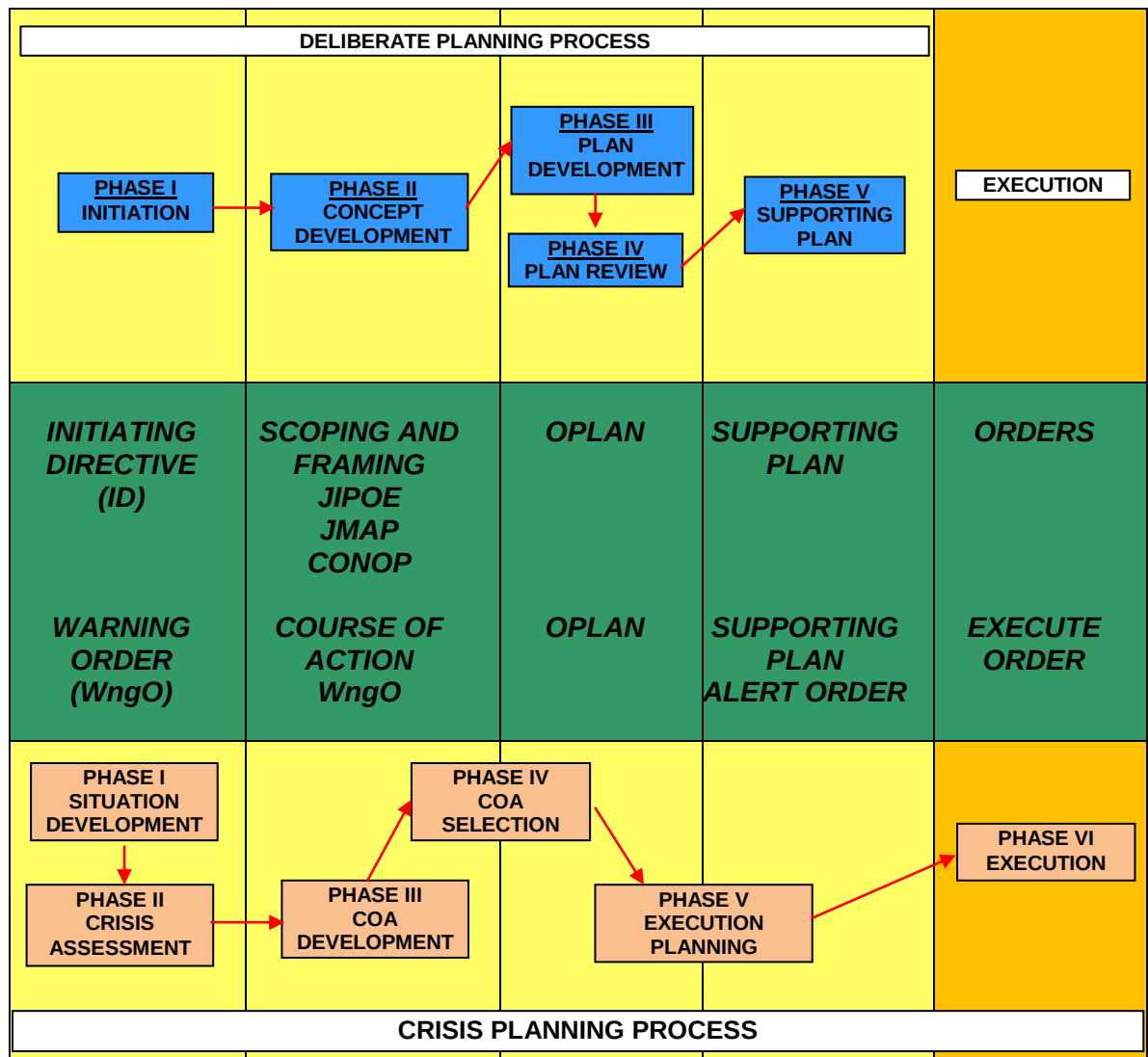


Figure 1-1: Joint Operations Planning Process

1012. The JOPP assists the commander and staff to apply thoroughness, clarity, sound judgment, logic and professional knowledge to reach a decision, often in time constrained and stressful situations. It is an assumption-based planning

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process where known information is analysed and unknown information is deduced through assumptions.

1013. Additionally, JOPP embraces the manoeuvrist approach to warfare which seeks to shatter the adversary's cohesion through a series of actions orchestrated to a single purpose that creates a turbulent and rapidly deteriorating situation with which the adversary cannot cope. The manoeuvrist approach focuses commanders at every level on exploiting adversary weaknesses, avoiding adversary strengths and protecting own/friendly weaknesses. At all times, the commander is seeking to undermine the adversary's Centre of Gravity (COG).

1014. The JOPP also places an emphasis on analysis of the environment and threat through the Joint Intelligence Preparation of The Operational Environment (JIPOE) so that both the environment and threat are effectively analysed and thoroughly understood. Within the JOPP, the JMAP has a top-down planning focus, where COA that achieve the commander's intent are described early in the process and improved as they are developed by the staff. This analysis is also considered past a projected start point, normally D-day or H-hour, through COA Analysis, which enables war gaming of threat activity and movement as a reaction to friendly force operations until the relevant end-state is achieved.

1015. Effective decision making should take into account all aspects of operations planning. This includes Deliberate Planning before operations, contingency planning, Crisis Planning including responsive and rapid planning during operations, and the concurrent planning of future operations.

1016. The effectiveness of the JMAP is reliant on the provision of timely and informed commander's guidance, and regular consultation between the commander and staff. It enables concurrent and responsive planning for ongoing

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and future operations, and for a crisis. The JMAP also assists the commander to select COA with an understanding of the associated risks.

1017. **Initiating Requirements**. Planning may be initiated by superior direction, situational awareness or subordinate requests. Upon receipt of an initiating requirement, a commander may initiate Deliberate or Crisis Planning, depending upon the situation.

SCOPING AND FRAMING.

1018. Scoping and Framing is led by the Commander and/or Chief of Staff (COS), generally involving the CPG and/or JOPG and other specialist staff as required. Scoping and Framing may be initiated by, or include, Commander's Initial Guidance depending on the situation. Scoping and Framing normally precedes the JIPOE and JMAP which includes the following:

- a. Intelligence update (based on the data requirements for Step One of the JIPOE).
- b. Strategic level direction.
- c. Status of current operations.
- d. Time constraints and planning considerations.
- e. Force preparation and capability requirements.
- f. Commander's Initial Guidance (or refined and updated Commander's Initial Guidance if provided prior to Scoping and Framing).

1019. Scoping and Framing is deliberated in Chapter 2 (Scoping and Framing).

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**JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL
ENVIRONMENT**

1020. Joint Intelligence Preparation of the Operational Environment (JIPOE) is a systematic, dynamic process for analysing the environment and threat, considered in the dimensions of time and space. It is designed to support staff planning and prepare the foundations for informed military decision making within the JMAP.

1021. JIPOE is also a processing medium through which intelligence staff can provide an assessment of environmental effects on an operation and an estimate of threat capability and intent. JIPOE incorporates all intelligence product development and interpretation directed to support planning. Additionally, JIPOE interaction with the JMAP assists in identifying the Commander's Critical Information Requirements (CCIR), which drives collection, processing and dissemination within an operational context. Part of the JIPOE is the counter intelligence estimate and other counter intelligence products that use the same methodology to consider intelligence threats as part of the counter intelligence planning process. This forms the counter intelligence plan.

1022. JIPOE assists the commander in applying maximum combat power at Decisive Points (DP) in time and space by:

- a. Describing the operating environment and the effects of that environment on both own/friendly and adversary operations.
- b. Identifying the adversary's COG and associated Critical Factors (CF): Critical Capabilities (CC), Critical Requirements (CR) and Critical Vulnerabilities (CV) and determining the likely adversary COA and adversary intelligence collection activities.

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c. Managing collection to meet the commander's decision requirements relative to gaps in information or the triggering of the Commander's Decision Points (CDP). JIPOE is explained in detail in MAFJP 5-01.2 (Joint Intelligence Preparation of the Operational Environment).

JOINT MILITARY APPRECIATION PROCESS (JMAP)

1023. The JMAP is a JFHQ function directed by the commander, led by the COS or senior J5 branch officer, and supported as required by all JFHQ staff branches, staff specialist functions and specialist advisers external to the JFHQ. The JMAP is the crux of joint operations planning at all levels of conflict. It builds on the JIPOE, the commander's selected adversary COA and is supported by the continuous intelligence cycle. The JMAP provides a logical process within JOPP to develop a CONOP which forms the basis for an OPLAN. The five step JMAP is shown at Figure 1-2 and includes:

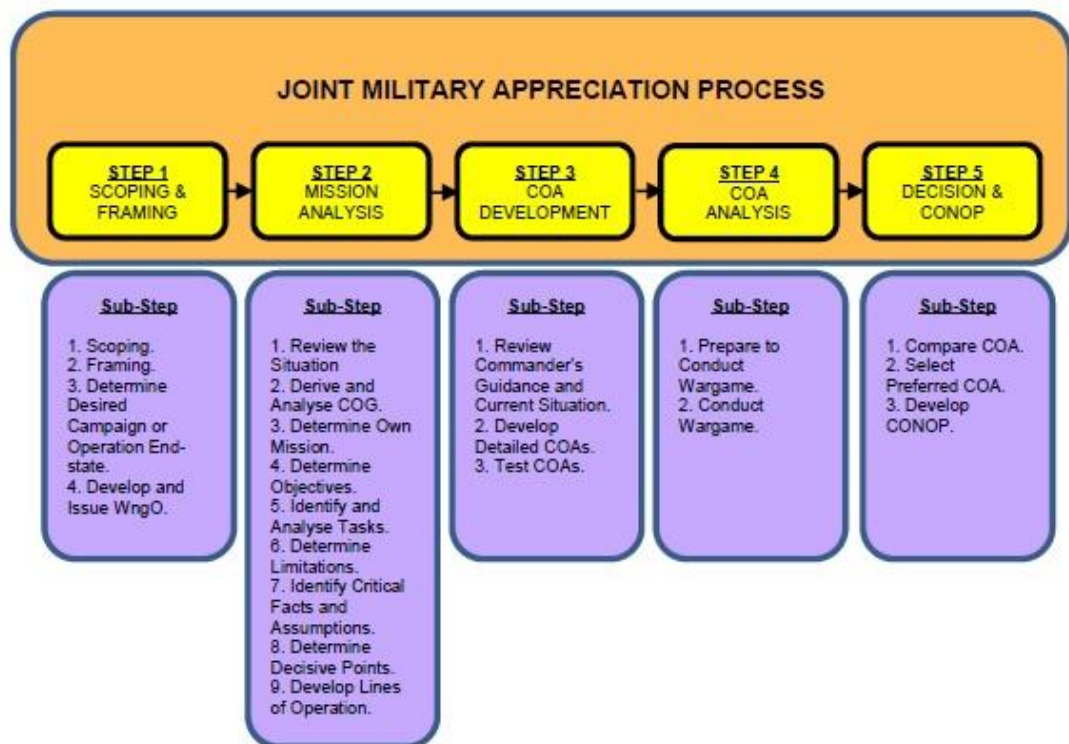


Figure 1-2: JMAP Process

- a. **Step One: Scoping and Framing.** Scoping and Framing is a prime important with the ultimate aim to confirm or identify the correct problems to be solved. Hence, this step may require critical thinking to deconstruct a complex, ill-structured and/or ill-defined situation into a structured and understandable problem set. The end-state of Scoping and Framing enables the commanders to identify the actual problems. Scoping and Framing is explained in detail in Chapter 2 (Scoping and Framing).
- b. **Step Two: Mission Analysis.** This is that critical part of the decision making process in which the tasks necessary to fulfill the mission are extracted and deduced from a superior commander's directive. At the conclusion of Mission Analysis, the commander confirms the operation Mission, intent and broad themes. Mission Analysis is explained in detail in Chapter 3 (Mission Analysis).
- c. **Step Three: Course of Action Development.** COA Development refines the Commander's Guidance and broad themes into developed COA. The COA should provide the commander with a range of workable options that can be analysed and further developed. At the conclusion of this step COA options are ready for analysis. COA Development is explained in detail in Chapter 4 (Course of Action Development).
- d. **Step Four: Course of Action Analysis.** COA Analysis tests the advantages and disadvantages of each COA. War gaming validates each own/friendly force COA for workability, strengths and vulnerability against each adversary COA. The aim of COA analysis is to improve the set of own/friendly COA. This step is explained in detail in Chapter 5 (Course of Action Analysis).

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- e. **Step Five: Decision and Concept of Operations.** This final JMAP step involves the commander deciding on the optimal COA and the staff developing a CONOP based on the selected COA to pass to the superior commander for approval. If the initial CONOP presented to the superior commander requires amendment prior to approval, the staff may need to revisit one or more steps of the JMAP in order to update the CONOP to be resubmitted for approval. Chapter 6 (Decision and Concept of Operations) explains this step in detail.

OPERATION PLAN DEVELOPMENT

1024. The staff will develop the OPLAN and associated OpO or Operation Instruction (OPINST) based on the approved CONOP. The OPLAN and supporting plans are used as the basis for developing the OpO or OPINST to be passed to the subordinate commander for action.

1025. Once the operation commences, the JFHQ staff continually assess progress towards the end-state and achievement of objectives and tasks. The J3 staff monitors and controls the operation including conducting deliberate planning as adjustments are required, such as activating planned branches and/or sequels. The J5 staff conducts planning in support of the current operation in the form of additional branches and sequels as required. Chapter 7 (Plan Development and Execution) explains this part of the JOPP in detail.

JOINT MILITARY APPRECIATION PROCESS APPLICATION

1026. The JMAP may be applied at all levels of conflict (the strategic, operational and tactical levels) although the focus of the planning activity and the resultant products may differ. However, for the JMAP to be effective requires planning coordination, effective liaison and concurrent staff activities across all levels of conflict.

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1027. **Military Strategic Level Application.** At the military strategic level, the JMAP is primarily used to determine appropriate military strategic options for the conduct of campaigns and operations and to identify the Military Strategic End-state, Objectives, Effects and Tasks. This planning will be informed by Government guidance, which may include the National Strategic End-state and objectives.

1028. Military strategic level planning may also involve the determination of broad campaign or operation themes to be developed at the operational level. Parallel planning at the strategic and operational levels of conflict will usually occur to provide additional detail quickly, and improve timeliness and appropriateness of an MAF response. Planning at the military strategic level may require coordination with OGD, NGO, multinational partners and/or other agencies, perhaps including the United Nations (UN), in accordance with the comprehensive approach.

1029. **Operational Level Application.** At the operational level of conflict the JMAP is primarily used to produce a CONOP, including Branches and Sequels, to achieve the Military Strategic End-state, Objectives, Effects and Tasks. At this level the JMAP is informed by military strategic level products and guidance. The final product of JOPP is the OPLAN, including supporting plans, and OpO or OPINST.

1030. **Tactical Level Application.** At the tactical level the JMAP may be used by JTFHQ staff or Joint Force Component Commanders (JFCC) to plan and coordinate tactical operations and an array of tactical activities, for example, offensive support, joint personnel recovery, force protection, movement and logistics support. The JMAP may also be adapted and used by force elements as appropriate.

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OTHER PLANNING CONSIDERATIONS

1031. **Joint Operations Planning and Technology.** JOP often involve complex scenarios and will usually be conducted with severe time constraints. Planning should be conducted as quickly as possible to ensure the commander remains ahead of the adversary commander's decision making cycle.

1032. The use of technology when undertaking JOP is useful in removing some of the complexity in the process and increasing the speed with which a robust, viable OPLAN can be efficiently developed. Technology that allows the more complex elements of the JMAP to be developed rapidly should be used wherever possible. Additionally, technology that allows planning groups, both internal and external to the planning JFHQ, to conduct collaborative planning on-line and develop supporting briefs and plans concurrently with the planning process should be used.

1033. Decision support systems can aid human cognitive deficiencies by integrating various sources of information, providing intelligent access to relevant knowledge and aiding the process of structuring decisions by:

- a. Improving individual efficiency.
- b. Expediting problem solving.
- c. Facilitating interpersonal communication.

1034. **Operational Evaluation.** Operational evaluation is processes comprised of four steps which include identify the requirement, plan, conduct and implement, monitor and review. The evaluation focuses on whether the operation is achieving the desired effects on the critical path to achieving the strategic objectives and End-state. For a short notice and/or short duration

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operation, the evaluation may necessarily be undertaken at the conclusion of the operation. However, for a longer duration operation an operational evaluation assessment plan is usually developed concurrently with the OPLAN.

1035. **Multinational (MN) Planning.** JFHQ should be prepared for combat and non-combat operations with forces from other nations within the framework of a combined or coalition force. An early understanding of the coordination requirements that will contribute to successful operations is crucial in the planning process. Joint planning doctrine and procedures are conceptually applicable to MN problems.

1036. **Other Government Department (OGD) Planning.** In keeping with the comprehensive approach to meeting world challenges, JOP should identify the OGD, NGO and other agencies such as the UN and International Committee of the Red Cross/Crescent that may be involved in the operation or Joint Force Area of Operations (JFAO). Effectively coordinating military activities with OGD and NGO activities can be vital to successful military operations at all levels of conflict.

1037. **Environmental and Heritage Planning.** Including environmental issues in the JMAP ensures that they are addressed at the earliest opportunity. It also means that they are integrated into exercise and operations planning along with other limitations and opportunities.

HEADQUARTERS STAFF ORGANISATION

JOINT STAFF STRUCTURES

1038. The MAF employs two types of joint staff structure for joint operations: the integrated and the component. They should not be confused with the methods of command, but can be used by either. Main features of each are as follows:

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- a. **Integrated**. Staff expertise from the three Services and specialist capabilities such as special operations and logistics are integrated within functional branches of the JFHQ. HQ Joint Operations Command is an example of an integrated HQ.
- b. **Component**. Single-Service, special operations and logistics staff may be grouped in separate components with each component having its own Component Commander subordinate to the Joint Task Force Commander (JTFC). The component staff system allows the JTFC to draw on single-Service, environmental or functional expertise to plan and conduct operations.

1039. **Common Joint Staff System**. Both the integrated and component staff structures in MAF are explained further in MAFJD 0-02 and MAFJD 0-03.

JOINT FORCE HEADQUARTERS PERSONNEL

1040. **The Commander**. As the commander is responsible for the direction of the decision making process, it follows that the commander should be fully involved in the JOPP, particularly the JMAP component. JOP are often initiated through Commander's Initial Guidance. As the JIPOE is developed, the commander focuses the intelligence process, decides upon CCIR and selects the range of adversary COA, which planning should address. As the staff work through the JMAP, the commander confirms the Mission, selects own/friendly COA for development, and decides which COA to adopt for the final plan.

1041. The commander will also provide the channel between the HQ and the superior commander to ensure the CONOP is agreed, the OPLAN meets the Superior Commander's Intent, and force element are assigned as required to support the plan. The extent to which the commander is involved in the detailed

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development and analysis of the COA will depend on a number of considerations, including the:

- a. Prevailing situation, especially time constraints.
- b. Level of HQ staff training and experience.
- c. Level of decision making required.
- d. Potential complexity of the required decision.
- e. Commander's style and personality.

1042. CCIR that are clearly communicated by the commander will greatly focus staff effort and ensure the commander is supported by the critical, mission-essential inputs from the staff. This is important not only during planning, but timely and accurate information also supports decisions within the current operation as well as timely execution and implementation of plans, including contingency plans.

1043. **Chief of Staff**. The COS coordinates JFHQ staff effort and manages and disciplines the staff's work while providing quality control over the JOPP. The COS must thoroughly understand the commander's intent and guidance so as to supervise the JMAP in the commander's absence. Additionally, the COS ensures staff has the information, guidance and facilities required and establishes timelines, briefing times and locations, and provides any unique instructions. Most importantly, the COS ensures that each of the functional areas within the staff continually liaise with the others to ensure that their work remains coordinated and synchronised, and not lateral to the direction of the planning process.

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1044. While the commander allows the COS to direct the staff effort on his behalf, the COS does not have a command function and can therefore only implement command decisions on behalf of the commander after consultation or direction. Normally, the COS does not have the staff or capacity to conduct detailed staff work. Rather, the COS coordinates the staff effort, and is responsible to coordinate the staff branches and functional specialisations to achieve the JFHQ output in support of the commander.

1045. The entire JOPP is a dynamic group decision making construct. As such, it is prone to the strengths and weaknesses evident in a social environment. It requires continual development of both the individual expertise and the collective staff effort. COS should be a team builder, ensuring that the group always remains output-focused. Tendencies by sub-groups and individuals towards fragmentation and misaligned priorities should be moderated through strong leadership and a continual focus on the superior commander's intent and the Mission. In the absence of the COS, the J5 will normally assume the COS operations planning duties and responsibilities.

1046. **Staff Planning Responsibilities**. The planning for operations at all levels is a HQ-wide activity and will usually involve staff from all branches, and where appropriate, specialist advisors. However, in the majority of instances the planning activity will be led by J5 and assisted by J3 staff. As a general rule, the division of lead planning responsibility between the J5 and J3 staff will be as outlined in the following paragraphs.

1047. **J5 Staff**. The operational level HQ J5 staff will lead all Deliberate and Crisis Planning which cover the following activities:

- a. Campaigns.
- b. Major operations.

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- c. Minor operations with a long lead time.
- d. Branches identified in a later phase of an ongoing operation.
- e. Unforeseen branches in an ongoing operation.
- f. Unforeseen sequels.
- g. Future operations.

1048. **J3 Staff**. The operational level HQ J3 staff generally will assist in Crisis Planning in the following areas:

- a. Minor operations with extremely short notice lead time.
- b. Crisis response operations.
- c. Branches and sequels identified within the current phase of an ongoing operation.

1049. Personnel from the J5, J3 and J2 staff provide the bulk of the effort during JOPP. J1, J4, J6, J7 and J9 staff provides significant input to planning. Specialist staff including legal, religious and other specialists may also provide a range of specialist advice and support to the JOPG.

1050. **Other Planning Responsibilities**. The staff is responsible for completing JOPP under the direction of the commander and coordination of the COS. At the operational level in joint, combined or coalition operations, the staff may be required to conduct their own planning in their respective staff branches or functional specialties, which will contribute to core JOPP. In this case specific planning groups may be established, for example, joint targeting planning group,

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joint IO planning group, joint effects planning group, joint logistics planning group, joint movement planning group or joint health planning group. COS is responsible for coordinating this often complex arrangement on behalf of the commander.

1051. Staff specialist planning and analysis supports each step of the JMAP, and should form the basis for staff and specialist briefings and annexes to OPLAN and OpO or OPINST. Analysis by staff officers and specialist advisors is required to support ongoing planning by providing staff checks, facts and staff conclusions that are required to inform and coordinate supporting concepts and plans.

OPERATIONAL ART AND DESIGN

1052. Military decision making is both an art and a science. Leadership, the complexity of operations and uncertainty in relation to the adversary are elements of the art of war. Many aspects of military operations such as movement rates, fuel consumption, weapons effects can be quantified and, therefore, represent part of the science or design of war. JOPP assist a commander and staff to make the best military decision, using a proven analytical process that merges the art and science of war.

1053. MAF planning for campaigns and operations draws on the Principles of War, Command and Leadership, Manoeuvrist Approach, the six operational joint functions (Command and Control, Intelligence, Offensive Action, Movement and Manoeuvre, Force Protection and Sustainment) and the elements of operational design. The Manoeuvrist Approach unifying concept is applied as part of operational design in the JOPP. The joint functions are used to assist commanders to integrate, synchronise and coordinate related capabilities and activities within the OPLAN.

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1054. Campaign and OPLAN are the practical expression of Operational Art and Design, and convey the commander's concept of how an operation should unfold and translate into actionable detail through an OpO or OPINST and/or directive. As a minimum the plan should clearly set out the following:

- a. The end-state.
- b. The objectives, their relative importance and the sequence in which they are to be achieved in order to neutralise or defeat an adversary's COG and realise the end-state.
- c. The effects to be achieved and the risk to be eliminated or mitigated.
- d. The tasks that need to be conducted to achieve success.
- e. How success will be measured and what conditions are to be achieved to realise the end-state.
- f. The assignment of forces and resources and necessary Command and Control (C2) arrangements.

OPERATIONAL ART

1055. Operational Art is the skilful employment of military forces to attain strategic goals through the design, organisation, sequencing and direction of campaigns and major operations. Operational art translates strategy into operational, and ultimately, tactical action and it requires a commander to:

- a. Identify the military conditions, or end-state that constitutes their given strategic objectives.

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- b. Decide upon the operational objectives that must be achieved to reach the end-state.
- c. Order a sequence of actions that leads to fulfillment of the operational objectives.
- d. Apply the military resources allocated to sustain the commander's desired sequence of actions.

1056. Operational Art demands creative and innovative thought to find broad solutions to operational problems. Operational Art provides the linkage between the strategic end-state and tactical action. It is employed by commanders to translate objectives into a design for an operation that employs a series of tactical actions that leads to success. Commanders should consider the following questions when applying operational art:

- a. What are the conditions required to achieve the objective? (Ends).
- b. What sequence of actions is required to create those conditions? (Ways).
- c. What resources are required to achieve that sequence of actions? (Means).
- d. What is the likely cost or risk in undertaking that sequence of actions? (Risk Management).

OPERATIONAL DESIGN

1057. Operational Design is the conception and construction of a framework that underpins a campaign or OPLAN and its subsequent execution. While

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Operational Art is the creative process, operational design is the practical extension to produce a CONOP and an OPLAN, and is the science that supports the art. Together they synthesise the intuition and creativity of the commander with the analytical and logical process of design by the staff, and assist in overcoming the ambiguity and uncertainty of a complex battlespace.

1058. Operational Design is used to shape the way in which an operation may unfold through to termination. The operation should be designed to ensure that any effects created contribute to achieving the National Strategic End-state within a comprehensive approach. Operational objectives link the Military Strategic End-state and objectives with tactical actions. DP and Lines of Operation (LOO) map out the stepping stones and common threads required to neutralise or defeat the adversary's COG. Sequencing, Contingency Planning, Branches and Sequels and Operational Pauses are ways of structuring the application of resources to ensure that force is concentrated at the right time and in the right place.

1059. Design elements are the concepts and tools of Operational Design. They assist commanders and staff to visualise the campaign or operation and shape the development of a CONOP and associated plans. Design elements facilitate the arranging of actions in time, space and purpose to accomplish the Mission. Design elements include in the following aspect:

- a. End-state.
- b. Objectives.
- c. COG.
- d. CF:

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- (1) CC.
- (2) CR.
- (3) CV.
- e. DP.
- f. CDP.
- g. LOO.
- h. Branches and sequels.
- i. Phasing.
- j. C2.
- k. Main effort.
- l. Synchronisation.
- m. Culminating point.

1060. Once these elements are identified, an operation can be arranged using techniques such as Phasing, Synchronisation, Sequencing, Operational Pauses, Branches and Sequels to produce a range of COA. These design elements are discussed in detail later in this publication.

RISK MANAGEMENT

1061. The commander should closely manage risk within the operational environment. Regardless of the level of command, a commander should ensure that the staff is clear on the degree of risk that the commander is prepared to accept. Risk Management is the systematic application of procedures and practises for analysing, assessing, controlling and monitoring risk and is applied in parallel to planning at each stage of JOPP. It considers the risk, likelihood and impact of occurrence. Rather than limiting activities through restrictive safety concerns, Risk Management allows the full operational potential to be achieved through managing, rather than avoiding, risk.

1062. Careful analysis and selection of adversary COA when conducting the JIPOE allows a commander to manage the main risk which is associated with adversary actions. Many other outputs from the JIPOE will add to the commander's understanding of the risk faced when considering own/friendly COA. The identification of the range of own/friendly COA during the COA Development step of the JMAP and the way in which a force manoeuvres, as analysed during the COA Analysis step of the JMAP, allows a commander to manage and mitigate the risk associated with own/friendly actions.

1063. At a JFHQ, Risk Management allows a commander to detail the cost of planned military options. This cost can be measured in different ways depending on the circumstances and higher direction from the superior commander. Risk Management is concerned with balancing identified threats against the harm those threats may inflict on various mission outcomes. Risk Management Principles are detailed in Annex A and the Risk Management Process is described in detail in Annex B.

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OPERATIONAL ASSESSMENT

1064. Assessment is an intrinsic element of operational design and review, specifically prompting new COA development and contingency planning. As objectives, DP, supporting effects and activities are derived, assessment measures are developed for each to benchmark and track operational success. Equal focus is given to the identification of potential unintended effects. What criteria and how to measure them are incorporated into the operational plan from the beginning. Associated data gathering uses JTF and higher level resources, and planning includes intentions for what is to be gathered, when, and by whom.

1065. A comprehensive and integrated assessment plan is developed, linking assessment activities and measures of performance and effectiveness at all levels. Assessment of results at the tactical level assists in determining operational progress at the JTF level and campaign progress at JFHQ. Generally, the level at which a campaign, operation, or task is conducted should be the level at which it is assessed. This provides a focus for assessment and allows the efficient use of collection assets. The assessment plan focuses on progress toward achieving operational objectives and the desired end state. Based on assessment results, planning is revised and adjusted and resources reallocated accordingly. However, at various times during execution focus may shift to a particular LOO, specific operational objective, geographic area or particular critical action.

1066. Assessment includes analysis of all available information to determine whether the adversary is actually reacting, or showing indications of reacting, in the way that is intended at that stage of the operation. This is particularly relevant where the emphasis is on changing the attitudes of protagonists rather than on the destruction of an adversary. Procedures need to be flexible enough to allow analysis of unintended effects. It should be noted that assessing whether attitudes or bias in a populace has shifted is difficult to measure

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accurately, may never be truly gauged at all, and may well take a protracted period of data gathering to produce meaningful results.

1067. To ensure that assessment is conducted within a defined framework that provides relevant and useful information to the commander, the followings are considered:

- a. **Responsibilities**. FE responsible for conducting each phase of the assessment, including collection of data, assessment and reporting, are clearly identified.
- b. **Assessment Cycle**. The method of assessment and frequency is determined. The assessment cycle is likely to vary in accordance with the operational tempo.
- c. **Baseline the Data**. An agreed baseline data set or standard is developed to provide a comparison. The comparison between the baseline and future assessments is used to determine the progress or otherwise of the operation.
- d. **Collection of Data**. The data required to conduct assessment comes from a broad range of friendly force and intelligence sources. This includes after action reports, battle damage assessment, collateral damage assessment, combat assessment, operations security survey reports, psychological operations profiling and post-testing reports, other operational reports, and intelligence and counterintelligence reports (including command and control analysis, social network analysis and human factors analysis).

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1068. Assessment planning is based on:

- a. What needs to be assessed and in what detail.
- b. The balance between formal and informal assessment.
- c. How assessment is to be used to support decision-making.
- d. What specific data is needed.
- e. How that data is to be collected.

DERIVING MEASURES OF PERFORMANCE AND EFFECTIVENESS

1069. Measures of performance and effectiveness should provide succinct indications of change, effect and execution of the desired impact. These are articulated and developed within DP matrices (using the DP narrative for guidance) such that as the campaign or operation unfolds, achievement of the DP can be monitored. However, apart from early targeting assessment, absolute, unequivocal measurement is rarely achievable. In particular, information operations, which often seek to realise subtle psychological effects, sometimes over protracted periods, may frustrate this goal. Imagination and a thorough appreciation of the context are required. While lessons from previous operations can provide a useful starting point, there is no guarantee that different situations will follow similar patterns.

Annexes:

- A. Risk Management Principles.
- B. The Risk Management Process.

RISK MANAGEMENT PRINCIPLES

1. The principles of risk management on operations are as follows:
 - a. **Do Not Accept Unnecessary Risk.** Unnecessary risk comes without a commensurate return in benefits or opportunities. The most logical options for accomplishing tasks are those that meet all mission requirements with the least risk. Notwithstanding, the risk threshold that may be appropriate for a task, risks are treated wherever possible so that the residual risks are judged to be as low as reasonably practicable. The basis for this judgment is that the risk is treated to the point where the cost of further treatment is excessive compared with the resulting reduction in risk, no further treatment is possible or the risk is negligible. Options to mitigate the consequence of risk are to be adopted wherever this can be reasonably achieved within the resources available.
 - b. **Accept Risk Only When the Benefits Outweigh the Costs.** Risk is judged to be tolerable if the importance and benefits of the task for the MAF are of such magnitude that acceptance of the risks associated with the task is justified. Risks are tolerated in the conduct of operations, with the intent to reduce the risk to a negligible level if and when this becomes practicable. In the JMAP the level of tolerable risk is termed the risk threshold.
 - c. **Make Risk Decisions at the Appropriate Level.** Those accountable for the success or failure of the mission must be included in the risk decision process. The commander is authorised to accept risk up to the dedicated risk threshold, normally prescribed by the superior commander, and required to elevate decisions to the superior commander

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where it is determined that available risk treatment options will not reduce the residual risk to an acceptable level.

ANNEX B TO
CHAPTER 1

THE RISK MANAGEMENT PROCESS

1. This annex describes the generic application of the risk management process used in the MAF. The process is the application of the principles of Risk Management as described in Annex A. Table below provides a graphical representation of the Risk Management Process:

COMMUNICATE AND CONSULT WITH STAKEHOLDERS	Establish Context				
	Aims and Objectives What are we trying to achieve	Organisational Significance What is the Strategic, Operational and tactical significance of the mission	Identify Stakeholders Who has an interest in the mission	Risk Criteria What risk level is tolerable in each dimension	Task Analysis What are the component parts of this mission
	Identify Risks				
	What can happen to impact on objectives? Consider effects to mission, equipment, personnel and environment		What if it does happen? Consider nature and impact on risk dimensions (mission, capability, safety, image, morale)		
	Analyse Risks				
	Identify Existing Controls What are the extant treatments	Assess Consequences What is the worst credible outcome? Most likely outcome?	Assess Likelihood How likely is it that the identified consequence will be realised	Establish Risk Level Combine consequence and likelihood	
	Noting Existing Controls				
	Evaluate Risks				
	Compare Risk Level Against Criteria Is the risk level tolerable? Is further treatment practicable?	Risk Decision Which risks need treatment? (accept/treat)		Set Priorities What is the priority for further risk treatment?	
	Treat Risks				
	Identify and Evaluate Risk Treatment Options Avoid, reduce, transfer or retain? Benefit vs. cost?	Develop Risk Treatment Plan Will treatment create or increase other risks?	Risk Decision Who has authority for residual risk assessment?	Implement Plan Ensure a monitor and review process is in place	

MONITOR AND REVIEW

a. **Establish the Context.** Establishing the context establishes the terms of reference for any application of risk management within the JOPP. It sets the parameters within which the follow-on parts of the risk management process are applied and establishes the basis for the risk decision. It is imperative that the outcomes of the process, a risk decision and risk management plan, are framed with respect to organisational objectives and standards of risk tolerance and acceptance. For this reason, depending upon the level at which the process is applied, the strategic, operational and tactical significance must be established to inform conclusions regarding risk criteria and understand the nature and scope of the task. This initial part of the process also entails identifying stakeholders for the task, establishing the structure of the task, selecting appropriate risk identification/ analysis methods and considering the form of documentation of outcomes. Further guidance regarding elements of this step is as follows:

(1) **Understand the Strategic/Operational/Tactical Significance.**

The requirement to understand the significance of a task in terms of its contribution to higher level missions and objectives is a fundamental aspect of military operations and is the reason for the cascading group of orders and instructions by which command of these operations is exercised. Other sources of information include Defence Instructions and other publications.

(2) **Identify Stakeholders.** Stakeholders to the decision process should be identified. While consultation or communication with, or direct involvement of, stakeholders may not always be feasible, their perspective should be considered. Stakeholders may, in some circumstances, be external to the MAF.

(3) **Analyse the Task.** Analyse the task activity aim, objectives and scope the extent of any benefit that may arise as a result of conduct of

the activity, for example a tactical advantage, its significance in relation to associated tasks and supported organisations, and the potential effect of associated tasks. Identify significant elements and subsidiary tasks as a basis for determining appropriate risk identification/analysis methods.

(4) **Establish Risk Criteria.** Risk criteria provide the reference against which risk is evaluated. They are specific to the particular task and the context in which it is to be conducted. Risk criteria comprise the benefit to the MAF resulting from task achievement and an assessment of tolerable risk. Benefit is determined during the analysis of the task. Tolerable risk is expressed in terms of risk thresholds for relevant risk dimensions, described in terms of effect upon capability, mission achievement, safety, personnel/equipment and public image/morale as appropriate. The public image/morale criterion will rarely be a basis for deciding not to undertake a task, but may be significant in determining how the task is performed or in highlighting the need for management strategies as risk treatments.

b. **Identify Risks.** Consider what may happen and how to identify risks associated with the activity. A systematic identification process appropriate to the nature of the operation is essential during this part of the process as significant risks may otherwise be overlooked. Identification should include all risks, whether or not they are under the control of the operational or tactical level commander conducting the operation. Consider all aspects, including those associated with the mission, equipment, human, environmental and political factors where appropriate. Identify historical problem areas and risks from reliable sources.

c. **Analyse Risks.** The objective of risk analysis is to separate acceptable risks from those requiring treatment. This part of the process

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involves consideration of sources of risk, their consequences and the likelihood that those consequences will occur, taking into account the mitigating effect of existing risk treatments. It will generally be appropriate to consider the worst possible consequence and the most likely consequence of a particular risk. While risk treatments should generally be considered on the basis that they will be implemented as intended, there may be a need to consider the effectiveness of existing treatments, particularly where the need for supplementary treatments is envisaged. Qualitative analysis techniques will be appropriate for the vast majority of applications, noting that the important outcome of risk analysis is that information is available to support a judgment that the residual risk is either low as reasonably practicable or requires further treatment. Analysis of consequence and likelihood may be achieved by any or all of the following methods:

- (1) Review of past operations.
- (2) Assessment based upon relevant experience of assessment team.
- (3) Review of wider Service practice and experience.
- (4) Conduct of experiments or trials.
- (5) Modelling or fault/decision/event tree analysis.
- (6) Engaging external specialists and accessing expert analysis.

d. **Evaluate Risks.** Evaluate the risks against the risk criteria to establish whether each risk is acceptable or requires further treatment. The extent of any opportunity that may arise as a result of accepting the activity risk, for example an operational advantage, should be considered. The output of this

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part of the process is either a priority list of risks for further action, or a decision to accept and manage the risks during the conduct of the operation.

e. **Treat Risks**. Risk treatment involves:

- (1) Identifying the range of options for treating risk.
- (2) Assessing these options based on their relative feasibility, effectiveness and cost.
- (3) Preparing risk treatment plans and implementing them.

(a) Treatment of identified risks should generally be in priority order, although low priority risks that can be mitigated with little relative cost should also be treated. Treatments to mitigate the consequence of a risk are to be adopted wherever this can be reasonably achieved with the resources available. Where supplementary treatments are conceived, a risk treatment plan should be developed to assign actions, resource allocations and completion dates. Treatment plans could be generic or be incorporated in operational plans. Treatment options include those described below:

- i. **Risk Avoidance**. Includes options such as adopting an alternative methodology for task completion that avoids a particular risk, or avoids risk in a critical dimension at the expense of higher risk in a less important dimension, for example avoiding a safety risk by adopting a methodology that may increase mission risk. If the risk can not be reduced to an acceptable level, risk avoidance would also entail a considered decision not to conduct the task.

ii. **Risk Reduction (Control)**. Measures that reduce the likelihood and/or consequence of a risk, such as modifying the activity, crew coordination, training and procedures, detailed briefings, and provision of supporting equipment. In general, risks to operations are of a nature where it is possible to reduce the likelihood rather than consequence. In relation to safety risks, the order of precedence for risk reduction methods is as follows, noting that the capacity to achieve each will depend upon the organisational level at which the assessment occurs. Procedures and training can be effective in reducing risk where it is impractical to do so through other means.

iii. **Risk Transfer**. This involves another party bearing or sharing some part of the risk, for example modification of the task in consultation with the tasking authority, with the result that a risk is transferred to the other party who may be better able to manage the risk.

iv. **Risk Retention**. After risks have been reduced or transferred there may be residual risks that are retained. Plans should be put in place to manage the consequences of these risks. Risks that are not identified are by default retained.

2. **Communicate and Consult with Stakeholders**. Communication and consultation form the means by which commanders, staff, stakeholders and those responsible for conducting the operation and managing the associated risks, establish a common perspective of the need for a task, the manner in which it will be conducted and the risks involved. Communication and consultation aspects of the Risk Management process are identified as follows:

- a. **Establish the Context.** Wherever possible, consult with stakeholders to gain a complete appreciation of the context.
 - b. **Risk Identification, Assessment and Treatment.** Engage those with appropriate expertise and experience to complete the risk management plan. Consider involving selected stakeholders. Ensure the Risk Management process is communicated appropriately.
 - c. **Monitor and Review.** Consultation to ensure capture of information relating to treatment effectiveness, exposure of new risks and the need for new treatments is essential to successful Risk Management Process implementation.
3. **Monitor and Review.** Application of part of the process should be considered from two perspectives. The first is the application of the risk management process to a particular task, while the second relates to the general supervision of the Risk Management system.
- a. For particular tasks, this step entails ensuring:
 - (1) The Risk Management plan is implemented as conceived.
 - (2) The effectiveness of treatment measures is monitored and the Risk Management is amended accordingly.
 - (3) That following completion of the task, or periodically as appropriate, treatments are assessed and consideration is given to the amendment of the operations management framework.

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b. In general, this stage of the Risk Management process ensures that the management of operations is improved through recognition of new or changed risks to operations and incorporation of new or modifying risk treatments, whether of a policy, procedural, training or equipment nature, into the management framework. It entails:

- (1) Oversight of standards and procedures.
- (2) Reviewing Risk Management compliance.
- (3) Reviewing the effectiveness of the management system, including validation of mission risk profile.

CHAPTER 2

SCOPING AND FRAMING

Executive summary

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

INTRODUCTION

2001. Scoping and Framing (S&F) is the first step of the Joint Military Appreciation Process (JMAP). This step, along with the next step (Mission Analysis) demands the most flexible, creative and critical thinking, asking **why** and **so what** rather than simply seeking to **solve the problem**. As such, S&F may involve the need to deconstruct a complex, ill-structured and/or ill-defined situation into a structured and understandable problem set. It seeks to visualise a broad concept of the likely objectives necessary to achieve a desired end-state, and aims to confirm or identify the correct problems to be solved. In other words, to do the right thing, not just do things right.

2002. It is unlikely that the entire Joint Operation Planning Group (JOPG) will need to be involved in S&F. Instead, a small group of appropriately skilled personnel from within the JOPG are likely to conduct this step. Framing in

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particular should include external or non-military Subject Matter Experts (SME) with a range of relevant experience. This expertise may include human factor experts, religious scholars, anthropologists, expatriates who have resided in the area of interest for several years and representatives from other domestic and international agencies that are operating within the likely Joint Force Area of Operations (JFAO).

2003. **Inputs**. The inputs to S&F are the commander's guidance that initiates planning, and as much information from the JIPOE as is available. Additional inputs to the planning process are subsequently identified during the Scoping sub-step.

2004. **Sub-Steps**. S&F provides the situational context for identifying and analysing the right problem, and incorporates the following sub-steps:

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

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2005. **Outputs**. Outputs (not in sequence) from S&F may include:

- a. The identification by planning staff of existing resources that might subsequently assist them during detailed planning.
- b. The planning timeline.
- c. Detailed descriptions of the observed system and the desired system, and the differences between them.
- d. An environment frame narrative that describes the current nature of the Operational Environment (OE), the key actors within it and their relationships.
- e. A diagram illustrating relevant actor relationships within the OE.
- f. A problem narrative, which is summarised in the form of a declarative statement.
- g. An initial Commander's Critical Information Requirements (CCIR) list.
- h. A statement describing the campaign or operation desired end-state.
- i. The identification of force elements (FE) that may be involved in the operation being planned.
- j. The issuing of a warning order to these FE.

2006. **Aide-Memoire**. A S&F Aide-Memoire is in Annex A.

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**JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL
ENVIRONMENT INPUT TO SCOPING AND FRAMING**

2007. Where possible, the information from JIPOE step one, define the OE, should be completed prior to S&F to enable the staff to orient appropriately to the planning requirement. The level of intelligence available during this phase varies according to the degree of notice, time constraints and the complexity of the impending operation.

2008. At the commencement of S&F, the intelligence input should comprise as much detail from JIPOE step one as possible including:

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

SUB-STEP ONE: SCOPING

2009. Scoping is the initial action taken by planners to identify existing resources and information that might subsequently assist in the planning process. It commences immediately upon the initiation of campaign or operation planning.

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2010. **Initiating Campaign and Operation Planning.** Planning for campaigns and operations may be initiated in one of two ways:

- a. The operational level commander may receive initial strategic level direction from a higher commander. An example, a Chief of the Defence Force (CDF) Planning Directive or CDF orders.
- b. The operational level commander may initiate campaign or operation planning on their own initiative. An example, Joint Force Commander (JFC) may initiate deliberate planning to develop military response options to an anticipated event or situation. In these cases, an operational level planning directive, such as a JFC Planning Directive, should be issued, which follows a similar format to the CDF Planning Directive.

COMMANDER'S INITIAL GUIDANCE

2011. The initiation of campaign or operation planning is accompanied by the provision of commander's initial guidance. This may be provided by a higher level commander through formal means such as a CDF Planning Directive, or by the operational level commander giving verbal or informal written guidance to the planning staff. The content of a commander's initial guidance is deliberately non-prescriptive, although it does provide an opportunity for the commander to use their experience and style to determine what planning is required and shape its conduct.

2012. The commander should ensure that critical and reflective thinking is encouraged. Staffs will answer the **why** as well as the **how** questions and importantly consider and question the situation holistically. The commander has a vital opportunity at this juncture to set the intellectual tone during planning and create an atmosphere whereby staffs feel equipped to question their own social

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constructs to sense-making or problem-solving and to challenge accepted norms, even if these norms are reinforced at higher command levels.

2013. Commander's initial guidance may include the following:

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

2014. Part B of a CDF Planning Directive may include CDF intent, a proposed mission statement, tasks, additional planning factors, limitations and a planning timeline. These elements are all considered to constitute part of the commander's initial guidance.

2015. **Limitations**. Planning limitations may be imposed by strategic level direction. JOPG may also identify planning limitations.

2016. **Risk Management**. Early in the planning process the commander should issue initial guidance regarding risk management. This initial guidance should indicate the degree of risk acceptable for overall success, as well as listing risk factors such as force structure, mission sustainability or political impacts for further analysis. A dedicated risk management structure and staff may be assigned to manage this analysis. The analysis should include an insight into risk mitigation measures.

2017. **Commander's Critical Information Requirements**. There will be certain aspects of the situation that the commander will regard as critical to properly

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understand events in the OE and execute an operation. These are referred to as CCIR, which comprises Friendly Force Information Requirements (FFIR), Essential Elements of Friendly Information (EEFI), and Priority Intelligence Requirements (PIR). Paragraph 2051 describes the components of CCIR in more detail. The commander decides what information is deemed to be critical based on the mission, input from the operations and intelligence staff, and the superior commander's intent. In practice, the commander will normally endorse CCIR based on staff recommendations.

2018. The CDF Planning Directive will normally provide CCIR which may be used as the basis for starting a CCIR list that is refined as planning progresses. Levels of criticality need to be considered early, as does the prioritisation of intelligence collection or HQ staff resources to ensure that CCIR are actioned, confirmed or identified. Importantly, CCIR's responsibility should be assigned to the most appropriate HQ branch.

INTELLIGENCE UPDATE

2019. Intelligence staff should provide the JOPG with an update of all that is currently known in the area of interest. The update should include:

- a. A broad review of the situation.
- b. An initial estimate of the threats.
- c. Identification of significant environmental characteristics.

STATUS OF CURRENT OPERATIONS

2020. Staff from each HQ branch should outline their current operational commitments with respect to possible future activities. Operations staff may

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outline FE in adjacent JFAO, force preparation requirements and capability issues. Plans and intelligence staff may identify other planning activities and identify opportunities for parallel planning. Personnel, logistics and communications staff may provide a summary of respective support issues. Service HQ staff may also provide updates on available capabilities and/or other critical Service-specific issues that will require consideration during planning.

GUIDANCE FROM PREVIOUS DELIBERATE OR CRISIS PLANNING ACTIVITIES

2021. Deliberate or crisis planning may have been previously conducted for situations similar in nature to the current situation. These planning activities may have identified various options, tasking to achieve objectives or specific legal or health issues. Reviewing the products of these previous planning activities should enhance the current planning outcome.

ESTABLISHING THE PLANNING TIMELINE

2022. Time is the most essential non-renewable resource able to be exploited by a commander. The aim of time factor analysis is to determine how to use available time more effectively than the adversary, thereby achieving decision superiority. The commander must balance the desire for the perfect plan against the need to act before the adversary to seize and retain the initiative.

2023. Therefore, the establishment of a basic planning timeline is one of the most important early decisions taken by a commander. The planning timeline should address:

- a. Key timings such as deadlines, start dates and finish dates.
- b. Distances in terms of times between key ports, cities, air bases, etc.

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- c. Likely notice to move, force preparation and assembly timings.
- d. The duration of the operation.
- e. The time needed to conduct JMAP.

2024. The commander may not be able to control the time available for the operation, however, time available and the balance of time used for both planning and execution can be controlled. Regarding planning, the commander may consider:

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

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between receipt of strategic level guidance to plan and expected receipt of the execute order) should be used by the operational level HQ for planning, preparing and issuing orders or instructions. Two thirds of the available time should be used by the subordinate HQ to plan and generate associated supplementary orders.

2025. In addition to identifying the level of involvement of the commander, other planning issues including the level of detail in the commander's initial guidance, staff flexibility, number of COA to be developed and the level of detail in orders should be considered. The relationship between time constraints and planning considerations as in Figure 2-1.

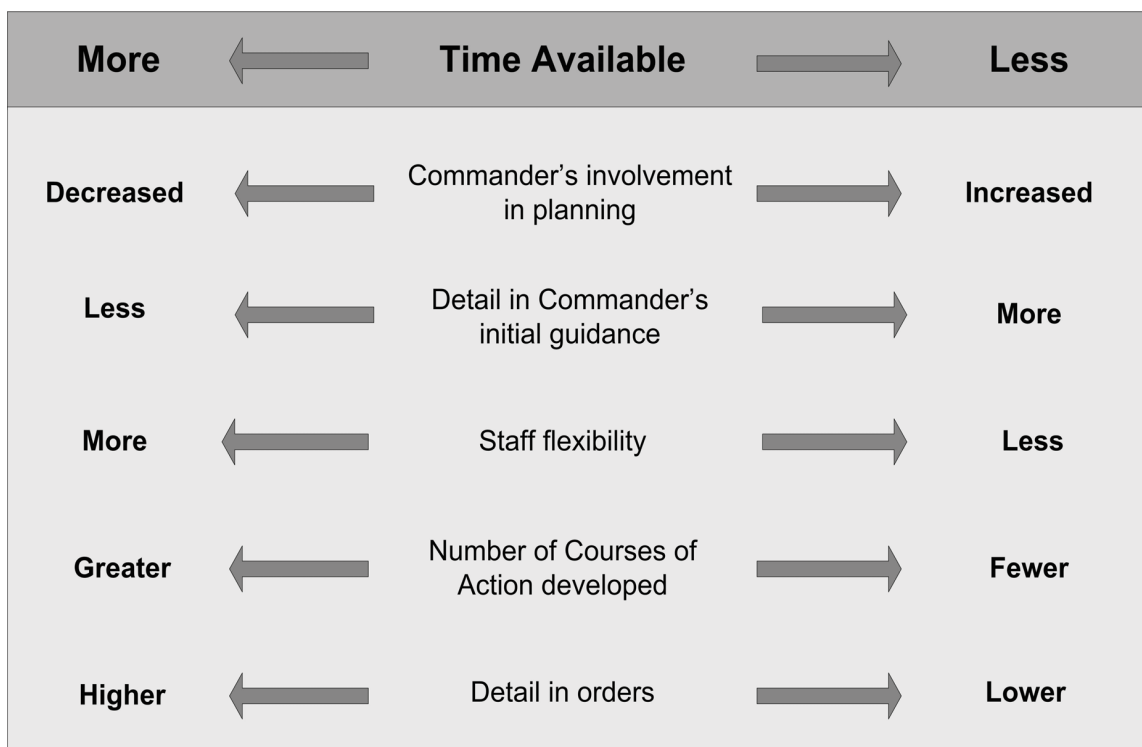


Figure 2-1: Relationship between Time Constraints and Planning Considerations

**HYPHOTHETICAL EXAMPLE
(SCOPING)**

1. The staff assembled in the headquarters briefing room. The representatives from essential J staff were present, along with representatives from other government agencies for planning purposes relating to current development of the conflict. The J3 staff had been announced the briefing will be commenced shortly. Others J staff seating around the table while waiting the COS inviting commander to commence the briefing.

2. The commander began by giving pre-amber and stating the overall picture of the current deterioration of the conflict occurs at MAZARI territory. Due to that, the commander inviting J2 staff to give more detail information and latest update of current situations at affected area/territories. The briefing outlined the deteriorated situation for past few days whereby there had been noticed aggressive movement along the border between LANUNLAND and MAZARI territories.

3. Scenario of conflict

a. BLUELAND, LANUNLAND and MAZARI are mythical nations. Since the end of World War II, BLUELAND and LANUNLAND have been developing their own national identities. They established diplomatic relations between the two nations have not been cordial owing to LANUNLAND claims that MAZARI should be included in LANUNLAND territory. MAZARI, a small sovereign state, located between BLUELAND and LANUNLAND, has a small police force and a small maritime force. The MAZARI Maritime Force (MMF) consists of seven Brooke Marine PTG (each armed with 6 Gabriel 2 SSM and a WM 28 controlled Bofors 57mm dual purpose gun), and four unarmed F 50 MPA (Surface Search Radar and ESM equipped).

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b. While major elements of the MAZARI population are racially and culturally similar to the peoples of both BLUELAND and LANUNLAND, they have had much closer economic and political ties with BLUELAND than with LANUNLAND. Although no formal defence treaty exists, informal contacts between the BLUELAND and MAZARI governments are strong, and the MMF exercises regularly with the Royal BLUELAND Navy, using BLUELAND doctrine.

c. In the 1970s, citing tenuous historical claims, LANUNLAND declared its intention in international circles to claim MAZARI as LANUNLAND territory. To this end LANUNLAND instituted an accelerated development programme for its armed forces.

d. MAZARI authorities, while attempting to reject the LANUNLAND claim through diplomatic means, have informally and covertly requested assurance of military assistance from BLUELAND should it prove necessary. BLUELAND is obligated by a Memorandum of Understanding (MoU) signed two years ago to discuss security threats to MAZARI. The country authorities have requested BLUELAND to allow diplomatic events to take their course.

4. Once J2 had finished providing the initial intelligence update, the commander explained that the Defence Minister of BLUELAND met his counterpart of MAZARI this morning and the MoU was agreed that BLUELAND Armed Forces to support the maintenance of MAZARI sovereignty. This mutual understanding had been expected due to good reputation and long lasting bilateral cooperation for both countries since past couple of years.

5. A copy of MoU has been sent to Headquarters last week. Indeed my staff had informed just now that the MoU together with CDF Warning Order has been received by the Headquarters.

6. The situation reports and strategic assessments have been made whereby it's clearly indicated that LANUNLAND has the capability, preparedness and intent to use its Armed Forces to claim MAZARI. The LANUNLAND has about 2 million workers in BLUELAND both legal and illegal. It is also suspected that their loyalty is to home country. Out of that 10% - 15% were obtained Permanent Resident of MAZARI while the other 1% - 5% has been obtaining MAZARI citizenship.

7. Faced with the growing LANUNLAND threat to MAZARI, and the consequences of a successful claim may have on the sovereignty of BLUELAND territory. Hence, BLUELAND has embarked on a program of modernising and expanding the BLUELAND Armed Forces (BAF).

8. In mid-2008, far-sighted high-ranking officers of the BAF determined that to counter the growing LANUNLAND threat, the BAF must have the capability to conduct Joint Operations. Accordingly, the BLUELAND Joint Force Headquarters (JFHQ) was formed to conduct Joint Operations within the BLUELAND theatre and it is commanded by a three-star General - Joint Force Commander (JFC) BLUELAND. This headquarters is capable of conducting Joint Operations with appropriate assets being assigned from the 3 services under various degrees of Operational Authority.

9. The tasks assigned within the CDF Warning Order included being prepared to conduct MOOTW such as Non-combatant Evacuation Operations (NEO), Personal Recovery and etc to extract BLUELAND and MAZARI nationals out of affected area in the event of invasion by LANUNLAND. So that, the requirement needs to conduct Information Operations (IO), developing options for ways to military assistant to MAZARI in the event of an invasion. The national strategic end-state was **"safety of BLUELAND citizen has been ensured, the territorial sovereignty of MAZARI has been upheld and LANUNLAND has ceased to pose an immediate military threat to MAZARI"**.

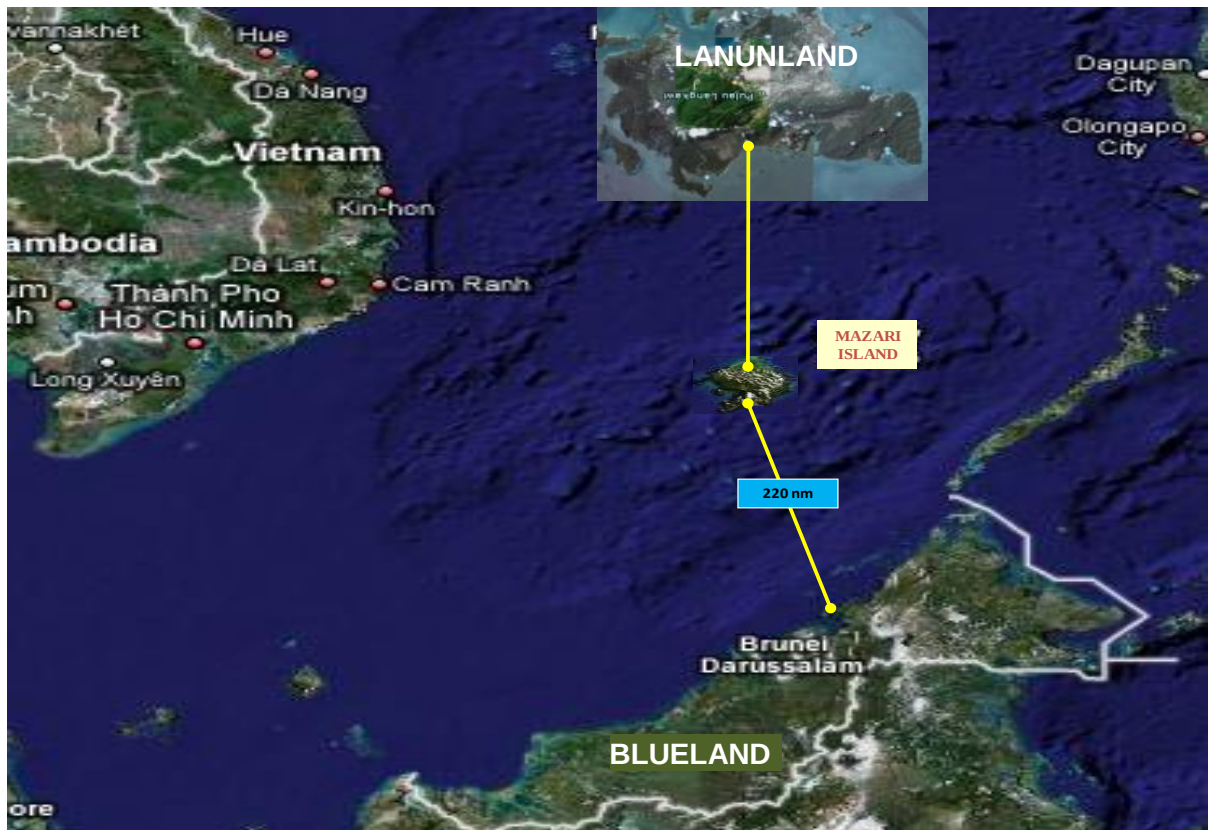
10. Once the staff had the opportunity to read the WngO, the commander provided initial planning guidance. They stated that the situation had started developing faster and some key details were still being sorted out between BLUELAND and MAZARI. The security agreement is very high level and the details of possible force contributions were still being worked through, so the commander needed to see a range of options from light to heavy force presence. Regarding risk the commander emphasised that they were quite content higher level of risk as long as the benefits and opportunities were evident. There was about a week until the last reasonable time to commence deploying forces to MAZARI, so completing the planning was reasonably urgent. The draft CONOP should be finalised as soon as possible. Conveniently, and perhaps for the first time ever, the crisis had arisen early on next week morning.

11. The briefing concluded and J5 assembled the JOPG immediately afterwards to conduct Scoping. Some members of staff were tasked to examine the initial intelligence received from the J2 or included in the CDF WngO, while others began to compile a list of CCIR. Another element of the staff was tasked to go through the headquarters' database records for the last 12 months and digesting all of useful information from previous planning activities relating to MAZARI. In particular a NEO and other operations had been planned as contingency plan to support MOOTW which is most likely occur in the near future.

12. Finally, the J5 established a planning timeline. With only three days to plan, they decided to complete S&F by lunchtime and commence Mission Analysis that afternoon. Mission Analysis would conclude by lunchtime on day two of the planning and COA Development would be complete by the end of day two. Day three would involve the conduct of COA Analysis and Decision and CONOP Development.

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GEOGRAPHICAL LOCATION OF BLUELAND, LANUNLAND AND MAZARI ISLAND



SUB-STEP TWO: FRAMING

2026. Framing is the core of S&F. It may be used when confronting an adaptive, interactively complex, and/or ill-structured problem and it enables the commander and staff to develop an enhanced situational understanding. Framing is used to deconstruct complexity and to ensure that the correct problem or series of problems are fully explored to help inform more detailed planning.

2027. **Complexity**. There are two types of complexity i.e. structural and interactive. Structural complexity exists in a system made up of many parts that operate in a predictable (usually linear) way. Interactive complexity exists in a system that is made up of many parts that interact with each other and with the

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system itself in many alternating ways, which may adapt and change over time, often unpredictably.

2028. Although military forces and their areas of operation have always been structurally complex, today it is widely understood that contemporary military operations are also interactively complex. As a result, problems are often ill-structured and the effects of any action may be difficult to understand fully. Solving these problems requires first developing a detailed situational understanding, which includes developing an awareness not only of the components of the system, but also of their interactions with one another and of the functioning of the system as an integrated whole.

2029. **Types of Frame**. There are two types of frame:

- a. Environment.
- b. Problem.

2030. **Priming Questions**. A list of priming questions that may assist planners during the conduct of Framing, and which may also assist in determining the nature of the necessary output, is in Annex B.

ENVIRONMENT FRAMING

2031. The environment frame contextualises the OE by examining all the elements, conditions and circumstances that may affect the employment of capabilities, and influence decisions by the commander. It questions what is going on in the environment and what the environment should look like at the desired strategic end-state. Specifically, the environment frame considers:

- a. How the OE developed from a historical and cultural perspective, how it currently exists (current conditions), possible future conditions, and

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how these relate to the desired strategic end-state.

- b. Own capabilities and current operational commitment.
- c. Identifying assumptions about systems in the OE to enable rapid adaptation to change within it.
- d. Which actors exist within the OE, along with their identity, history, culture, current state and future goals, and the nature of relationships between actors.
- e. The strategic intent of any threats, including their objectives, limitations, specific direction and time constraints.
- f. Causes of conflict within the OE and between actors (which may be political, economic, ethnic, or sectarian).
- g. Physical conditions within the OE and their implications for operations (which may include major terrain features, major infrastructure and weather patterns).

2032. The environment frame strives to identify and explain actors and relationships within a complex adaptive system. It should identify and question assumptions made about the environment, including those made within the documents collected during the Scoping sub-step. In questioning these assumptions, the environment frame is seeking to expand planners' situational understanding and enable them to better adapt to an unfolding situation. Planning staff should be constantly aware of the common tendency to comprehend and interpret the environment through the lens of their own societal norms and constructs. As far as is possible, key actor relationships in particular require analysis from the perspective of observed cultural practices and

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peculiarities in the OE.

2033. **The Observed System and The Desired System**. The environment frame portrays the observed system (the current state of the OE), identifying the tendencies, intents, biases, vulnerabilities and strengths of relevant actors that define the current system and possibilities for change. Based on the higher guidance received at the initiation of planning (see discussion in the Scoping sub-step) the environment frame also defines the set of conditions that constitute the desired system (the desired future state of the environment).

2034. The characteristics of conditions vary. Conditions may be tangible or intangible, military or non-military, physical or psychological, but probably a combination. Also they may describe or relate to perceptions, levels of comprehension, cohesion among groups, or relationships between organisations or individuals. Because the desired system must be clearly defined, success hinges on accurately describing those conditions. When describing conditions that constitute the desired system the commander and staff consider their relevance to higher policy, orders, guidance, or directives.

2035. Time is a significant consideration when determining the desired system. How time relates to the desired system heavily influences not only the expectations of higher authorities but also how commanders use forces and capabilities to achieve desired conditions. Planning staff must exercise diligence to account for the time expected to achieve the desired conditions. They also qualify whether the desired conditions are intended to be lasting or transient in nature. This temporal dimension is essential to developing effective operational approaches and managing expectations.

2036. The differences between the observed system and the desired system should be recorded for use during subsequent JMAP steps. Specifically, the nature of the desired system may contribute to the development of the

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operational end-state and may also assist planners to identify operational objectives, decisive points and associated effects.

2037. **Actors.** Commanders and staff use the environmental frame to understand and explain behaviours of relevant actors in the OE. Relevant actors may include states, governments, multinational organisations, coalitions, regional groupings, alliances, terrorist networks, criminal organisations, cartels, multinational and international corporations, non-governmental organisations and others able to influence the situation either through, or in spite of, the established civil, religious or military authorities. A few will be key actors who are crucial to the operation's success.

2038. A diagram illustrating relevant actor relationships is a valuable tool for understanding and visualising the OE. A simple example, at Figure 2-2, shows relevant actor relationships within the observed system and Figure 2-3 shows those within the desired system.

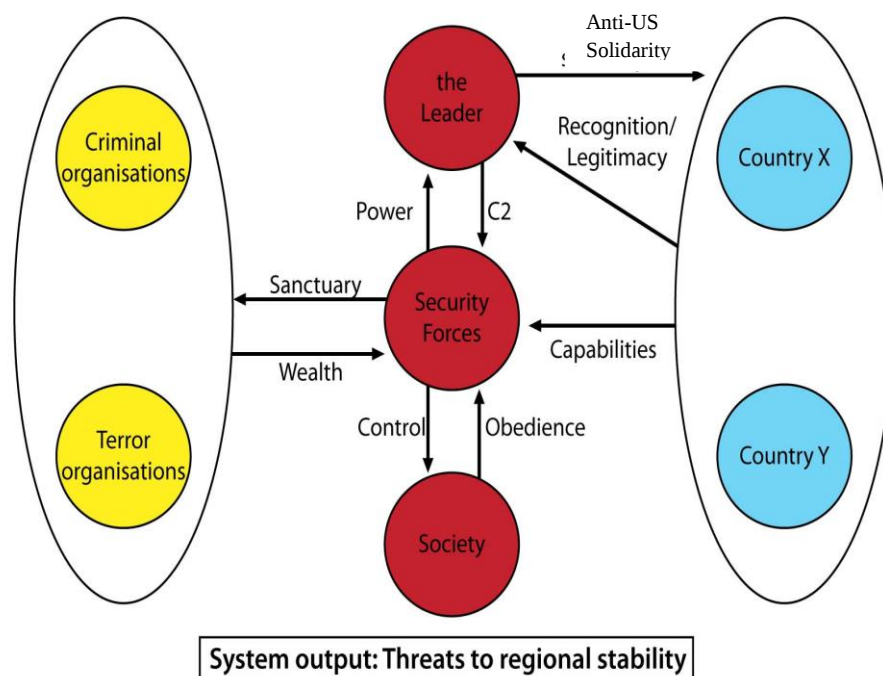
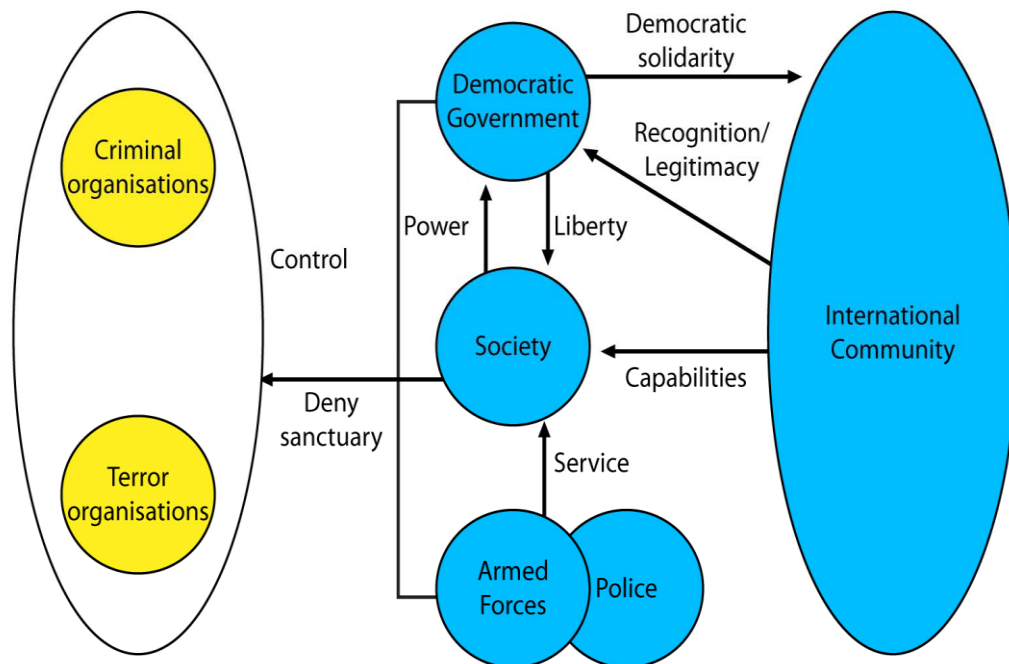


Figure 2-2: Actor Relationships within the Observed System

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System output: Reduces threat to regional stability, supports democratic ideals

Figure 2-3: Actor Relationships within the Desired System

2039. In some situations, such diagrams may become so complicated that they impart only limited insight and can inhibit critical and creative thought when viewed in isolation. In these situations, the development of an environmental frame *narrative* may enable planners to develop a more detailed understanding of the relevant actors, their interactions, and relationships.

2040. When used in concert, a diagram and narrative become powerful descriptors. Often relationships among actors are multifaceted and differ depending on the scale of interaction and their temporal aspects (history, duration, type and frequency). Clarifying the relationships between actors requires intense effort since relationships must be examined from multiple perspectives. Commanders can also depict relationships by identifying and categorising their unique characteristics.

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2041. **Tendencies**. In developing a situational understanding of the interactions and relationships of relevant actors in the OE, planning staff analyse natural tendencies and their potential to affect conditions. A tendency is the inclination to make decisions or behave in a certain manner. Tendencies are models describing the thoughts or probable behaviours of relevant actors. Tendencies identify the likely pattern of interactions and relationships between the actors. It is important to understand why some of these patterns have the potential to grow or develop a specific interaction or relationship in a particular way, and the possible effect on operations.

2042. Once tendencies have been identified, planning staff evaluate the potential of these relationships to occur within the OE. It is important to identify those interactions and relationships that support achieving the desired system and clearly articulate those that resist.

PROBLEM FRAME

2043. The problem frame aims to ensure that when facing an interactively complex, ill-structured problem, the 'right' problem has been accurately identified. The problem frame is a refinement of the environment frame and defines the areas for action that will transform existing conditions toward a desired end-state. Problem framing involves isolating and understanding the root causes of the entire problem set. The core of problem framing is an answer to the question, **what is the problem set we have been tasked to confront and why has it arisen?** The questions and analysis that will be necessary may involve a dialogue with strategic agencies to the level that conclusions by operational staff may find the initial interpretation and direction flawed or misaligned.

2044. The problem frame considers:

- a. Strategic level direction.

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- b. Status of current operations.
- c. The commander's initial guidance, including time constraints and planning considerations, force preparation and capability requirements, and guidance from previous planning.
- d. Intelligence updates.

2045. In framing the problem, planners should address as a minimum these questions:

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

2046. **Identifying Tensions.** Refining planners' understanding extends beyond analysing interactions and relationships in the environment. It also identifies areas of tension and competition as well as opportunities and challenges that

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commanders and staff must address to transform the observed system toward the desired system. Tension is the resistance or friction among and between actors. It may be positive, that is it facilitates desired environmental changes, or negative, and resistant to the desired environmental changes.

2047. The commander and staff challenge their hypotheses and models, developed during the environmental frame, to identify motivations and agendas among the relevant actors with regard to the desired transformation. They identify factors that influence these motivations and agendas. The commander and staff also evaluate tendencies, potential for adaptation, trends, tensions, and other factors that influence the interactions among social, cultural, and ideological forces. These may include political, social, or cultural dispositions in one group that may hinder collaboration with another group.

2048. In the problem frame, analysis identifies the positive, neutral, and negative implications of tensions in the OE, understanding that one's own force's actions may exacerbate latent tensions. Tensions that can be exploited to drive change may be vital to transforming existing conditions. Tensions that may undermine transformation must be addressed appropriately. Because tensions arise from differences in perceptions, goals and capabilities among relevant actors, they are inherently destabilising and can both foster and impede transformation. By analysing these tensions, the commander identifies the problem that operational design will ultimately solve.

2049. **The Problem Narrative**. A problem narrative clearly defines the problems that must be overcome to achieve the desired transformation and end-state. It considers how tension and competition affect the OE by identifying how to transform the observed system to the desired system, while adversaries attempt to transform current conditions to their desired conditions. The problem narrative broadly describes the requirements for transformation, changes in the OE, and critical transitions. The problem narrative accounts for the key time and space

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relationships inherent in the problem frame, and its key aspects are summarised in the form of a declarative statement. It should, however, be recognised that considerable analysis and staff work will expand on and support the narrative statement.

Example of a Problem Narrative Statement

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

INFORMATION REQUIREMENTS

2050. Developing the environment and problem frames involves the review of various documents, directives and other inputs and is therefore likely to lead to the identification of gaps in knowledge about the situation. Identifying the information required to fill these gaps assists in accurately creating the environment and problem frames. These information requirements should be added to the CCIR list that was established during the Scoping sub-step.

2051. **Commander’s Critical Information Requirements.** CCIR are the critical pieces of information a commander needs to make the best decision with the lowest risk. The components are:

- a. **Friendly Force Information Requirements.** These requirements encompass the nature and status of friendly force capability, and include information regarding the activities or capabilities of own or adjacent FE. FFIR are approved by the commander, managed by the COS and actioned by the planning and operations staff.
- b. **Essential Elements of Friendly Information.** EEFI are key questions likely to be asked by adversary planners and intelligence

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personnel about specific friendly intentions, capabilities, and activities, so they can obtain answers critical to their operational effectiveness. These are specific facts about the dispositions, capabilities and intentions of friendly forces which the adversary may need to undermine the friendly operation. The objective of Operations Security (OPSEC) is to identify EEFI in order to identify vulnerabilities, plan countermeasures and protect the operation from adversary interference. EEFI are proposed by the J3 and J5 staff based on their analysis of friendly centre of gravity and resultant critical vulnerabilities that will require protection. Also, intelligence staff provide input based on their understanding of adversary intelligence collection activities. EEFI are approved by the commander and managed by COS.

c. **Priority Intelligence Requirements.** PIR are those intelligence requirements for which a commander has an anticipated and stated priority in planning and decision making. PIR encompass information required regarding the adversary, environment and stakeholders. Assumptions made as planning progresses often trigger a need for a specific piece of information crucial to the planning process. While planning will progress based on the assumption, the desire to verify an assumption will often result in identification of a PIR. PIR prime the intelligence process, focus JIPOE, are confirmed through the collection plan and are answered in the course of collection operations. PIR are approved by the commander, managed by the COS and actioned by the intelligence staff.

2052. **Commander's Critical Information Requirements and Planning.** CCIR enable a commander to identify the information required on the adversary, environment, stakeholders, friendly force status, capabilities and limitations, and to indicate the vital information requiring protection against adversary intelligence gathering. Most importantly, the answering of FFIR and PIR, as well as the

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protection of EEFI, are initiated immediately planning commences. CCIR should then be updated throughout the planning process to ensure staff and activities are suitably focused, and the draft collection plan is refined. Updated CCIR are validated or amended by the commander, usually based on staff recommendations.

2053. **Commander's Critical Information Requirements and Execution.**

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

2054. **Commander's Critical Information Requirements Management.** CCIR are endorsed by the commander but managed by COS, who is responsible for coordinating the CCIR with appropriate staff within the HQ. COS is also responsible for ensuring staff provide answers to CCIR on time and in the format required by the commander, such as inclusion of the time a CCIR will lose its value to the plan. COS and relevant HQ staff review the CCIR, as and when appropriate, with the commander.

2055. **Request For Information.** A Request For Information (RFI) is the standard means for passing requests for information or intelligence. RFI is a multi-purpose tool encompassing the following:

- a. Notification of information requirement.
- b. Requests for information to support planning.

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- c. Requests for information to support intelligence production.
- d. Requests for finished intelligence product.
- e. Requests for new collection.

2056. When a RFI is generated, it should be passed to either the planning staff (for friendly-focused RFI) or to the intelligence staff (for adversary-focused RFI) as soon as practicable. On receiving an adversary-focused RFI, intelligence staffs assess it and validate its legitimacy and whether or not to proceed. If valid, the RFI is prioritised and further assessed as to whether it can be answered by extant resources and information held. The request is passed into the RFI management system for production if resources are locally held, or to collection managers to be prioritised against competing intelligence demands and available organic assets, or those not under command. The RFI process for adversary-focused RFI managed by the intelligence staff is diagrammatically represented in Figure 2-4.

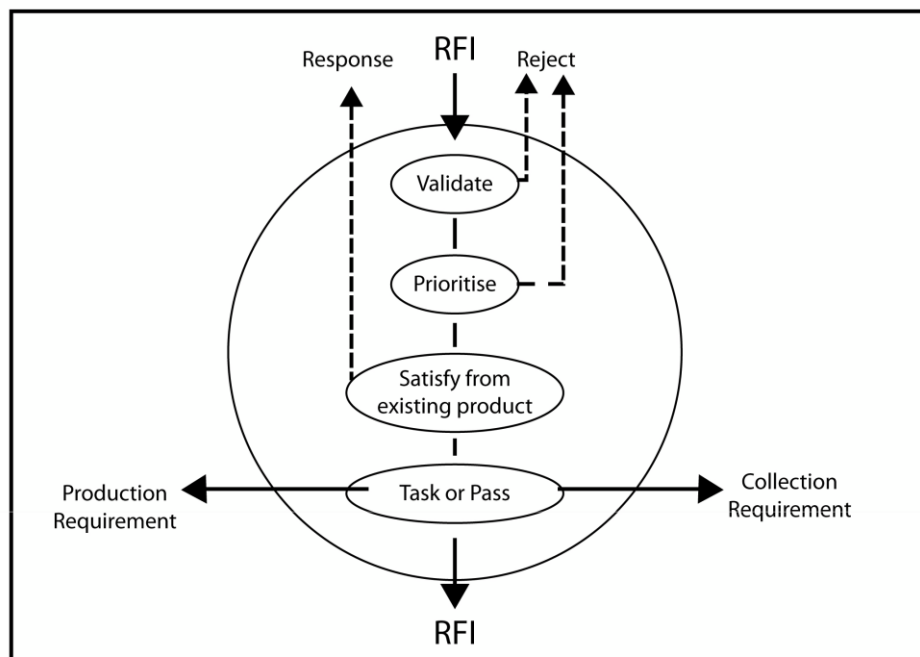


Figure 2-4: The Request For Information Process

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2057. For further information about adversary-focused RFI, including the format for their submission, see MAFJD 2-01.

REFRAMING

2058. Reframing is a process of revisiting earlier hypotheses, conclusions, and decisions that underpin the current approach to campaign or operation planning. In essence, reframing reviews what the commander and staff believe they understand about the OE, the problem and the desired system. During the Framing sub-step the commander and staff established a starting hypothesis and a baseline for learning by framing the environment and the problem. During later stages of planning and during execution, they use indicators that trigger reframing as they continuously monitor and evaluate their plans and actions against this baseline to detect significant unanticipated changes in the OE. If required, commanders and staff adjust the operational approach to ensure alignment with the desired direction and determine whether that direction itself remains relevant to the environment and the higher commander's desires and expectations.

2059. Reframing may occur at any stage during planning or execution of operations, if the commander or staffs determine that they need to reassess the assumptions made and conclusions reached. It would be reasonable that, after reframing the situation at any stage during planning or execution, the commander initiated a fresh JMAP activity. Generally, the decision to reframe can be triggered by factors such as:

- a. An assessment that challenges the commander and staffs understanding of the OE, existing problem, or relevance of the current operational approach.
- b. Campaign assessment or a scheduled periodic review shows a

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problem.

- c. Failure to make required progress.
- d. Key assumptions or hypotheses prove invalid.
- e. Unanticipated success.
- f. A major event causes catastrophic change in the OE.

**HYPHOTHETICAL EXAMPLE
(FRAMING)**

1. Even though the problem looked simple or fairly straightforward, the J5 insisted to initiate a team among his staff within headquarters to conduct Framing. The initial stage, any complex situation need to address and make it clear to meet higher commander guidance.
2. Environment Frame, the team member began by listing and organizing all the elements, conditions and circumstances in both states, MAZARI and LANUNLAND which they thought it might impact the strategic end state within context of CDF WngO. Each and every element, conditions and circumstances have to be brain-stormed to justify means, relevancy and significance toward the national interest. Certainly, those elements, conditions and circumstances which ever did not meet or give any impact to the national interest will be discarded. Obviously key aspect of OE need to be clearly identified to ensure most influencing elements, conditions and circumstances will be addressed.

3. After completing the identification and narrowing of key aspects of OE, the team members began work out based on previous and past experiences. This includes whoever had an opportunity visiting or staying at MAZARI and LANUNLAND, information from J2 database (from OGD and open source information). Throughout the brain-storming session, it was conducted in constructive manner to find out ways and means to ascertain the deteriorated situation. The commander has been called to take part several times to clear several doubts of certain issues among team members.

4. The result of robust discussion was the identification of a certain element within the OE that were likely to impact significantly on the ability to meet the strategic end-state.

a. First element was likely that the LANUNLAND Military Forces preparing and concentrating their military asset forward for an invasion of MAZARI territory. As a result of this, it was likely prolonged and ongoing for certain period and the situations get worse if the LANUNLAND began an invasion to MAZARI.

b. Second element was related to the workers based on LANUNLAND citizenship working at MAZARI territory is high possibility to utilize as eyes and ears before and during invasion phase. In addition to that, these population also having wider capability to create internal chaos in MAZARI territory.

5. As the observed and desired systems diagrams produced by the Framing Team showed the circumstances and condition need to be taken into account were identified in line with CDF WngO and planning guidance laid out, deterring and if needed to be defeated the LANUNLAND government and Military Forces. Resolution for the LANUNLAND workers working at MAZARI territory has to be considered as first.

6. The Framing Team also looking into desired systems where it has been conducted in lengthy and detail discussion. This is to identify and manage the nature of problem systematically. Those things were designed comprehensively to cover the entire aspects including culture peculiarity based on threats, command structures, interactions, local and international relationships, strength and weaknesses whereby those are likely can be adapted toward the variation of the observed system. Based on these points of view, it was analysed that the MAZARI military forces had a tendency to remove puppet government or else local commanders if they were not operationally successful. These commanders are not competence to develop their country and bring prosperous for his population in the near future. Due to that, it had been caused negative economy downturn and violation occurred more frequently. (Refer to Diagram 1-1 and Diagram 1-2)

7. Since more than two million the LANUNLAND citizenship working in MAZARI territory, its give solid evidence to pursue their claiming to be part of their territory. Consequently, the government of MAZARI denied diplomatically being part of LANUNLAND territory. The situation causing diplomatic tension and political instability as well as the high possibility involvement of non-state actors. However, the Framing team need to consider this situation as part of contingency plan for future undertaking.

8. At the conclusion of the problem Framing process, the Framing Team agreed on the following problem narrative, which was then presented to the commander.

9. The government of LANUNLAND is utilising its own population working at MAZARI territory as pretext to create internal chaos for invading MAZARI. Actually the MAZARI government motives are to push out the LANUNLAND workers and shifting attention of LANUNLAND from claims MAZARI territory. LANUNLAND's military activities in the disputed border area between

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LANUNLAND and MAZARI are having destabilizing effect by prolonging an existing territory crisis and allowing other non-state actors to operate freely in the region.

10. The commander asked several questions regarding the reasons underlying the problem narrative and make some suggestions and adjustments based on personal operational experience. Finally, the CCIR list was updated to include several PIR regarding the key stakeholders, their likely interactions and possible reactions.

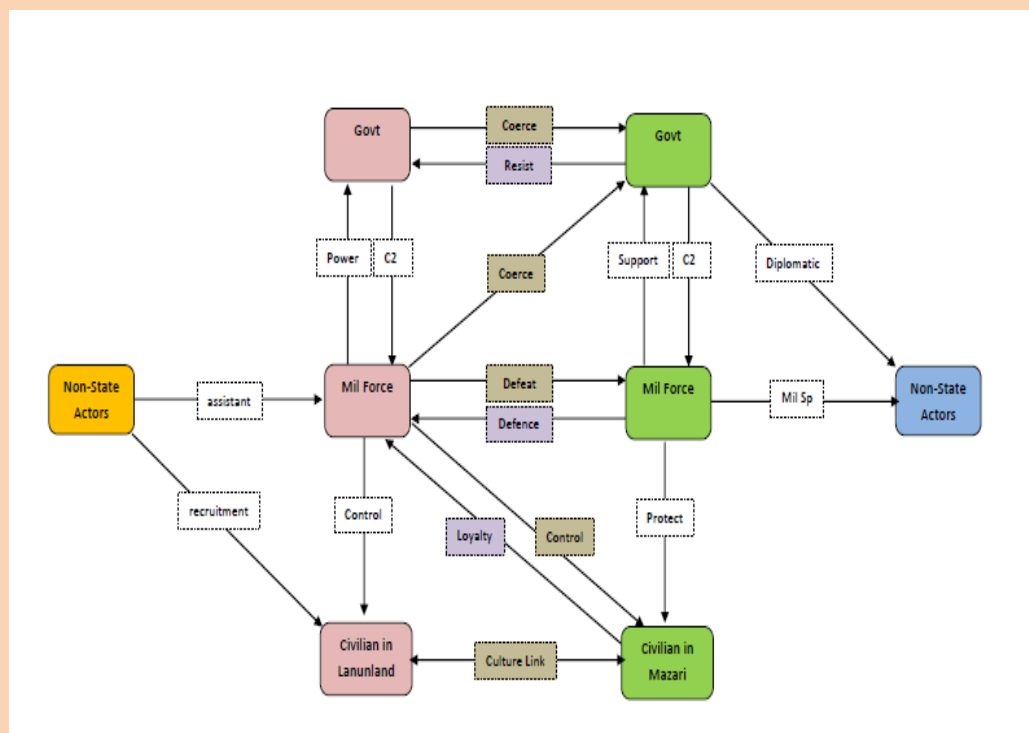
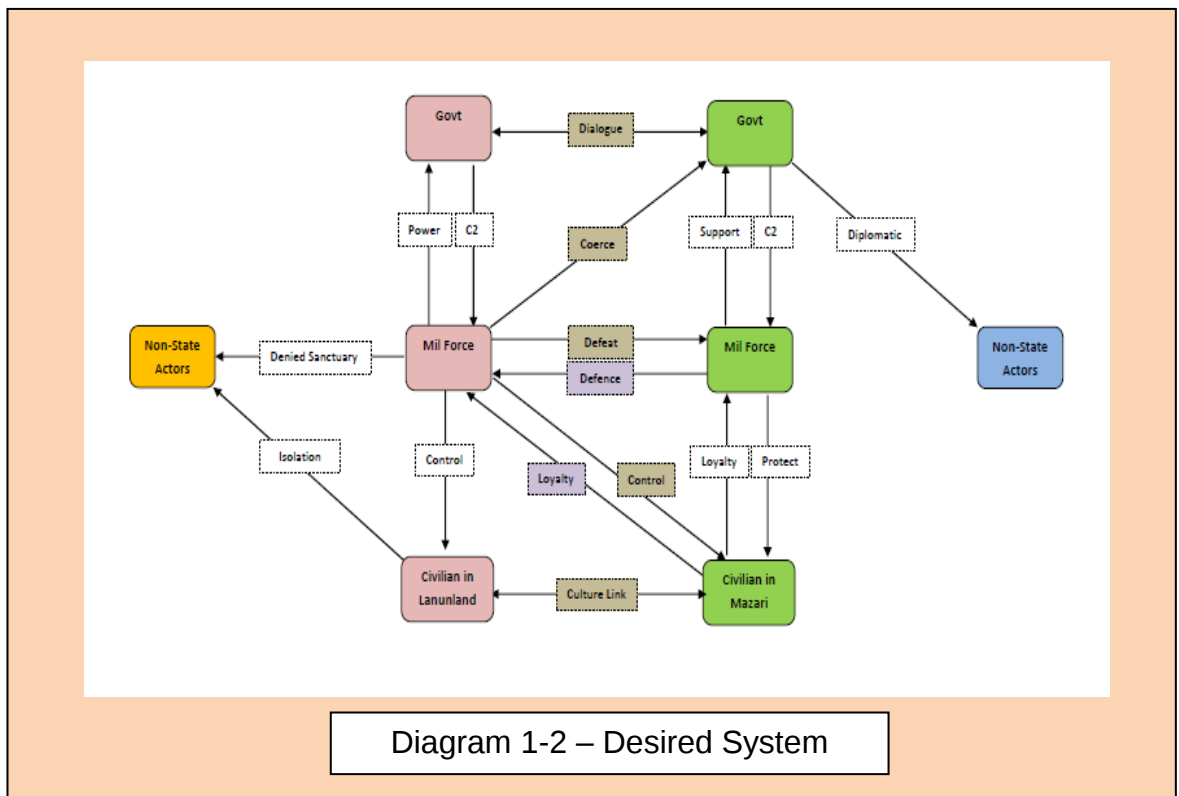


Diagram 1-1 – Observed System

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

2060. The campaign or operation end-state is the desired future condition represented by a number of specific criteria that the commander wants to be in place for a campaign or operation to conclude. A clearly defined end-state promotes unity of effort, facilitates integration and synchronisation and helps manage risk.

2061. Determining the campaign or operation end-state involves analysing the superior commander's intent and national or military strategic objectives, while also taking into account the outputs of Framing, in particular the problem narrative and conceptions of the desired system. This end-state must contribute to achieving the superior commander's intent and/or national or military strategic objectives.

Example of an Operational Level End State

'Country Y insurgency operations have ceased Malaysian nationals in country X are secure and MAF assets have been redeployed to Malaysia.'

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

ANALYSE SUPERIOR COMMANDER'S INTENT

2062. Analysing the superior commander's intent is vital for establishing a subordinate end-state. A thorough understanding of this intent allows the JOPG to clearly articulate the mission during the next stage of planning. The source of the superior commander's intent should have been identified during the Scoping sub- step. For example, it may be included in a CDF Planning Directive or CDF orders. Within these documents and orders the JOPG should look for a statement of intent, preferably described as purpose, method and (national or military strategic) end-state. These terms are outlined below:

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

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operational level commander may use the military strategic end-state to assist in developing a specific, but complementary, operational level end-state.

Example Military Strategic Level Commander's Intent

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

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

End State. Country Y insurgency operations have ceased, Malaysian nationals on country X are secure and MAF assets have redeployed.

2063. An operational level commander may choose to duplicate the strategic level commander's end-state or develop one separately. Operational planning staff do not need to articulate their commander's full intent in terms of purpose, method, end-state at this early stage; what is required is a statement framed from a thorough understanding of the higher commander's strategic intent, the nature of the OE and the actors within it. This analysis, combined with a concise operational desired end-state, directly informs work in the next planning stage to create a mission statement.

INCORPORATING THE OUTPUTS OF FRAMING

2064. The outputs of the Framing sub-step shape planner's understanding of the OE. The problem narrative, in particular, broadly describes the requirements for transformation, changes in the OE and critical transitions. The end-state is

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therefore likely to correspond to what the nature of the OE is expected to be once the problems identified within the problem narrative have been addressed. This is also likely to correspond with the description of the desired system that was formulated during the environment frame.

2065. Generally, an end-state based on the outputs of Framing will align with the superior commander's intent, although the deeper situational understanding that Framing creates may lead to the identification of additional problems that the superior commander's intent overlooked. Consequently, the level of detail included in the operational end-state may be greater than that in the national or military strategic end-state. This is acceptable as long as the two align.

2066. In some situations, however, the operational level commander's environment and problem frames may point to the need for an operational level end-state that appears to not be linked to the strategic level end-state. In such situations the operational commander may seek clarifying guidance from the strategic commander, and may even propose that the strategic level end-state be reconsidered. A request for such guidance could indicate to national or military strategic level planners that their own assessment of the OE should be reconsidered. An ongoing conversation between strategic and operational level planning staff is both appropriate and expected, and is especially important if operational level planners draw alternative conclusions from those provided by strategic level staff.

ADJUSTING THE DESIRED END STATE

2067. The desired end-state is seldom fixed and is likely to evolve during a campaign or operation as opportunities or complications arise and government imperatives shift, resulting in staff reframing the situation. As part of any reframing exercise, staff should assess whether current strategic or operational conditions remain extant, and whether any adjustment of the desired end-state

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merits a new JMAP (see paragraph 2059).

2068. Prior to execution, analysis during later JMAP steps may show that the end-state formed originally would be better suited as an objective or even decisive point. As has been stated, consideration should be given to recommencing JMAP either from the beginning, or the most appropriate stage, depending on each circumstance, if the problem, environment, end-state or other factors have changed significantly from the initial planning assessment.

HYPHOTHETICAL EXAMPLE
(DETERMINE DESIRED OPERATION END-STATE)

1. To determine the desired operation end-state the planning team first identified key inputs, which included the statement of the desired national strategic end-state contained in the CDF WngO or CDF ID (which read **safety of BLUELAND citizen has been ensured, the territorial sovereignty of MAZARI has been upheld and LANUNLAND has ceased to pose an immediate military threat to MAZARI**), and the desired system diagram and problem narrative from the Framing sub-step.

2. In light of the identification during Framing of the serious and on-going nature of the LANUNLAND workers working in MAZARI territory is highly capable of shifting the present situation become more complex resultant the involvement of non-state actors as criminal network to expand the operation end-state. Even though almost all agreed that addressing LANUNLAND workers working in MAZARI territory issues was important, some members of the planning team argued that if focusing more toward them in the operation end-state would distract from achieving the stated strategic end-state. The argument was made where resolving this issue of LANUNLAND workers are far more superior prior commencing the major campaign as well as promoting strategies to protect EEFI very effectively. After seeking specialist advice from various aspects from

various departments, the J5 determined that the issue of LANUNLAND workers was currently beyond the remit of military action, as no request for military support had been received from MAZARI government or MMF.

3. There was nevertheless the need for the BLUELAND Force preparation to provide MOOTW assistance, should BLUELAND Force operations against LANUNLAND precipitate a worsening of the existing situation and providing that OGD were unable to operate due to the fighting. Disrupting the activities of the bilateral or multi-lateral cooperation with non-state actors would also need to be addressed, but as a separate issue. All of these factors were important and would need to be taken into account during subsequent planning, but ultimately the J5 decided that they did not need to be incorporated into the operation end-state. The J5 made this determination in light of the possibility that the BLUELAND may be able to reach the desired national strategic end-state without needing to do anything more than to deter LANUNLAND forces.

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

“Safety of BLUELAND citizen has been ensured, the territorial sovereignty of MAZARI has been upheld and LANUNLAND has ceased to pose an immediate military threat to MAZARI”

5. Importantly, the J5 was satisfied that the planning team had reached this end-state after robust debate, rather than simply by accepting the national strategic end-state without any detailed consideration. The additional areas that planning would need to address, which had been identified during Framing and further discussed in relation to the desired end-state, were recorded so that they could be easily revisited as appropriate during the subsequent JMAP steps.

SUB-STEP FOUR: DEVELOP AND ISSUE WARNING ORDER

2069. A WngO enables FE that may be required to conduct an operation to be given the maximum amount of time possible to conduct their own preparations. It is a way to maximise concurrent activity and therefore reduce time spent in preparation to the minimum possible.

2070. Once the desired end state has been determined there should be a broad discussion on likely capabilities required and FE that might be necessary to support the impending operation. For example, there may be a need to conduct amphibious operations, SF operations or strategic airlift. This information is passed to strategic level planning staff for consideration. Force preparation details from the CDF Planning Directive and other strategic level documents are also discussed and any proposed amendments again passed to strategic level planning staff for consideration. Force preparation and capability requirements are reviewed in depth with Service HQ representatives as JMAP progresses.

2071. A WngO is then drafted and sent to the FE that have been identified as potentially contributing to the impending operation. The WngO should be as concise as possible, but should provide enough information to allow the FE receiving it to commence their own initial preparation for the operation given their possible roles.

2072. An example of the format of a WngO is given in MAFJD 5-01 Joint Operation Planning. This can be adapted by the operational HQ as required.

**HYPHOTHETICAL EXAMPLE
(DEVELOP AND ISSUE WARNING ORDER)**

1. As soon as the desired operation end-state had been determined, the J5 directed some of the planning staff to identify the broad range of capabilities that may be used for possible operations in MAZARI. The designated planners

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identified that both air and maritime assets would probably be required to insert land forces. Other air and maritime assets may also be needed to counter LANUNLAND air and maritime capabilities, to conduct a MOOTW like Non-NEO, to provide personal recovery, search and rescue mission and to provide logistics support to on-going operations once the initial insertion of land forces has been completed. Land forces that may be required included all combat arms and multiple supporting units; in the event that armed conflict with LANUNLAND ensued, or that large scale MOOTW assistance would be required, the size of LANUNLAND forces would mean that a substantial land force would potentially be required. Finally, SF elements may also be required. With this in mind, the planners identified multiple FE from within each service that may be required for the operation.

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

SCOPING AND FRAMING BRIEF

2073. As S&F is usually conducted by only part of the JOPG (see paragraph 2002), it will be necessary for those planners involved in this step to brief the remainder of the planning team about its outputs. There is no set format for this brief, however it should enable the entire planning staff to develop a detailed situational understanding, comprehend the conclusions reached about the OE, the actors within it and the problems that need to be solved.

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Annex:

- A. Scoping and Framing - Aide Memoire.
- B. Priming Questions When Conducting Framing.

**ANNEX A TO
CHAPTER 2****SCOPING AND FRAMING AIDE-MEMOIRE**

INPUTS	SUB-STEPS	OUTPUTS
(a)	(b)	(c)
Commander's guidance, any strategic direction, CDF Planning Directive, as much as is known from JIPOE	1. Scoping: a. Examining requirements within commander's initial guidance (CCIR, risk, information on the situation). b. Seeking input from previous planning activities. c. Establishing a planning timeline.	• Identification of resources to assist in detailed planning • Planning timeline • Summary of current situation • Initial CCIR list
As above	2. Framing: a. Environment frame: (1) How the OE developed from a historical and cultural perspective, how it currently exists (current conditions), possible future conditions, and how these relate to the desired strategic end state. (2) Own capabilities and current operational commitment. (3) Identifying assumptions about systems in the OE to enable rapid adaptation to change within it. (4) Which actors exist within the OE, along with their identity, history, culture, current state and future goals, and the nature of relationships between actors. (5) The strategic intent of any threat, including its objectives, limitations, specific direction and time constraints.	• Detailed description of the observed system and desired system, and key differences • Environment frame narrative describing the nature of the OE, and key actors within • Diagram illustrating key actor relationships Problem narrative summary as a statement

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(a)	(b)	(c)
	(6) Causes of conflict within the OE and between actors (which may be historical, economic, ethnic, sectarian) (7) Causes of conflict within the OE and between actors (which may be historical, economic, ethnic, sectarian) (8) Physical conditions within the OE and their implications for operations (which may include major terrain features, major infrastructure and weather). b. Problem frame: (1) Strategic level direction. (2) Answers 'why has the problem arisen, which conditions and actors are oppositional and which supportive, what organisation challenges exist, what broad resources are available?' (3) Status of current operations. (4) The commander's initial guidance, including time constraints and planning considerations, force preparation and capability requirements, and guidance from previous planning. (5) Intelligence and CCIR updates.	
As above	3. Determine desired end state: a. Analyse superior commander's intent. b. Adjust end state during the operation as required after reframing the evolving situation.	• Superior commander's intent – purpose, method, end state • Statement describing the campaign or operation desired end state

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(a)	(b)	(c)
As above	4. Develop and issue warning order: a. Broad discussion on likely capabilities necessary and associated FE. b. Warning order drafted and issued to those FE identified as potentially contributing to the operation to permit as much time for preparation as is feasible.	• Likely FE identified • Issue of warning order to respective FE

PRIMING QUESTIONS WHEN CONDUCTING FRAMING

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

Generic Critical Thinking Questions

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

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Analysing the Environment or Context

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

Analysing The Problem or Threat (Strengths, Weaknesses, Sources, Relationships)

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

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22. What are the cultural peculiarities of the threat and its system?
23. What are the economic characteristics of the threat system?
24. How is the social system of the threat organised?
25. How does the threat determine its strategy?
26. How is the threat system's civilian and/or military command and control organised?
27. How does the threat prefer to operate, and how does it adapt its activities?
28. How might the threat resist our actions?
29. What are the threat's logistic strengths and weaknesses?
30. What entities or relationships within the threat system are vulnerable to outside influence or correction?
31. How will that influence or correction be observed and what measures should define success?

Analysing Other Connected Aspects

32. What might be the positions of other international actors towards military action?
33. What conditions would best describe the strategic and operational desired states?
34. Where and by when do these conditions have to be achieved?

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35. What is the likely area of operations?
36. How does time affect operations?
37. What are the logistic implications of manoeuvre in the area of interest?
38. What might be the most/least effective methods of manoeuvre?
39. What effects will best achieve the desired conditions?
40. What gender and child protection issues exist in the operational environment and how do these impacts on the observed and desired systems?

CHAPTER 3

MISSION ANALYSIS

Executive summary

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

INTRODUCTION

3001. Mission Analysis (MA) is the second step in the Joint Military Appreciation Process (JMAP). In MA, the operational design work begun in Scoping and Framing is further developed until a thorough description of the commander's operational approach is created through a schematic depicting a number of lines of operation (LOO) that together achieve the desired end state. This step is the

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most substantial in terms of the breadth of issues considered and scope and detail of output generated. In common with Scoping and Framing, MA demands flexible, creative and critical thinking throughout to ensure the best possible planning outcomes. Planning staff should be able to capture a narrative or account of the logic behind all end states, objectives, assumptions, operational analysis, conclusions, effects and their desired outcomes. This provides the process with greater clarity, authenticity, accountability and transparency as it develops. Such a narrative also assists in formulating effective risk and assessment strategies to be employed once the plan is executed.

3002. **Inputs**. The initial inputs to MA are:

- a. Commander's initial guidance for example, a Chief of the Defence Force (CDF) Initiating Directive (ID) or Warning Order (WngO).
- b. The outputs of Scoping and Framing.
- c. A JIPOE update.

3003. **Sub-steps**. MA incorporates the following sub-steps:

- a. Review the situation
- b. Derive and analyse Centres of Gravity (COG) and their critical factors (CF).
- c. Determine own mission.
- d. Determine objectives.
- e. Identify and analyse tasks.

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- f. Determine limitations.
- g. Identify critical facts and assumptions.
- h. Determine decisive points (DP).
- i. Develop LOO.

3004. **Outputs**. The outputs of MA are:

- a. A mission statement (in the form of who, what, where, when, why).
- b. Lists of specified and implied tasks, and identified essential tasks.
- c. Limitations, separated into constraints and restrictions.
- d. Compilation of critical facts and critical assumptions.
- e. Updated commander's critical information requirements (CCIR).
- f. Campaign or operational objectives.
- g. Friendly and adversary CF (for an opposed campaign or operation) that have been derived and analysed, and a COG analysis construct developed.
- h. DP and associated effects.
- i. Matrices for each DP.
- j. Objectives and DP that have been organised into LOO which proceed logically in time and space towards the desired campaign or

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operation end state.

3005. **Aide-memoire**. An MA aide-memoire is in Annex A.

JIPOE INPUT TO MISSION ANALYSIS

3006. MA usually commences with products from JIPOE steps one and two, and as much of the analysis of the threat that is available, but at least the adversary COG analysis or threat scenarios from step three, and possibly the final step, dependent on time and resource constraints. Notwithstanding, MA may commence with as much as is known regarding the situation, environment, and threat. Intelligence staff should then update the Joint Operational Planning Group (JOPG) as new information becomes available through the intelligence cycle.

3007. Product availability depends on the time necessary to collect, process, evaluate and disseminate required information which can be displayed in a form useful to the commander and JOPG. The content of the JIPOE briefing will also depend on the availability and quality of existing databases, collection assets and intelligence personnel. It further depends on fortunes in collecting information and the threat capability in countering friendly collection activities.

3008. If minimal progress is made through JIPOE, intelligence staff should consult with the JOPG to develop assumptions that allow planning to continue. As information that proves or disproves an assumption becomes available, the intelligence staff informs those planning. Both intelligence and planning staffs must be prepared to adapt JIPOE and JMAP to suit each other's inputs and requirements, based on commander's guidance, as outlined below.

3009. **The Commander**. The commander's feedback, after the MA JIPOE brief, might include:

- a. Confirmation or modification of any intelligence assumptions that

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have been made.

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

SUB-STEP ONE: REVIEW THE SITUATION

3010. MA commences with a chance to review the latest commander's guidance, intelligence, and feedback from the work done to date. The intelligence update should include the first two steps of JIPOE and at least the adversary COG analysis matrix showing the COG and its CF: critical capabilities (CC), critical requirements (CR), and critical vulnerabilities (CV), from the third step of JIPOE. The planning staff then reviews and updates the outputs of Scoping and Framing and CCIR.

3011. This sub-step is a chance to refine earlier analysis of operational assessment and any lessons learned, own forces disposition, readiness states

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and capabilities, and both planning and operation time factors.

HYPOTHETICAL EXAMPLE

REVIEW THE SITUATION

1. What does the JOPG know about the adversary's current situation and status? The following paragraphs should lead the staff through the discovery of those facts.

2. By this time, JOPG completed Step 1: S&F, J2 staff completed JIPOE Step 1 and Step 2. It is good enough if J2 staff have prepared the initial CF analysis matrix for the LANUNLAND. This will assist JOPG to continue the planning process. J2 staff will give a summarised JIPOE output of Step 1 and Step 2. At the same time, J2 staff will take note all the questions that raised by planning staff.

Example of JIPOE Step 1 and 2 Summary:

LANUNLAND has a total of 51 airfields located throughout the country, 24 have paved runways with recognisable support facilities. The major airports are located at PUSING, PARIT and KETIL. All three are well maintained and have instrument approach, navigational and landing aids and the capability to accept the largest of commercial and military transport aircraft. There is one heliport located in PUSING CITY.

The LANUNLAND AF has three major operational air bases, LAF Base PETANI, LAF Base SETAR, and LAF Base MUDA. LAF Base MUDA is collocated with the civilian airport of KETIL. In addition to these major operational bases, there are several minor "satellite" bases throughout the country. LANUNLAND road

networks are extensive but vary significantly in standards. There is a narrow gauge railway system which has been in decline. PETANI has the largest rail network whilst KETIL has a small rail system; there is no rail network in SETAR.

The LANUNLAND has three major ports which are DURİ, DAUD and KETIL with several other secondary ports. The LN has two operational bases which are to some extent combined with DURİ and DAUD ports. The LN also operates a small naval repair and docking facility within KETIL Port. In addition the LN operates two smaller support bases in LANUNLAND. Both the major ports of DURİ and DAUD are capable of supporting an amphibious lodgment.

LANUNLAND aircraft are capable of conducting deep strike against BLUELAND strategic targets. LANUNLAND airborne forces are capable of conducting operations into BLUELAND. It is unlikely that LANUNLAND Forces can conduct air defence ops over BLUELAND and LANUNLAND simultaneously for any length of time. Any reconnaissance flights over the BLUELAND will have difficulty with imaging due to the terrain and weather. Any land operations would best be completed before the onset of the wet season starting in December. Both harbours could easily have their entrances mined, thus creating difficulty for further operations. The region involves several major Sea Lines of Communication (SLOC) and it could be anticipated that any conflict would have to contend with considerable neutral shipping. Logistic support to forces deployed to BLUELAND will be made difficult by the extensive SLOC, which are vulnerable to interdiction by either air or surface forces.

3. Further details about the state and locations of BLUELAND military units were also provided, along with an update about LANUNLAND military units near the border. The J5 established that current information would be greatly supplemented once JIPOE Step 3 was completed. In the meantime, it has been assessed that LANUNLAND's most likely strategic end-state was that the LANUNLAND forces return to normal military duties, having achieved their strategic objectives and this area was no longer militarily contested.

4. The most likely operational level COA by LANUNLAND military forces would be to build up a combination of naval and air assets to launch an offensive operation against MAZARI. An initial CF analysis of the LANUNLAND military units determined that their operational level COG was their Maritime Task Force (the key CC, CR and CV that accompany this COG analysis are shown in a table in the next part of the hypothetical example).

5. Once the J2 brief had concluded, the several staff provide brief updates on the progress so far to J5. The planning staff briefed the outcomes of Framing, follows by summarised CCIR list and briefly explained pertinent aspects of the CDF ID. The purpose of these briefs was to ensure that all members of the JOPG had an up-to-date situational understanding before MA commenced.

SUB-STEP TWO: DERIVE AND ANALYSE CENTRES OF GRAVITY

3012. Military activities never take place in isolation. They are always conducted in an OE characterised in part by the presence of many inter-connected actors for example, these actors may include one or more adversary forces, multinational military forces, NGO, OGD and civilians.

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3013. Simply put, all actors will have a COG comprising particular CF, but usually the military planning focus is on a particular actor: the primary adversary (without ruling out the possibility of several discrete adversaries). Defeating the adversary has traditionally been the focus of military action, and it has therefore been necessary for military planners to be able to develop a list of means to best understand its motives and capabilities. However, deducing and analysing the adversary COG has tended to become elevated above the need to define the true nature of the problem. This becomes challenging when such intellectual activity obscures the design of relevant operational objectives that bring about the desired end state. This section will introduce a methodology to derive and analyse COG in a way that complements operational design.

3014. J2 staff conducts COG analysis of adversary forces and other significant actors in the OE and provide this information to the JOPG. The JOPG analyses the friendly COG, examines all actors' COG relative to the each other and uses this examination to assist in further planning.

3015. Framing is important to properly understand how an adversarial system operates and to find where relationship and infrastructure links exist that can be gainfully exploited or targeted. For example, a decentralised insurgent network requires concurrent action across multiple LOO to become isolated from the population, reduce the influx of resources and recruits, and be defeated. In this case, planning staff need to shift thinking away from simply focusing on a single point of potential failure (traditional COG) to the means of transforming an interactive and adaptable dynamic system. Notwithstanding, deriving COG and its systemic structure of CF remains a vital analytical tool to describe an adversary's desired end state, capabilities, resources, strengths and weaknesses.

3016. An adversary's COG may be construed as that prime entity that can stop the friendly force from achieving its desired end state; or that which the adversary requires to achieve its desired end state. The friendly COG can be construed in

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the same way. In other words, the adversary's COG must be dealt with because of its potential to prevent the friendly force from achieving its desired end state. In opposed operations, defeating, destroying, neutralising or otherwise influencing an adversary's COG is, therefore, likely to constitute an operational objective that must be met before the operational end state can be reached.

3017. COG may be physical, such as an adversary's military forces, or non-physical, such as the cohesion of an alliance. They are also contextual and relative, and their existence depends upon each party's view of the threats and the requirements to develop or maintain power and strength relative to their need to be effective in accomplishing their objectives. Therefore, commanders and planning staff must consider not only an adversary's COG, but they also must identify and protect that of their own forces.

3018. COG is likely to be different at each level. At the strategic level, a COG will probably be non-physical. Although it could be a military force, or a set of key joint capabilities or functions, it is more likely to be an alliance, political or military leaders, or depth of popular support. At the operational and tactical levels, COG is more likely to be physical. They are often associated with the adversary's military capabilities, such as a powerful element of the armed forces. In any planning activity, staff should focus on the COG of their own commander's proximate adversary; however, the relationship between operational COG and COG at other levels must also be determined and understood in order to achieve the strategic desired end state.

3019. COG must continually be studied and refined both during planning and subsequent operations due to the dynamic and fluid nature of interactions in the OE. COG can shift and change over time, with fresh COG becoming apparent as the adversary adapts to friendly force intervention. Regular re-framing of the problem and environment should reveal such changes.

3020. Characteristics that are likely to be associated with a COG are shown in

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Figure 3-1. These characteristics highlight the need to achieve a mixture of flexibility and analytical rigour to successfully determine and analyse the adversary's COG.

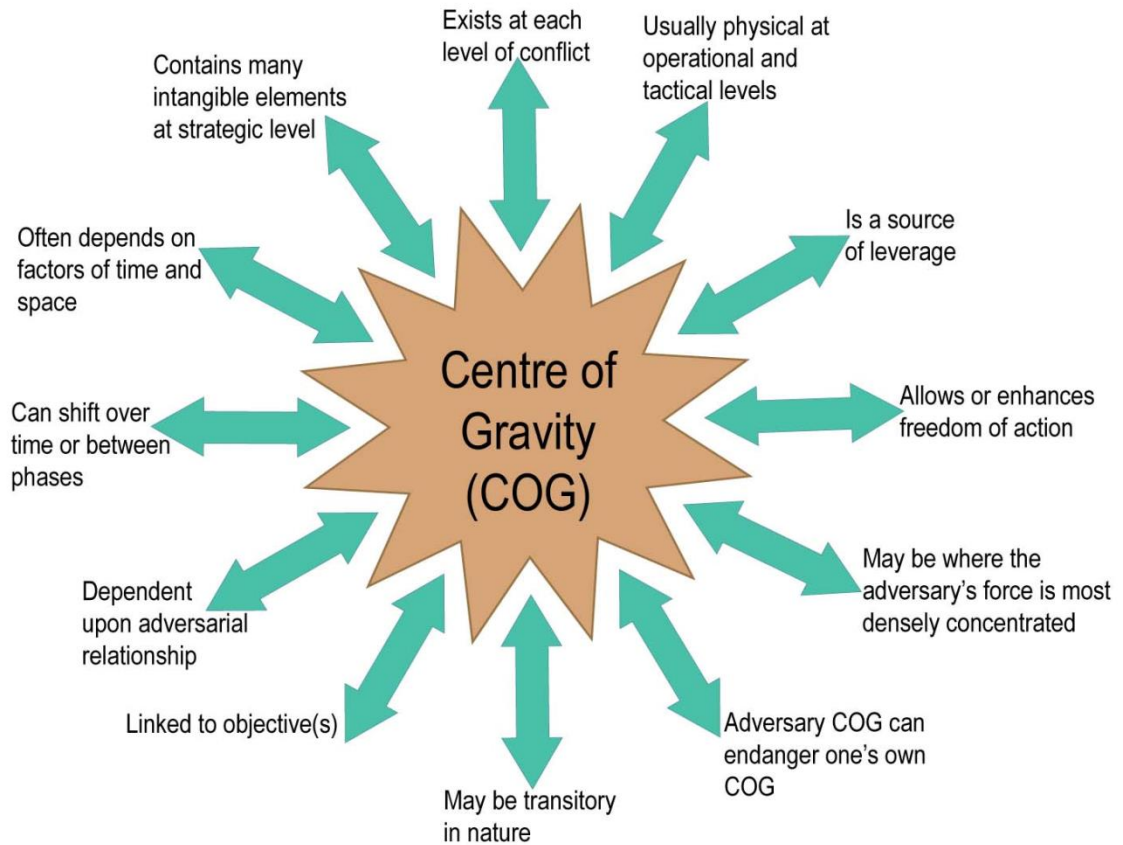


Figure 3-1: Characteristics of a Centre of Gravity (COG)

3021. In some situations there may be more than one adversary, each of which has a unique COG related to their own objectives. There may also be a COG for some or the entire LOO. The need to deal with multiple COG highlights the complex nature of the OE, and will increase the need for careful arrangement and sequencing of those actions needed to affect each adversary COG. Specifically, the development of DP, LOO and phasing may need to take multiple COG into account.

3022. In particular complex situations involving a multitude of actors engaged in a mixture of combat, security, peace support or nation-building activities, staff

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may seek to articulate a COG in terms of:

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

3023. As has been stated, the adversary is not the only actor that has a COG. Although the adversary COG has been the primary focus of this section, all actors within the OE will have a COG. Depending on the mission and desired end state, it may be important to consider the COG of other actors and the impact of this COG on friendly operations. For example, if a neutral actor comes under threat of adversary action, an analysis of its COG may provide the friendly commander with options for the best way to provide support. The conduct of COG analysis of other actors will need to take into account that actor's objectives and end state and may lead to the identification of additional DP or LOO. In some circumstances for example, disaster relief operations, there may be no adversary. In these cases, friendly force COG may be affected by physical conditions within the OE, or by actors which are not adversarial but which may nevertheless pose a threat to achieving the desired friendly force end state.

3024. Friendly forces will have a COG and this needs to be explicitly determined so that measures can be taken to protect it against adversary action and threats to mission. COG analysis therefore should be conducted for friendly forces in the same manner as for adversaries. Determining a friendly force COG is still relevant in non- adversarial scenarios, and the associated CV need to be protected for mission success.

3025. **COG Analysis**. Analysis of friendly, adversary and other relevant actors' COG is a key component of operational design. It is enabled by JIPOE and work done in Framing to understand the adversary's system. The commander and

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planning staff determine how to undermine adversary COG while protecting friendly COG and influencing other actor COG to suit the desired outcomes. Understanding the relationship between COG compels greater precision of thought and expression in operational design. Each COG comprises the sum of its CF (CC, CR and CV) and staff should base their analysis around this hierarchical framework.

- a. **CC**. CC are the primary abilities that enable a COG to achieve its desired end state. In essence, they are what the COG does (verb).
- b. **CR**. CR are the crucial enablers, means and resources (noun) that allow a COG to perform its CC. They equip the CC to function, and so support the COG, and are essential to the achievement of the operational objectives. A system may consist of many things, but not all will be critical to the achievement of the desired end state.
- c. **CV**. CV are those CF that are inherently targetable and open to direct or indirect attack in a way that will contribute to a failure to achieve its objectives. CV are often more detailed elements or components of CR that support and enable CC to function. Detailed analysis of CV will reveal linkages and commonalities which, if targeted or exploited, can achieve an efficient and expeditious indirect effect on the COG.

3026. **Deriving the COG**. While there may be times when the COG is clearly obvious to the commander or planning staff, often true COG will be difficult to determine, particularly in complex environments. Misidentifying COG poses the very real danger of distorting planning and so raising operational risk during execution. Although there is no preeminent methodology to determine COG, what is suggested here is one logical path.

3027. The aim of COG/CF analysis is not to put a name to the COG first and

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foremost; it is to identify and scrutinise those strengths and weaknesses (in other words, the CF) of an adversary that staff can protect against or target and exploit. If this is achieved then the COG, whether specified or not, will still be impacted in favour of friendly forces. Figure 3-2 illustrates this principle by showing analysis 'to the right' of a yet-to-be identified COG occurring first, which subsequently lets the COG emerge.

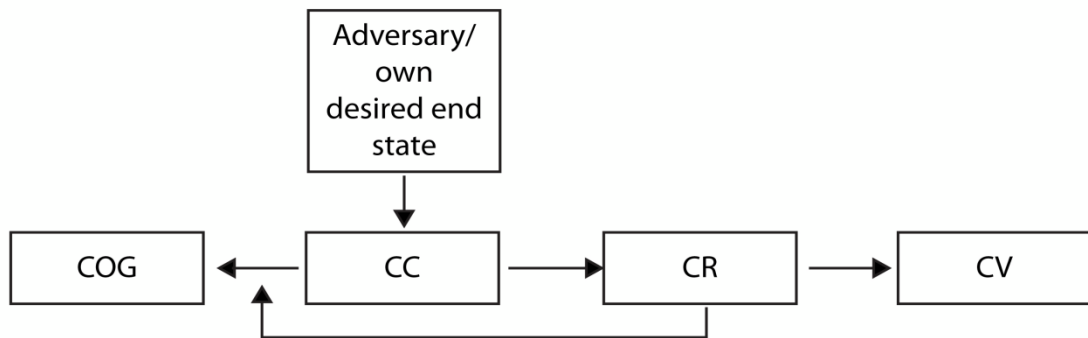


Figure 3-2: Identifying a COG

3028. Determining COG begins with the end in mind: 'What is it that we and an adversary are seeking to achieve? What is the primary goal?' In other words, what is most likely to be the desired end state and/or objectives? (Can be derived from Step 1 S&F). These questions can be asked for all three levels. Once the desired end state has been articulated the next question is: 'What are our own/the adversary's capabilities that are employed to reach that end state, and which are critical to achieving the desired outcome?' In other words, what are the ways (verb) to arrive at operational success? Having listed the CC, the commander and staff are in a good position to ascertain if there is a significant enabler of the CC (illustrated by the CC arrow in Figure 3-2). This can be done by asking: 'Is there an entity (or entities) that produces all or most of the CCs in order that the objective can be achieved?' From this further analysis should emerge a (list of) prime means (noun) or entity without which we/the adversary cannot achieve an objective. That entity is a likely COG. At the strategic level for example; it may be that friendly forces cannot achieve success without the non-physical support of its

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national media and also a cohesive coalition. This dual COG would require the protection of their vulnerabilities. As CR are subsequently identified, they should confirm the identity of the COG, being constituent parts of its system or organisation (CR arrow in Figure 3-2).

3029. As an example of deriving a friendly COG, an objective or desired end state might be that country X is liberated and legitimate governance restored. Operational CC necessary to achieve that could be strategic attack, neutralisation of the adversary's naval task group, the occupation of particular cities or areas within country X, the defence and sustainment of friendly forces in country X, and the equipping and training of country X's internal security agencies. Some higher order requirements that enable such capabilities would be Joint C2, amphibious task group, joint fires, fuel, supply lines, support of the international community, air and sea blockades, and training and mentoring forces. Since the JTF incorporates most of these broad components, it is deemed the primary and all-encompassing thing without which the desired end state cannot be achieved, and so becomes the COG (note: the COG is an entity rather than the traditional concept of 'force projection'. The JTF's ability to project force will be part of its CC). Now, the full range of CR can be deconstructed, and CV identified together with appropriate protection based on the adversary's ability to affect them. Conversely, analysis of the adversary's CF would result in a COG (or several COG) identified in the same fashion, and CV to be targeted for desired effects.

3030. **COG Analysis Construct.** Planners will understandably want to focus their efforts against those CV that provide the greatest support to an adversary's COG. However, in their selection, staff must also compare the CV's criticality with its accessibility, vulnerability, redundancy, ability to recuperate, and impact on the civilian populace, and then balance those factors against friendly capabilities to affect the vulnerability. Planners should also ensure that while they are seeking to, say, neutralise, defeat or destroy adversary CV, they also take appropriate measures to protect friendly force CV from adversaries attempting to do the same.

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3031. The relationship between CF can be diagrammatically represented by a COG construct. A very simple generic example is shown in Figure 3-3. Here, analysis reveals that the connections between CV 5, 6 and 7 are sustainment factors (for instance fuel, workshops and personnel). Focusing friendly force targeting and effects on these specific CV will have the best chance of affecting the adversary COG with, perhaps, the lowest operational risk attached and greatest economy of effort.

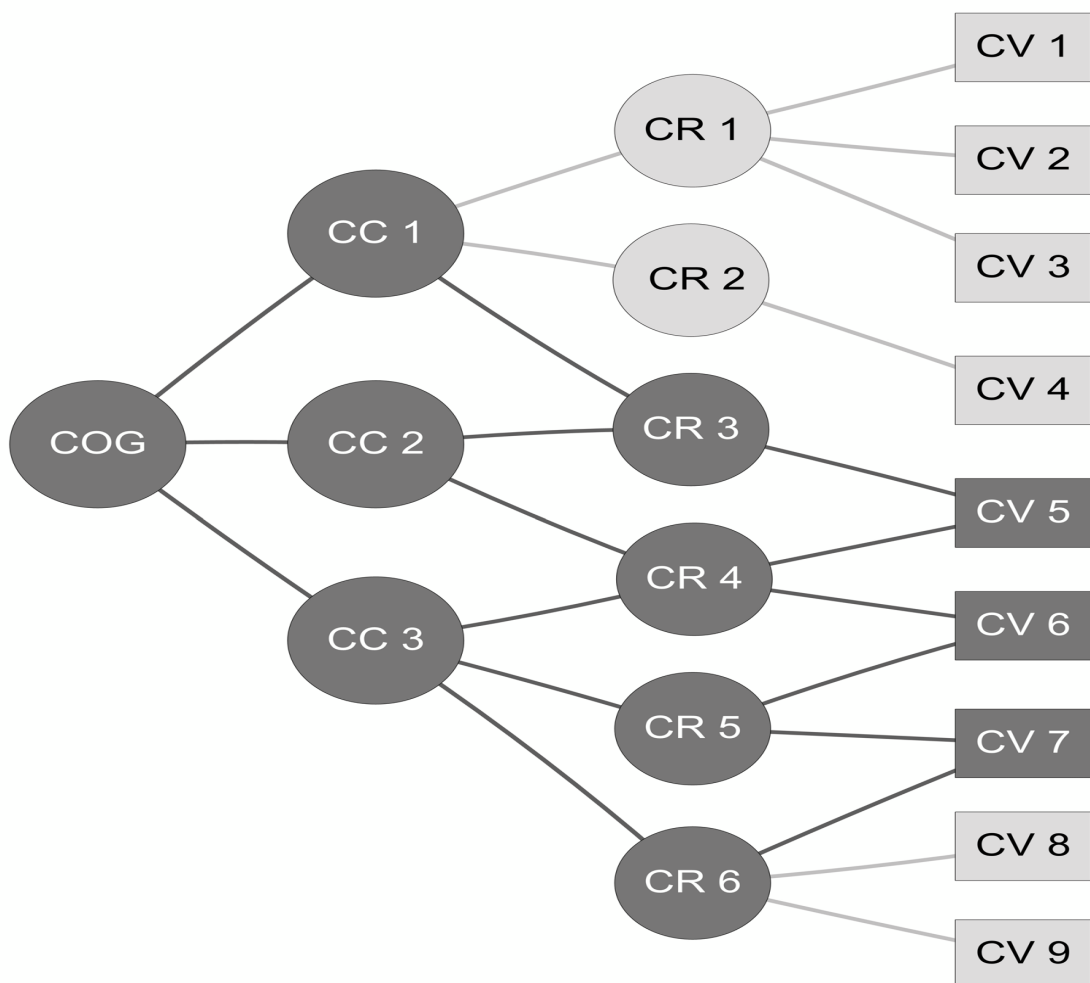


Figure 3-3: Example of a COG Construct

3032. **COG Analysis Matrix.** In similar layer to the construct above, planners may need to develop a COG analysis matrix for each actor. This matrix is used to present an actor's COG and CF alongside their objectives and/or desired end

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state, and the conclusions that may be drawn from COG analysis that impact subsequent planning. These additional elements of information are included in the matrix for ease of reference. An example of a COG analysis matrix is in Table 3-1.

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

Table 3-1: Example of a COG Analysis Matrix

3033. Analysis of adversary CF must be based on the best available knowledge of how adversaries organise, fight, learn, adapt and make decisions, and their physical and psychological strengths and weaknesses. At the earliest stage of planning commanders and staff must develop a comprehensive understanding of their adversaries' capabilities and vulnerabilities, including factors that might influence an adversary to alter, or even abandon, its objectives.

3034. Further, focusing on likely future CC allows the planning staff to be proactive in adjusting the COG and CV during the course of an operation. Also, it is essential for them to note that COG at each level can shift and change over time due to necessary revision of the objectives and end state, including constantly evolving factors affecting the OE. Major alterations to the objectives and end state would usually necessitate a fresh planning activity. Finally, staff

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must also envision how friendly forces and actions appear from the adversary's perspective, otherwise they may inadvertently ascribe to an adversary attitudes, values, and reactions that mirror their own.

HYPOTHETICAL EXAMPLE

DERIVE AND ANALYSE CENTRES OF GRAVITY

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

Assessed operation objectives			
1.			
Assessed desired operation end-state:			
COG	CC	CR	CV
Maritime Task Force	Ability to project forces	Aircraft Carrier	SPODs Seabase Aircraft Logistics Support System
		Amphibious Force	Suitable Landing Beach SLOC and ALOC security
		Integrated communication system	Communication equipment
Conclusions			
1. LANUNLAND’s military must rely on its Maritime Task Force to reach MAZARI.			
2. Targeting maritime assets, logistics support, SLOC, ALOC and C2 will have best possibility of undermining LANUNLAND’s COG.			

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

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

4. Once this was decided, the planning team quickly revisited CC and CR, to ensure that they aligned with the COG, and then broke down each of the CR into constituent elements. Those elements that might be vulnerable to adversary action were then recorded as CV. (The friendly COG construct is shown in the table below. Note that generic terms have been used here to keep the explanation simple - in actuality, the planning team had broken the

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CR and CV down into more detail, including listing the types of platforms that may be required for each CR and which of these platforms were vulnerable).

Operational objectives:

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

Desired operational end state: Safety of BLUELAND citizen has been ensured, the territorial sovereignty of MAZARI has been upheld and LANUNLAND has ceased to pose an immediate military threat to MAZARI.

COG	CC	CR	CV
Joint Task Force	Ability to protect to BLUELAND citizen in MAZARI	Rapid Deployment Force	Appropriate ROE Logistics support system
		C 130 EC 725 Logistics Ship	Secured APOD and SPOD Secured ALOC and SLOC
		GOM (MLAF and Mazari Police Force)	Permission of entry C2
	Ability to deny LANUNLAND invasion into MAZARI territory	Carrier Strike Group (CSG)	Communication system Logistics support system
		Combat AC	APOD Engineering and Maintenance system
		Armour Battle Group	Logistics support system

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COG	CC	CR	CV
		IO assets	MAZARI and LANUNLAND media Unfriendly local and international NGOs
	Ability to dominate maritime territory of MAZARI	SSK	Communication system
		Combat AC	Logistics and maintenance system APODs
Conclusion 1. Deployment from BLUELAND to LANUNLAND likely to increase logistics concerns. 2. The security of ALOC and SLOC may affect the overall operations. 3. Military activities in MAZARI may cause regional political and diplomatic concern.			

SUB-STEP THREE: DETERMINE OWN MISSION

3035. An operational level commander may choose to duplicate the strategic level commander's mission or develop their own. Regardless of which option they choose, it should be the result of thorough analysis.

3036. An operational level mission statement is derived from one's own end state, while taking into account the superior commander's statement of purpose, method and (strategic level) end state. The mission statement establishes what is broadly required to reach the desired operation end state. It should contain five specific components: who; what; where; when; and why. At the operational level the clear enunciation of 'when' may not be possible or desirable due to alternate timelines. Therefore, the 'when' component may be replaced by 'on order'.

3037. Vital to articulating the mission is the task verb, which establishes exactly

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

JOINT FORCE AREA OF OPERATIONS

3038. Central to determining the mission statement is consideration of the likely area that the commander wants to conduct the operation. In determining appropriate boundaries and areas in which land, air and maritime forces will conduct military activities, national strategic, diplomatic, legal and multinational imperatives must be appreciated, along with the impact on any other nearby extant operational areas. Any decision by planning staff on the selected area should be made following consultation with intelligence and logistics staff in particular, as well as higher level stakeholders, such as other government departments and/or multinational partners. The area is designated a Joint Force Area of Operations (JFAO). Within each JFAO specific missions and tasks are conducted under the direction of a single commander.

3039. The output of this sub-step is the generation of a mission statement.

Example Operational Level Mission Statement

JFC (who) is to evacuate (task verb) willing Malaysian citizens and approved foreign nationals (what) on order from CDF (when) in country X (where) in order to ensure their safety (why).

3040. **Planning Pause**. Having done considerable work thus far in reviewing the developing situation, analysing both own force and threat COG and articulating a clear, concise mission statement, there is an opportunity here to pause the planning, reframe if necessary, and take stock of how the commander's operational approach and intent aligns with the information, judgments and early conclusions formed by staff.

**HYPOTHETICAL EXAMPLE
DETERMINE OWN MISSION**

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

2. In considering the mission statement, the planning staff must seek for the desired operation end-state, *strategic* level mission statement and Commander's Intent (purpose, method and end-state), which had been included in the CDF ID. These were:

Strategic level mission: *The BLAF is to assist MZAF in order to prevent LANUNLAND expansion into BLUELAND and MAZARI controlled territory.*

Purpose: *To ensure the security of BLUELAND and maintain the integrity of MAZARI sovereign territory.*

Method: *Isolate LANUNLAND forces from both support and supply using air, maritime and information operations. Force LANUNLAND forces to return to LANUNLAND through non-kinetic means (information operations), kinetic means or both. Protect BLUELAND citizen from any LANUNLAND aggression.*

End-state: *Safety of BLUELAND citizen has been ensured, the territorial sovereignty of MAZARI has been upheld and LANUNLAND has ceased to pose an immediate military threat to MAZARI.*

3. The strategic level mission statement were made so that the operational level mission statement (a) specified that a JTF would be the operational level organisation responsible for achieving this mission, and (b) included clarification of where the JTF could expect to operate. Eventually, the planners

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determined that the operational level mission statement would be:

Joint Task Force XXX is to defend MAZARI against LANUNLAND aggression on order from Chief of Defence Force in order to maintain BLUELAND and MAZARI territorial integrity.

4. Noting that this was an assumption, the J5 subsequently added a FFIR to the CCIR list: would a JTF be authorised to move into or through LANUNLAND sovereign territory if that would assist in achieving the desired operation end-state? Until the FFIR was answered, the planners would need to anticipate both possibilities.

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

SUB-STEP FOUR: DETERMINE OBJECTIVES

3041. This step demands that operational objectives are determined by the commander. These represent tangible things or conditions to be achieved that together result in achieving the desired end state. Achieving an objective is the result of having successfully undertaken one or more DP (DP are discussed in more detail below) on its own discrete LOO. It is, therefore, imperative that the commander engages with all planning teams to both guide their direction and draw out the most salient ideas before determining each objective.

3042. **Identifying Objectives.** In Scoping and Framing, planning staff should have articulated what the desired end state will look like. This end state comprises a number of discrete outcomes that form the basis of objectives and the LOO associated with each objective. Examples of different LOO are given in paragraph 3075, but the aim is to work from a deconstructed end state, not

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engineer some LOO from the examples to become objectives. Nevertheless, an objective does describe the culminating conditions of each LOO.

3043. For example, if the end state is 'Country Y insurgency operations have ceased, BLUELAND nationals in country Y are secured, governance restored and BLAF assets have been redeployed to BLUELAND', then corresponding objectives might be:

- a. Country Y insurgents defeated.
- b. Sufficient humanitarian action conducted.
- c. Non-combatant evacuation operations successfully conducted.
- d. Legal governance in country Y, and security sector reform implemented.
- e. Redeployment of MAF assets to Malaysia is completed.

3044. Depending on the nature of a particular campaign or operation, defeating an adversary's COG may be an objective. To continue with the example given above, in this case achieving the first objective will involve the defeat of the adversary's CF (and hence COG), however the other objectives may be achieved regardless of whether the adversary's COG is defeated or not. In operation where there is no adversary, several objectives may still need to be achieved to reach the end state, but there will be no need to form an objective around defeating an adversary's COG. Likewise, in an operation involving an adversary, planners will need to carefully examine the end state to determine if any objectives other than defeating the adversary's COG are also required.

3045. Objectives should be the broadest possible conditions required to achieve

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

3046. The broad nature of operational objectives means that the number identified should be relatively few. In a smaller operation there may only be one objective, which is likely to be overcoming an adversary's COG (assuming the operation is opposed), whereas in a large campaign there will be several objectives, each of which will require the conduct of activities on their own LOO. Planners should be careful not to identify too many objectives because achieving each will require the commitment of finite resources that are likely to be thinly spread from the outset. By the same token, planners should be careful not to disregard (or classify as a DP) an objective just for the sake of cutting down their overall number or to arbitrarily simplify planning. Assessing what should or should not be an objective is a key part of successful operational art and requires robust judgment in practice.

**HYPOTHETICAL EXAMPLE
DETERMINE OBJECTIVES**

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

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2. Determining objectives began by breaking the desired operation end-state: *BLAF has met GOM requirement in denying LANUNLAND expansion and has contributed to a favorable strategic environment in the region. LANUNLAND forces cleared from JFAO, sovereignty of BLUELAND and MAZARI restored with condition set for handover of MAZARI to GOM. BLAF redeployed to home location - into its component pieces.* This enabled three possible objectives to be immediately identified:

- a. Successfully prevented the LANUNLAND to carry out operation within JFAO.
- b. BLUELAND and MAZARI controlled territory secured.
- c. LANUNLAND military defeated to the extent that it does not pose a threat to BLUELAND and MAZARI.

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

corresponding to this objective may need to include DP related to both deterring and subsequently being able to defeat the LANUNLAND military if required. This issue would need to be revisited later in the planning process.

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

5. First, if the condition is not met, could the end state be achieved? The answer for disrupting the criminal organisation was clearly 'yes', but the answer for the possible need to deliver humanitarian aid was less obvious. Again the J5 acted as arbitrator. They directed that the delivery of humanitarian assistance be included as an objective, but that the corresponding LOO may need to either be initiated by a CDP if a request for humanitarian assistance was received from the host nation, BLUELAND, or from another agency working in the area.

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

The final list of objectives was therefore:

- a. NEO successfully conducted.
- b. BLUELAND controlled territory secured.
- c. LANUNLAND military defeated.
- d. Sufficient humanitarian aid delivered.

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

Receiving a JIPOE update

8. At about the same time that the identification of objectives concluded, the planning team received a JIPOE update. Step three of JIPOE had been completed, and the planning team was assembled at short notice for a quick verbal brief by the J2. This brief confirmed the assessed LANUNLAND operational level COG, provided a description of their probable order of battle and likely mission. It confirmed that the adversary force's COG was the LANUNLAND maritime force, and detailed the likely constituent elements thereof, as well as likely supporting forces including air and land assets.

9. It was also assessed as likely that LANUNLAND forces would attempt to seize control of the MAZARI, but that it was unlikely that they would advance beyond it, although that did not rule out the possibility of air strikes being

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conducted further into BLUELAND in support of the attack. A high value target list was also provided, including locations where known, which would enable the planning team to factor these locations in once they commenced COA Development.

Review of planning progress

After objectives have been determined a sizable portion of the design work has been done. All that remains is the identifying of DP and their arrangement along LOO, albeit this is a significant exercise and requires considerable patience, analysis, questioning and critical thinking to facilitate the successful practice of operational art. The next three sub-steps help inform the conclusion of operational design by looking at high level tasks, the overall freedom of action and identifying facts and assumptions. The products of this analysis also inform the creation of DP, and need to be consistent with the commander's operational approach, mission and end state. These sub-steps do not sit in isolation but continue the analytical and creative thinking about how the problem has evolved and what part a joint task force might play in any solution. If required, further commander's guidance may be sought during these sub-steps or while developing DP and LOO.

SUB-STEP FIVE: IDENTIFY AND ANALYSE TASKS

3047. This activity requires analysis of the situation, understanding all the guidance and directives received, and creative thinking. Breaking out and determining what tasks are expected to be undertaken during the impending operation is one key to forming DP (the others being protecting own force CV and exploiting the adversary's CV). Tasks are identified and task lists updated and amended throughout planning, particularly during the next planning stage, COA Development.

3048. There are three types of tasks to be identified: specified, implied, and essential.

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

3049. The outputs from this sub-step are lists of specified and implied tasks, and identified essential tasks. The staff may choose to simply highlight the essential tasks from the specified and implied task lists rather than develop a separate essential task list. The implied and essential tasks should be modified and expanded as JMAP progresses.

HYPOTHETICAL EXAMPLE
IDENTIFY AND ANALYSE TASKS

1. By the time the planning team reached this sub-step, they had already given themselves a good start by maintaining a task list and adding to it as possible tasks were identified during previous JMAP sub-steps. As a result, task identification proceeded fairly quickly. Specific tasks contained in the CDF ID or WngO were evaluated; the desired operation end state, the mission statement and each of the objectives were analysed and the implicit tasks that would directly contribute to their achievement were added to the existing list.
2. Once identification of possible tasks was completed, an analysis of each began. This approach was two-pronged. First, each implied task was discussed and an assessment was made to check that it was properly linked to either achieving the end state, the mission or an objective. Tasks that were not linked were discarded. Concurrently, each task was checked to ensure that it was operational and not tactically focused, unless absolutely necessary (this latter check helped ensure that tactical level commanders would have sufficient freedom of action to interpret their tasks and activities and to conduct their own tactical level planning. Consequently, several of the tasks identified were rephrased to allow subordinate commanders the greatest possible degree of flexibility).
3. Second, both the specified and implied tasks were checked and those deemed mission essential were identified. By the conclusion of this sub-step the planning team had developed a comprehensive list of specified and implied tasks, which is shown in the table below (essential tasks are labeled with an '(E)' at the end of the task.

Note that the desired operation end-state, own mission and objectives are not specified tasks; they are listed here for ease of reference only).

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Specified tasks	Implied tasks
<i>Specified tasks in CDF ID/WngO:</i>	
1. Be prepared to (BPT) conduct NEO in MAZARI.	1.1 Secure SPOD and APOD in MAZARI. (E) 1.2 Secure SLOC and ALOC. (E) 1.3 To evacuate BLUELAND and approved foreign nationals. (E) 1.4 To protect BLUELAND nationals safety during evacuation in MAZARI. (E)
2. Submit a request for appropriate ROE as soon as possible.	
3. Establish liaison with the MAZARI military.	3.1 To deconflict evacuation with other nations military. 3.2 To sustain the NEO force.
4. Conduct information activities and perception management	4.1 To influence public by disseminating information activity messages.
5. Ensure the continuation of strategically vital sea trade with BLUELAND	5.1 To secure key sea lanes from MAZARI to BLUELAND. 5.2 To prevent LANUNLAND from establishing sea control.
Desired operational end state: 6. The safety of BLUELAND citizens has been ensured, the territorial sovereignty of BLUELAND has been upheld and LANUNLAND has ceased to pose an immediate military threat to BLUELAND.	Implied tasks derived from the desired operational end state and mission statement: 6.1 Deter LANUNLAND's military. 6.2 Defend BLUELAND within their controlled territory. (E) 6.3 BPT to deny LANUNLAND invasion on MAZARI. (E) 6.4 To sustain BLAF throughout the operation. (E) 6.5 To control SLOC between MAZARI and BLUELAND. (E)
Own mission statement: 7. Joint Task Force XXX is to defend sovereign territory within BLUELAND on order from Chief of the Defence Force in order to prevent LANUNLAND's annexation of BLUELAND controlled territory.	
Objectives:	Additional implied tasks derived from objectives (not previously listed):

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8. Non-combatant evacuation operation successfully conducted.	
9. BLUELAND controlled territory secured.	
10. LANUNLAND's military defeated.	
11. Sufficient humanitarian aid delivered.	11.1 BPT relieve armed conflict and disaster affected civilians within the JFAO. 11.2 BPT disrupt counter-criminal network activities within the JFAO (E). 11.3 BPT support GOM to restore public order.

SUB-STEP SIX: DETERMINE LIMITATIONS

3050. This sub-step establishes what direct and implicit limitations exist. The conduct of campaigns and operations is invariably subject to various limitations that affect how the concept of operations takes shape. These limitations can circumscribe the political and/or strategic aims of an operation, the intensity of combat operations, the geographic extent of military action, rules of engagement, the duration of hostilities, support of national objectives by the host and home populations, and the kinds of military operations and activities conducted.

3051. Limitations are classified as constraints and restrictions.

a. **Constraints.** Constraints are actions imposed by a superior commander or another authority which must be undertaken (ie you must do something). Constraints will generally, although not necessarily entirely, be identified directly from specified tasks. An example could be the tasking of a subordinate commander to maintain a reserve for employment by the superior commander on order.

b. **Restrictions.** Restrictions are prohibitions on activities that a superior commander or another authority might impose (i.e. you must not

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do something). Restrictions may be legal (imposed by international and domestic laws); moral and ethical (these limitations are now largely absorbed into international norms and values); or political (which include, in the case of multinational operations, what is considered acceptable by all contributing countries).

3052. Although physical, immutable factors (such as practical maximum range of airlift, or the amphibious transport capacity available) could logically be a form of limitation, they are not considered here but instead taken in to account during COA Development as a component of operational reach. For further information see Chapter 4.

3053. The outputs of this sub-step are a list of limitations, separated into constraints and restrictions.

**HYPOTHETICAL EXAMPLE
DETERMINE LIMITATIONS**

1. Once the JOPG had consumed enough caffeinated beverages they were ready to commence the second day of planning. The J5 divided the staff into two teams: one to determine limitations and another to identify critical facts and assumptions (the next sub-step of MA). This concurrent activity would help to ensure that planning was completed in accordance with the timeline.
2. The planning staff allocated to determine limitations examined the CDF ID/WngO as well as the previous planning outputs. To derive constraints they primarily examined the specified task list, however deriving restrictions required them to look at a wider range of inputs. Due to factors beyond the planning staffs' control, some possible restrictions were yet to be confirmed. These included the Rules of Engagement (ROE) for this operation, which

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were still being drafted by legal officers and possible restrictions that might be derived from the status of forces agreement that was being established between BLUELAND and MAZARI at the national strategic level. To address these issues notes were made in the list of restrictions about the need to confirm the exact nature of restrictions in these areas once the ROE was finalised. The initial list of constraints and restrictions, including these notes, is shown in the table below.

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

Receiving a JIPOE update

3. As the list of limitations was being prepared the J2 received an urgent update about adversary actions and promptly briefed the planning team. An LANUNLAND maritime force consisting of two frigates and one amphibious ship had sailed from LANUNLAND's national capital, Capitol, at about 0400 local time. The last known position of the force was off LANUNLAND's

east coast, and it was possible that the force was moving to the south-east. It was likely that landing forces were embarked; however it could not yet be determined whether they were army or Special Forces.

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

Receiving answers to requests for information

5. As the list of limitations was being finalised, the J5 also received answers to some RFIs that had been submitted earlier in the planning process. One of these regarded an FFIR submitted to the strategic level headquarters during the 'determine own mission' sub-step, regarding confirmation of the 'where' aspect of the operation. The answer to this FFIR confirmed that land-based components of the joint task force conducting the operation would be expected to remain within territory currently controlled by MAZARI and BLUELAND, however air elements would be permitted to overfly and engage targets within LANUNLAND in accordance with the ROE. The J5

assessed that this meant that no change was required to the existing mission statement.

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

SUB STEP SEVEN: IDENTIFY CRITICAL FACTS AND ASSUMPTIONS

3054. This sub-step allows the staff to clearly distinguish between mission-critical information that it knows to be true (facts) and information it believes to be true (assumptions). Whilst it is all too easy for operational level staff to think tactically in determining assumptions, the commander must ensure that due consideration is given to broader, more strategically-focused issues that could have a direct impact on the successful achievement of the objectives and desired end state. The rational and predictable character of a senior actor in the OE for example, or the strengths and weaknesses of tribal and/or national alliances might have to be decided upon without substantiated proof in order to continue meaningful planning. It is important that the logic and rationale behind selecting assumptions should be articulated clearly. As circumstances change, the original logic path may be called into question and significant portions of the plan could be affected if the assumption is not revisited and, consequently, amended or removed.

3055. **Critical Facts**. A fact is something verifiable, or something that is known

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to be real or tangible. Critical facts are those facts of central importance for the commander to achieve the mission. They are usually derived from strategic level documents, JIPOE and staff analysis of the situation.

a. A critical fact for an operation might be 'Country X will not commit forces as part of a coalition'. The statement might be a fact because of clear statements within country X government's policy that have been publicly announced. The fact is critical since it suggests that the operational commander may have to do without a potentially significant force contributor.

b. A fact would not be critical if it lacked context with respect to the overall operation or was too technical or trivial from the commander's point of view for example, the fact 'the average temperature in city Z in September is 12 degrees Celsius', would not be critical unless it had obvious, significant implications for the operation.

3056. **Critical Assumptions**. An assumption provides a supposition about the current situation or a future event, assumed to be true in the absence of facts. Assumptions replace necessary but missing information or facts. Critical assumptions are those the planning staff identifies as particularly important with respect to operations and often carry significant risks. Staffs also need to create a formal HQ process to request friendly force information and provide input to the draft collection plan. Intelligence capabilities are prioritised and allocated to ascertain the validity of assumptions regarding the adversary and the environment as the planning phase progresses into execution. Clearly, the more assumptions a plan contains, the greater the unknowns and hence the more risks that will be borne overall. With respect to critical assumptions, the following should be noted:

a. Assumptions should only be made if there is a high degree of probability that they will be confirmed as facts. A valid critical assumption has three characteristics: it is logical, realistic, and essential for planning to

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continue. A critical assumption might be: 'Country X will not attack the BLUELAND mainland'. This assumption was hopefully made with high probability that it is indeed a fact, because if it is incorrect then what eventuates might have disastrous consequences.

b. A litmus test for assumptions is: if an assumption proves false, the plan could be invalid. If a proposed assumption does not have this effect, it is unlikely to be sufficiently critical to warrant consideration. Assumptions are given in the form of statements, which are unconfirmed and which require verification. A critical assumption is an impetus for generating a CCIR. After further research, assumptions may be confirmed and therefore upgraded to facts. Alternatively, they may remain unconfirmed and either additional attempt is made to verify the assumption or the assumption may be discarded. Making assumptions is usually necessary for planning to continue.

c. Given the risks associated with critical assumptions it is important for staff to clearly articulate the assumptions and all associated risks to the commander and superior commander as appropriate. This risk needs to be framed with respect to mission, capability, personnel, reputation, and environment, as well as the level of risk that the assumption will not be confirmed or denied.

3057. The outputs of this sub-step are a list of critical facts, a list of critical assumptions and an updated CCIR list. These should all be updated as required as JMAP progresses.

HYPOTHETICAL EXAMPLE
IDENTIFY CRITICAL FACTS AND ASSUMPTIONS

1. Concurrently to limitations being determined, other members of the planning staff checked critical facts and assumptions. This was largely a confirmatory exercise because a CCIR list had been maintained since the beginning of Scoping and Framing and newly-identified assumptions had been added to the list continuous since then. A thorough check of the CDF ID and JIPOE outputs previously received by the planning staff was nevertheless conducted, to ensure that no facts or assumptions had been overlooked, and their criticality to the mission confirmed.
2. One of the assumptions previously identified was that the area of operations for land-based forces would be limited to the territory currently controlled by MAZARI and BLUELAND. This assumption had recently been confirmed (see the previous part of this hypothetical example) and therefore did not appear on the CCIR list anymore. Instead of appearing here, it had been moved to the list of critical facts (because the assumption had been confirmed). The check conducted by the planning staff as part of this sub-step determined that the fact was indeed critical, because it would have an impact on the options available to the commander (by preventing land-based forces from entering LANUNLAND territory it would restrict the possible COA that could be taken against LANUNLAND's military forces).
3. Once the identification of critical facts and assumptions had been completed the staff informally briefed the J5, who then directed that the updated CCIR list be forwarded for action. The J5 also designated a few members of the planning staff to continue to monitor the lists of facts and assumptions and to keep building the CCIR list (as required) during all subsequent JMAP steps and sub-steps. This would help to ensure that critical facts and assumptions would not be subsequently forgotten once COA Development began.

SUB-STEP EIGHT: DETERMINE DECISIVE POINTS**Definition**

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

3058. **Effects.** Before determining DP it is important to understand a foundational JMAP principle that desired outcomes and end states are produced by creating a planned effect on something or someone. In the military context, an effect may be the physical, physiological, psychological or functional impact on a target within the OE, as a result or consequence of own military or non-military actions. In operational design, intended effects are intrinsically linked to the development of DP, achievement of which can be divided into tasks for subordinate FE. A central element of DP matrices (see paragraph 3073) is the specific effect produced by those FE. The effect 'denial' or 'neutralisation' is framed in the past tense as 'denied' and 'neutralised' (these terms are also linked to the task verbs 'deny' and 'neutralise').

3059. Besides the need to express each DP in the past tense and to link it to a task verb based on the primary desired effect, planning staff must be aware that the actions necessary to bring about that effect will probably result in other actors in the JFAO being affected. For example, tactical actions can have significant operational and strategic effects that require careful consideration. A chain of effects consists of the direct effects initially resulting from an action taken to achieve a DP, and a subsequent series of effects that result from, or are triggered by, the effect of the initial action. These subsequent effects are often referred to as second order, third order, etc, depending on the extent of their removal from the initial, intended effect. Second and subsequent order effects can arise from the cumulative result of many other effects, both direct and indirect, and may be

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predicted or unpredicted, desired or undesired. The level of accuracy achievable diminishes considerably when attempting to predict effects beyond second order.

3060. Effects are useful in operation planning but must be applied with great care. Firstly, cause and effect chains are complex and difficult to comprehend, let alone predict. It is not possible to identify all possible effects that may result from an action. Some intended effects may never occur. Some may be generated by a particular action and may be able to be identified. Others may occur but may not be able to be identified or measured. Some unintended effects may also occur, and these may or may not be able to be identified.

3061. This is part of the natural uncertainty of armed conflict and makes plans that rely on long chains of related effects particularly problematic. Short effects chains are more reliable and chains of a single link are the most reliable of all. Intended effects should be:

- a. Measurable.
- b. Distinguishable.
- c. Linked to one or more objectives.

3062. Measurable results of a particular action may not appear for some time. This time lag not only complicates assessment enormously but can also slow the tempo of operations. A major difficulty lies in assessing effects and then deciding and implementing adjustments at a pace that supports the campaign or operation. The human dimension makes consideration of effects extremely difficult. However, commanders and staff should aim to envisage all potential first order effects of their actions, as well as several possible second order effects. Where potentially adverse effects are identified, mitigation responses should also be determined. When intended or unintended beneficial effects occur, action must

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be taken to quickly exploit them.

Example of effects in support of a strategic objective

Strategic objective: The sovereignty of country X is maintained.

Supporting effects:

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

3063. Staff employs task verbs, or unique military effects definitions, that assist in the description of detailed planning. For ease of reference, a list of key task verbs and associated definitions is in Annex B.

3064. **Decisive Points**. A DP is a significant operational milestone that is considered to be a necessary step towards reaching the desired end state, achieving an operational objective, affecting an adversary's CF or protecting the friendly force's CF. DP set conditions, and describe effects on the adversary, friendly forces or in the OE to the advantage of friendly forces. It is vital that staff produce some form of narrative that explains the logic or reasoning why producing a particular effect will lead to achievement of the DP condition. This underpins the assessment strategy for each DP, and helps prompt work during the development of detailed COA later. The narrative, which can be summarised in each DP matrix, can be expressed in terms of 'if....then' for example, 'if friendly forces produce this effect, *then* the desired result will contribute to achieving the objective in the following way'). They can also be cross-referenced when refining assumptions and CCIR.

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3065. When each DP is laid out in logical terms, the means to assess any graduated achievement of the DP condition becomes clearer. Performance and effectiveness measures can be directly mapped to the logic path underpinning the LOO and operational objectives.

3066. DPs are used to sequence and synchronise tasks and activities to ensure resources are available. Consideration needs to be given whether the DP are relevant, achievable, viable and allowable (ie within identified limitations), as the commander must be willing and able to commit to the tasks required to achieve success.

3067. A DP:

- a. Articulates a purpose, outcome, task or effect.
- b. Measurable in terms of time, space and magnitude.
- c. Expressed in the past tense.

Example of a decisive point

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

3068. DP can demand physical effects, such as neutralising, disrupting, destroying, capturing or gaining control of a constricted sea lane, hill, town, cache, an air base, command post, critical boundaries, airspace, or communication facilities. In some cases, specific key events also may be DP, such as attainment of air or maritime superiority, triggering commitment of the adversary's reserve, opening a supply route during humanitarian operations, or gaining the trust of a key leader. In still other cases, DP may have a larger systemic impact and, when acted on, can substantially affect the adversary's information, financial, economic,

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or social systems.

3069. DP is the key to attacking or protecting a COG. In an opposed operation, the most important DP can be determined by an analysis of CF. Understanding the relationship between a COG's CC, CR and CV can illuminate direct and indirect approaches to affecting the adversary's COG.

3070. **Identifying Decisive Points**. Deriving DP to appropriately reflect the commander's operational approach is a crucial part of designing operations. DPs are primarily generated from:

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

3071. Initially it may appear that there are far more DP than can be attacked, seized, retained, controlled or protected with the forces and capabilities available. Accordingly, planners should study and analyse potential DP and determine which offer the best opportunity to reach the desired end state, achieve an operational objective, defeat an adversary's COG or protect the friendly force's COG. This will involve critical thinking and operational art to judge whether a particular condition or desired outcome merits being raised to an objective or lowered to a more tactical task supporting a DP. It is impossible to be prescriptive here due to the specific demands of each operation for example, one operation's objective might be a DP for another. Nevertheless, it is essential that a DP should be of the magnitude and importance that, if it were removed from a line (or lines) of operation, the objective(s) and, therefore, the desired end state could not be

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achieved. Furthermore, every DP should be utilised, otherwise it is not of the order necessary for the commander to gain a marked advantage.

3072. When a LOO has no COG that provides adversary CV, or in an OE where there is no adversary, DP are focused on achieving essential tasks and protecting own force vulnerabilities. The sum of the DP along a particular LOO should still result in the desired conditions to meet each operational objective, and achieve the desired end state. For example, a LOO for disaster relief at the behest of a stable nation may contain DP that realise the tasks necessary to assist in survivor search, provide mobile hospitals, facilitate other government department expertise, whilst ensuring that multiagency coordination is executed smoothly and health risks are minimised.

3073. **Decisive Point Matrix**. During COA Development staff will be required to provide the commander with a number of separate COA. On first inspection it is tempting to drop certain DP from different COA to make each COA more clearly distinguishable; however, as will be discussed more in Chapter 4, it is the alternative effects and necessary resources required that mean the same DP can be used across several discrete LOO and COA. Consequently, the matrices that provide the narrative and detail of each DP are vital descriptors of the condition or effect desired, the likely forces required creating that effect, the CV protected or targeted, the essential tasks fulfilled and an idea of activities and their location in the OE. DP matrices are not prescriptive by design and can be tailored to meet the commander's need. They will continue to be refined and mature as COA Development unfolds. An example DP matrix is in Annex C.

3074. When constructing a DP matrix, it is useful to consider:

- a. The primary focus for example, an operational objective.
- b. The supporting 'if...then' logic.

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- c. What CF are being affected for example, combat air patrol (capability).
- d. Tasking descriptor/effects verb for example, 'denied'.
- e. What tasks and activities will need to be executed to bring about the desired effect, by which indicative FE, and where in the OE (deep, close or rear is one method).
- f. An assessment plan that measures performance and effectiveness of the effects delivered, to inform progress towards successful achievement of the DP condition.
- g. Risk, in terms of the following:
 - (1) **Hostile Elements**. Adversary or combative elements with intent and/or capability to undermine the achievement of objectives such as capabilities, doctrine, religious or cultural issues.
 - (2) **Natural Environment**. Environmental factors such as terrain, weather/climate, flora and fauna, altitude, dust, floods, fire, cyclone, heat/cold.
 - (3) **Cultural and Man-made Environment**. Factors such as demographics, politics and religion, infrastructure/utilities, types of buildings, road conditions, lack of sewerage or safe water supplies, chemical or biological hazards.
 - (4) **Operational and/or Organisational Complexity**. Factors that can cause conflict, confusion or misdirection of effort such as strategic and operational direction, force composition, mission creep

and aims/expectations/capabilities of external agencies.

(5) **Resources**. The use, availability, suitability and quality of resources such as equipment and stores, finances, facilities, disposal and management of hazardous substances, inadequate maintenance, availability of additional resources and support services.

(6) **Personnel**. The FE composition and technical competence of personnel available/required, insufficient trained or qualified people to sustain operations.

(7) **Time and Space**. The available time and nature of the tasks to be completed such as the time available for the operation/activity, insufficient time for lead up training, rehearsals, acclimatisation, and vaccination.

(8) **Human Nature**. Human behavioural factors such as group dynamics, laziness, competitiveness, enthusiasm, tendency to 'cut corners', not following correct procedures, fraud, morale, fatigue, personnel problems, status of unit culture/ethos.

(9) **Legal, Media and Other Mandated Requirements**. Elements of legal, media and other mandated requirements that may limit freedom of action such as military/domestic/international law, political/strategic direction, local laws and customs, rules of engagement and status of forces agreements.

(10) **Reputation**. Activities that could compromise the integrity of the Malaysian Government and MAF, or portray operational tasks in a poor light such that domestic and international public support is

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eroded or damaged.

HYPOTHETICAL EXAMPLE
DETERMINE DECISIVE POINTS

1. Due to the level of detail required, determining DP involved most members of the planning team and took a relatively long time to complete compared to several other MA sub-steps.
2. To derive the DP for this operation, the planning staff examined several prior JMAP and JIPOE outputs. Although each of the prior outputs of JMAP became inputs into the determine DP sub-step, the most prominent prior outputs considered were:
 - a. The statement of the desired operation end state.
 - b. The list of operation objectives.
 - c. Own and adversary COG constructs.
 - d. The essential tasks list from specified and implied tasks.
3. These four key inputs into the determine DP sub-step were examined in detail and a broad list of possible DP relating to each of them was developed. This list took into account specific details from each of these prior outputs, such as key requirements for achieving each objective, own CV that needed to be protected, adversary CV that could be targeted or exploited, and essential tasks that must be completed. Possible DP were then cross-checked against several related planning outputs, including identified limitations and against the outputs of Framing, as well as against the criteria listed in paragraph 3067, to ensure that they were achievable, allowable, viable and relevant. Each DP was also assessed to determine if corresponding objectives could be achieved without the DP being achieved; such DP were removed from the list if that proved to be the case.

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

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

DP No.	DP	Input
1	Mission legitimacy/permission to enter MAZARI is granted by the GOM no later than D-2.	CF (Own CV)
2	Control of sea and air lines of communication from BLUELAND to MAZARI established no later than D-1.	CF (Own CV)
3	IO campaign against LANUNLAND commenced no later than D-1.	Essential Task
4	JTF FE deployed on order (D Day).	Essential Task
5	Point of entry into MAZARI secured on order (D Day).	CF (Own CV)
6	MAZARI critical infrastructure (oil fields in disputed region) secured no later than D+1.	Essential Task
7	Main supply routes within BLUELAND and MAZARI established and cleared no later than D+3.	CF (Own CV)
8	Air superiority established within MAZARI air space on order (not before D-1)	CF (Own CV)
9	Air superiority established within LANUNLAND air space on order (not before D Day).	CF (Adversary CV)

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10	BLUELAND citizens and Approved Foreign Nationals evacuated from MAZARI on order (not before D day)	Essential Task
11	LANUNLAND maritime task force interdicted on order (not before D Day).	CF (Adversary CV)
12	LANUNLAND amphibious lodgment in MAZARI defeated on order (not before D Day).	CF (Adversary CV)
13	LANUNLAND C2 nodes identified and destroyed on order (not before D Day).	CF (Adversary CV)
14	LANUNLAND forward supply storage and distribution points destroyed on order (not before D Day).	CF (Adversary CV)
15	LANUNLAND vehicles movement into BLUELAND blocked on order (not before D Day).	CF (Adversary CV)
16	Humanitarian aid delivered on order (upon requested by GOM; precise timeline TBC)	Essential Task
17	Criminal network operations in JFAO disrupted (as soon as possible; precise timeline TBC).	Essential Task
18	Key leaders of criminal network identified and captured (as soon as possible; precise timeline TBC).	Essential Task

SUB-STEP NINE: DEVELOP LINES OF OPERATION

3075. In an operation, a LOO links several DP on a path to the desired end state usually through an operational objective. It is a linear representation of the campaign or operation being designed to assist planners visualise the commander's operational approach to the problem.

3076. An operation may have one or more LOO. A single LOO has the advantage of concentrating forces and simplifying planning. Multiple LOO, on the other hand, increase flexibility, create more opportunities for success, and better represent the inherent complexities of contemporary operations. The decision to operate on multiple LOO will largely depend on the circumstances, but may be constrained by availability of resources. Examples of discrete LOO include:

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- a. Decisive manoeuvre.
- b. Counterinsurgency.
- c. Humanitarian action.
- d. Security sector reform.
- e. Building governance capacity.
- f. Anti-access/area denial (A2/AD).
- g. Anti-piracy.
- h. Counter-smuggling.
- i. Information activities.
- j. Civil-military cooperation.
- k. Environmental (air, maritime, land) and logistics.

3077. At the strategic and operational levels LOO may be used to group activities by function, such as combat, population protection, population support and/or reconstruction. When this occurs, LOO are likely to be mutually reinforcing and planners need to take into consideration the possibility that actions within one LOO may have either a positive or a negative impact upon actions or desired effects within other LOO.

3078. A generic example of an operation with multiple LOO is shown in Figure 3-4. In this example each LOO is comprised of several DP (which are represented

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by the numbered triangles) and proceeds towards achieving an operational objective. Because defeating the adversary's COG may be a prerequisite for achieving the end state, this may constitute an operational objective in its own right (LOO 3). Achieving all operational objectives will achieve the operational end state, which itself contributes to achieving either a military strategic objective (if the operation is part of a broader campaign) or the military strategic end state (if the operation is conducted independently).

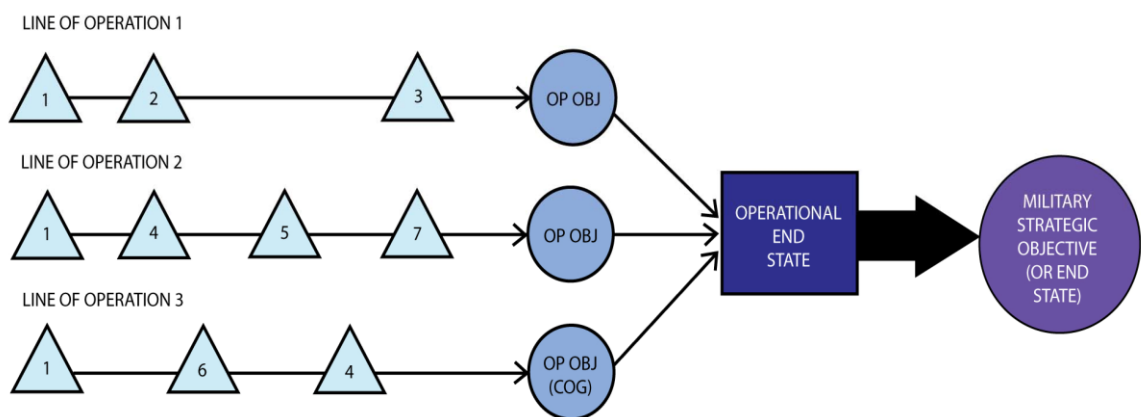


Figure 3-4: Example of an Operation with Multiple Lines of Operation

3079. **Developing LOO.** To develop LOO, planners visualise how the operation should progress, consider each DP, and determine the optimal sequence in which they should occur. DP are grouped and organised along logical, complementary lines, based on purpose, functionality, force availability, geographical location or type of effects required to achieve the objectives. A particular DP may be used across more than one LOO. When structuring LOO, it is important that the activities, events and effects outside of the military sphere be considered, including the government's application of other elements of national power instruments (Diplomatic, Information, Military and Economy (DIME)).

3080. The key factor in this final element of designing an operation is that there is a flow and logical sequence of activities and effects that clearly reflect the commander's operational approach to the circumstances and problem set. It should convey sufficient detail that, when combined with the commander's

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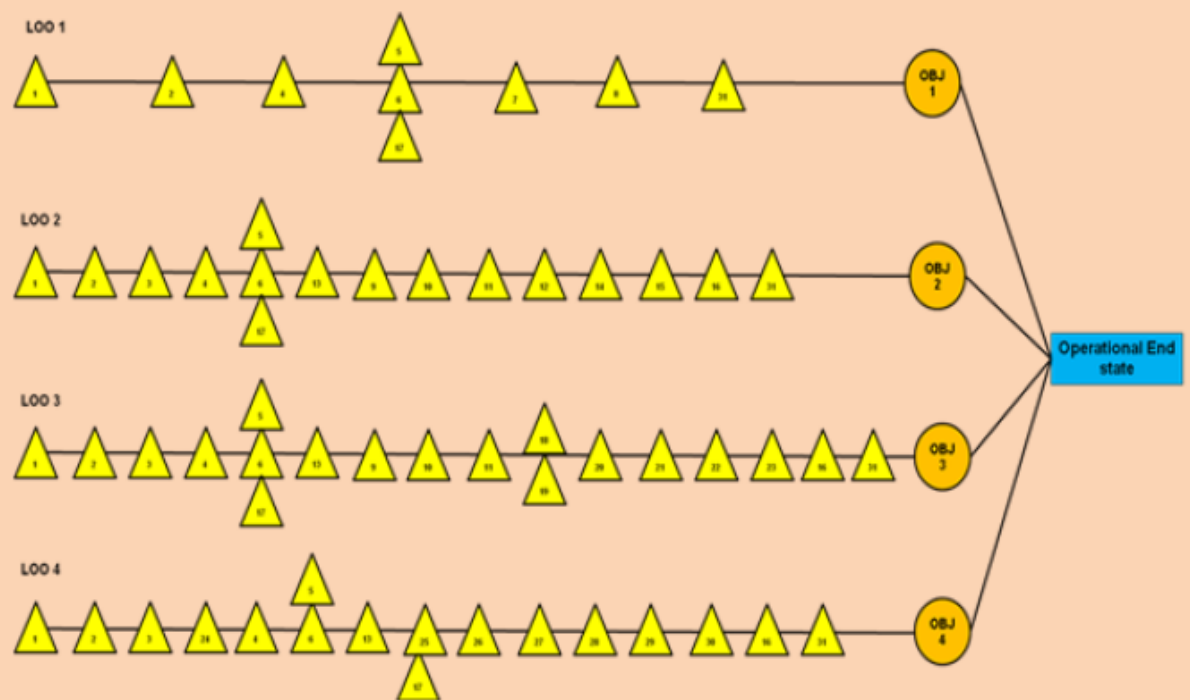
thematic guidance at the end of MA, the planning staff can continue to develop discrete, viable COA to analyse and compare before selecting their concept of operations.

HYPOTHETICAL EXAMPLE
DEVELOP LINES OF OPERATION

1. The final sub-step of MA was to organise the DP previously derived into LOO. For this sub-step the J5 divided the planning staff into four groups, one for each operational objective. The J5 then directed each group to focus on developing the LOO that would correspond to their designated objective. Each group was also instructed to develop its LOO without any reference to the other objectives, in other words they were told to conceive of their LOO as if they would need to conduct operations along it from beginning to end without any other activities happening concurrently. This measure was taken to stop the planning team from jumping ahead and organising LOO into different COA, and maintaining focus on designing the commander's operational approach into the LOO schematic.
2. Throughout the process of organising DP into LOO, the J5 moved between the groups and addressed alignment issues and questions, and at the conclusion of the process the J5 and a few of the more senior members of the planning team cross-checked the LOO against each other. (The finalized LOO diagram is pictured below; DP numbers correspond to those given in the previous part of this hypothetical example).
3. While cross-checking the LOO with one another the J5 noted three specific points about the LOO diagram, which seemed to align with potential issues identified earlier during the sub-step „determine objectives“. The first point was that deterring the LANUNLAND military had not been included in any DP (because it was an open-ended task and was not easily measurable).

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Deterring LANUNLAND was therefore not explicitly on any of the LOO. However, earlier on when they were deconflicting the group activities the J5 had instructed the group developing the LOO corresponding to Objective 2 (BLUELAND controlled territory is secured) to construct it on the assumption that the BAF operation would be sufficient deter LANUNLAND military aggression without the need for combat. The J5's thinking was that any other eventuality would result in a need to secure BLUELAND by defeating LANUNLAND— which is what the group planning the LOO corresponding to Objective 3 (LANUNLAND's military has been defeated) were already doing.



OBJ 1: NEO successfully conducted.
 OBJ 2: BLUELAND and MAZARI controlled territory secured.
 OBJ 3: LANUNLAND's military defeated.
 OBJ 4: Sufficient humanitarian aid delivered.

4. This point was closely linked to the second aspect that the J5 noticed about the LOO diagram, which was that up to DP 12 the LOO for both Objectives 2 and 3 were essentially the same. After that DP had been reached, either the BLAF operation would deter LANUNLAND or it would not. If it did, the LOO for Objective 2

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could easily be followed. If it did not, the LOO for Objective 3 would need to be followed. It was clear to the senior plans staff that these two points made it likely that LOO 3 could become a sequel to LOO 2; the J5 noted this but deferred making a decision until COA Development, when the detailed work would provide more clarity.

5. The third point the J5 noticed was that the LOO corresponding to Objective 4 (sufficient humanitarian aid has been delivered) could be followed with or without DP 25 being completed. These DP related to disrupting the criminal network activities that had been identified during Framing and achieving these DP would only be necessary if criminal network activities were assessed as threatening to disrupt the effective provision of humanitarian assistance. Once again, the J5 noted this and deferred any decision until COA Development.

MISSION ANALYSIS BRIEF

3081. The final activity and product of MA is a comprehensive briefing which ensures that the commander and staff confirm the operational design work, and are in agreement about the commander's intent, the mission, objectives and associated tasks, operational limitations, critical facts and assumptions and other important planning factors, including an initial identification of risk, possible campaign assessment methods and CCIR. After the brief, the commander must endorse the guidance, sometimes after iterative amendments, before separate COA are developed.

3082. The briefing format suggested in Annex 3D, the commander confirms:

- a. Intent of the mission.
- b. Desired end state.

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- c. Operational objectives.
- d. CCIR.
- e. Time factors and priorities.
- f. Risks to mission and personnel, and early mitigation strategies.
- g. JFAO and All.
- h. Any specific targeting and information operations factors.
- i. DP, and initial assessment strategies to gauge success.
- j. LOO schematic illustrating the commander's operational approach to the circumstances.
- k. Thematic direction to guide development of discrete COA (for an explanation of this thematic guidance see Chapter 4).

Annex:

- A. Mission Analysis - Aide-Memoire.
- B. Key Task Verbs and Definitions.
- C. Example Decisive Point Matrix.
- D. Suggested Mission Analysis Brief Format.

MISSION ANALYSIS AIDE-MEMOIRE

INPUTS	SUB-STEPS	OUTPUTS
(a)	(b)	(c)
Scoping and Framing outputs JIPOE steps one and two and at least adversary COG analysis from step three, strategic guidance	1. Review the situation: a. Review latest commander's guidance and intelligence information. b. Review products from Scoping and Framing: planning resources, time factors, descriptions of the observed and desired system, environment frame including key actor relationships, problem narrative, CCIR list, operational end state, probable FE, and any warning order issued. c. Refine earlier analysis of campaign assessment and lessons learned, own forces, disposition, readiness and notice to move states, and capabilities.	• Confirmation activities, and refinement of previous analysis and conclusions.
As above	2. Derive and Analyse Centres of Gravity.	• Own and adversary CF Matrix.

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(a)	(b)	(c)
As above, plus outputs from previous MA sub-steps	3. Determine Own Mission: a. Analyse superior commander's intent. b. Develop own mission.	• Superior commander's intent expressed in terms of purpose, method, end state • Mission statement.
As above	4. Determine Objectives.	• Meeting all objectives achieves the end state.
As above	5. Identify and Analyse Tasks: a. List Specified Tasks. b. List Implied Tasks. c. Identify Essential Tasks.	• Lists of specified and implied tasks and identified essential tasks.
As above	6. Determine Limitations: a. Constraints. b. Restrictions.	• List of limitations.
As above	7. Identify Critical Facts and Assumptions: a. List Critical Facts. b. List Critical Assumptions.	• List of Critical Facts. • List of Critical Assumptions. • Updated CCIR list.

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(a)	(b)	(c)
As above	8. Determine DP.	• List DP from targetable adversary CV, protected own CV and essential tasks.
As above	9. Develop LOO (operational approach schematic).	• Sequence DP along selected LOO to achieve operational objectives & end state.
Scoping and Framing outputs JIPOE steps one and two and at least adversary COG analysis from step three, strategic guidance MA sub-steps 1–9	10. Draft Commander's Guidance: a. Intent of the Mission. b. Desired End State. c. Operational Objectives. d. CCIR. e. Time Factors and Priorities. f. Risk and Early Mitigation Strategies. g. Specific Targeting and IO Factors.	Commander's guidance component of MA briefing.

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(a)	(b)	(c)
	h. JFAO and Intelligence Areas. i. DP and Assessment Methods. j. LOO Schematic (operational approach). k. Thematic Guidance To Form Discrete COA.	

KEY TASK VERBS AND DEFINITIONS

Most of the task verbs and definitions in Table 3B-1 are drawn from North Atlantic Treaty Organization (NATO) Standardisation Agreement 2287: *Task Verbs for Use in Planning and the Dissemination of Orders*. The list is not exhaustive and other appropriate terms may be used when deriving decisive point statements.

Task verb	Definition
(a)	(b)
Block	To deny access to a given area, or to prevent an advance in a particular direction.
Breach	To break through or secure a passage through an adversary defence, obstacle, minefield or fortification.
Canalise	To restrict operations to a narrow zone by use of existing or reinforcing obstacles or by fire or bombing.
Capture	To seize and hold an objective and/or gain possession of specified adversary personnel, materiel or information.
Clear	To remove resistance in an assigned area and/or cause an individual, group or organisation to leave a designated area.
Coerce	To compel an adversary to adopt a COA inimical to his interests through the threat or use of superior or overwhelming force.
Compel	To force, through kinetic or non-kinetic action, a group or individual to undertake a desired course of action.

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(a)	(b)
Contain	To restrict the movement of an individual, group or organisation to a defined area or to have or hold them under control. Related term: Block. Notes: This may also apply to diseases and disasters where the intent is to prevent its spread or the situation becoming worse.
Control	Physical or psychological pressures exerted with the intent to assure that an agent or group will respond as directed.
Convince	Bring to belief, consent of course of action.
Cover	The action by maritime, land, or air forces to protect by offence, defence, or threat of either or both.
Deceive	Cause an individual or group(s) to believe what is not true by manipulation, distortion or falsification of information to induce him to react in a manner prejudicial to his interests.
Defeat	To diminish the effectiveness of an individual, group or organisation to the extent that it is either unable or unwilling to continue its activities or at least cannot fulfil their intentions.
Defend	To repel an attack.
Degrade	To reduce the effectiveness, efficiency, strength or intensity of a given adversary capability.

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(a)	(b)
Delay	To prevent an individual, group or organisation from arriving at a specified location either for a specified length of time or until a specified time or event.
Deny	To prevent an individual, group, or organisation the use of space, personnel or facilities by physical and/or psychological measures.
Destabilise	Render an individual or group(s) unstable or create the conditions for collapse.
Destroy	To physically render a group or organisation ineffective unless it is reconstituted.
Deter	Discourage an individual or group(s) from carrying out a certain action by convincing them that the consequences of their actions outweigh the potential gains.
Develop	Advance friendly force capability and competence.
Discredit	Damage the credit or reputation of an individual or group(s).
Disengage	Break engagement in preparation for eventual withdrawal.
Dislocate	Deny an individual or group(s) the ability to bring strength(s) to bear, or to persuade that strength is irrelevant.
Disrupt	To neutralise or selectively destroy key elements of the adversary's capabilities by means of a direct attack. Note: The aim of disruption is to reduce the adversary's cohesion and will to fight by neutralising or destroying parts of his force in a manner that prevents the force from acting as a coordinated whole.

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(a)	(b)
Divert	Draw attention from the point of the principal activity, in so doing masking the intended operation or draw forces down a route or direction of own choosing
Empower	Promote confidence, authority, accountability and responsibility in an individual or group(s).
Envelop	Pass over or around an enemy's principle defensive positions.
Evacuate	Remove affected individual or group from a place of danger to a safer place.
Exploit	Take advantage of success in battle, by seizing opportunities, and following up initial gain(s). Or to take advantage of another individual or group(s) weaknesses or vulnerabilities.
Find	Detect, Recognise, Identify and/or Locate a unit, object, activity, situation, event or individual or group(s).
Fix	Deny the enemy his goals, to distract him and thus deprive him of freedom of action in order to gain own forces freedom of action. Note - An adversary may fix himself.
Guard	A form of security operation whose primary task is to protect the main force by fighting to gain time while also observing and reporting information, and to prevent adversary ground observation of and direct fire against the main body by reconnoitring, attacking, defending, and delaying.
Hold	Maintain possession by direct or indirect means.
Interdict	To keep an adversary force out of range so that it cannot be used effectively against a friendly force.

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(a)	(b)
Isolate	To seal off, physically and/or psychologically, an individual, group or organisation from its source of support, deny it freedom of movement, and prevent it from having contact with other opposing elements.
Neutralise	To degrade or negate an adversary's capabilities to such an extent that it is rendered ineffective.
Penetrate	A form of offensive which seeks to break through the adversary defence and disrupt the defensive system.
Prevent	Keep from happening, avert.
Protect	Prevent the enemy from having effect on an individual or group(s).
Reassure	Restore confidence or dispel fear.
Relieve	Release an individual, group (s) or unit(s) from duty by taking their place or cause (pain, distress, or difficulty) to become less severe or serious (in HADR Operation).
Retain	To occupy and hold a terrain feature to ensure that it is free of adversary occupation or use.
Secure	To gain possession of a position or terrain feature, with or without force, and to make such disposition as will prevent, as far as possible, its destruction or loss by adversary action.
Seize	To take possession of a designated area by force.
Shape	Engage in actions that enhance the friendly force's position, delay the adversary's response, or lead the adversary into an inadequate or inappropriate response in order to set the conditions for decisive action.
Stabilise	Impose security and control over an area while employing military capabilities to restore services and support civilian agencies.

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(a)	(b)
Support	Aid, complement or sustain another force, individual, or group(s).
Suppress	To temporarily degrade an adversary capability to enable a friendly action.
Turn	Force an enemy to adopt an axis of advance/approach which he otherwise might not select.
Undermine	Damage or weaken the authority or reputation of an individual or group.
Understand	Develop knowledge, intent and context of a unit, object, activity, situation, event or individual or group(s).

**ANNEX C TO
CHAPTER 3****EXAMPLE DECISIVE POINT MATRIX**

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

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Operational complexity	
Resources	
Personnel	
Time and space	
Human nature	
Legal and media	
Assessment Methods	
MOP	
MOE	
Degree to which DP has been successfully achieved	(Reviewed and updated after commencement of operations)

SUGGESTED MISSION ANALYSIS BRIEF FORMAT

LEAD	SUBJECT
(a)	(b)
COS/J5	Brief Purpose • Purpose of briefing • Time analysis (planning and operational)
J2	JIPOE • Current situation • AOE (including All and JFAO) • Adversary CF evaluation • Adversary COA (if available)
J3	Own Forces Review • Friendly CF analysis matrix • Operational preparedness status • Disposition and key capabilities
COS/J5	Planning Purpose • Superior commander's intent • Desired end state • Own mission • Tasks (specified, implied and essential) • Limitations (constraints and restrictions) • Critical facts and assumptions
J1	Personnel Operations Planning Factors • Personnel capabilities and factors. For example, rotation, conditions of service, medical, finance, mortuary affairs, etc • Personnel deductions and identified risks

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(a)	(b)
J4	Logistic Operations Planning Factors - Logistics capabilities. For example, movements, transportation, sustainment, host nation support, infrastructure - Logistics deductions and identified risks
J6	Communications and Information Systems Planning Factors - Operational environment analysis on CIS - Adversary's CIS and EW capabilities and COAs - Own force analysis (information flow analysis, availability, readiness, location) - CIS tasks, limitations and risks - CIS facts, assumptions, shortfalls and vulnerabilities - Time considerations
Other specialist staff	Capabilities, deductions and risks from selected specialist staff. For example, legal, health, information operations, targeting, other government departments, coalition staff
COS/J5	Commander's Guidance - Operational objectives - CCIR - Risks to mission and personnel, and early mitigation strategies - Decisive points and initial assessment strategies - LOO schematic illustrating the commander's operational approach - Thematic guidance for staff to create discrete COA
Commander	Commander's Summation and Priorities

CHAPTER 4

COURSE OF ACTION DEVELOPMENT

Executive Summary

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

INTRODUCTION

4001. COA Development requires military knowledge and experience, combined with operational art and design, to develop a number of different friendly forces COA. In MA, the commander's operational approach has been designed as a schematic expressed along (probably) several LOO. This work is then applied to the commander's thematic choices combined with other key factors to create several discrete COA, or alternative paths, to achieve the objectives and arrive at the desired end state.

4002. The number of COA developed will vary depending on the commander's desired themes, the other key factors and, as always, on time available to plan. Regardless of the number of possible COA, planning staff must be prepared to step back into Step 1 and 2 if insufficient detail is available, rather than continue on a trajectory possibly skewed by an excessive of assumptions. It could be that

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

4003. **Inputs**. The inputs to COA Development are derived from the outputs of MA and the JIPOE. They include:

- a. A mission statement (in the form of who, what, where, when, why).
- b. Lists of specified and implied tasks, and identified essential tasks.
- c. A list of limitations, separated into constraints and restrictions.
- d. Lists of critical facts and critical assumptions.
- e. An updated CCIR list.
- f. Campaign or operational objectives.
- g. For an opposed campaign or operation, friendly and adversary COG and CF analysis constructs.
- h. DP with their associated effects and conditions.
- i. DP matrices.
- j. Objectives and DP that have been organised into LOO which proceed logically in time and space towards the desired campaign or operation end state.

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4004. **Sub-Steps**. COA Development incorporates three sub-steps:

- a. Review commander's guidance and current situation.
- b. Develop detailed COA.
- c. Test COA.

4005. **Outputs**. The outputs of COA Development are:

- a. NAI and TAI identified.
- b. Updated CCIR.
- c. A number of fully developed COA that are each feasible, acceptable, suitable, sustainable and distinguishable ready for analysis.

4006. **Aide-Memoire**. A COA Development aide-memoire is in Annex A.

JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL ENVIRONMENT INPUT TO COURSE OF ACTION DEVELOPMENT

4007. COA Development commences with the outputs from MA, the JIPOE analysis of the operational environment and as much information on JIPOE steps three and four as possible. Close interaction between the planning and intelligence staff is needed throughout COA Development, such that the realities of the OE are fully understood, threat strengths and weaknesses are correctly identified and that the set of COA developed achieve the operational objectives.

4008. Data that should be available at the commencement of COA Development includes:

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

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

4009. At the commencement of this planning step it is critical that the products of MA and JIPOE are reviewed thoroughly. Although the JIPOE should have provided planning staff with the adversary's CF analysis and likely COA, the information may still lack depth or fidelity to the degree that staff may have to make further assumptions and add CCIR. A review of the outputs of MA and the JIPOE should also enable planners to determine NAI and TAI.

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4010. Throughout COA Development the situation should be constantly reviewed and reframed if necessary. Have the circumstances shifted? Is the political backdrop changing? Is the problem the same as when planning began? Does the adversary's CF require fresh study; do we know enough about key actor relationships? Staff should consider these questions carefully, and be prepared to revisit earlier steps of the appreciation process before proceeding further. If current details are either too vague, and conclusions still lack depth and maturity, or the problem and environment frames have shifted significantly, there is much merit in recommencing the entire planning process. Clearly, this will be a commander's decision if required.

HYPOTHETICAL EXAMPLE

(REVIEW COMMANDER'S GUIDANCE AND CURRENT SITUATION)

1. All members or staffs in the Joint Operation Planning Group (JOPG) will assemble and commenced the next step by reviewing the situation to clarify and seeking any relevant issues pertaining to the commander's guidance. The planning staff achieved this by breaking into small teams. Each team revised their previously assigned outputs, checking against JIPOE updates, answers to assumptions that had been on the CCIR list, and subsequent planning outputs. Each team reported its results to the J5. At the conclusion of this activity, a cross-functional briefing was held to update all planning staff with the most up-to-date information before COA Development commenced.

Receiving a JIPOE update

2. The J2 staff had now completed all four steps of the JIPOE and the J2 briefed planning staff about the remaining sub-steps. Of particular note was possible LANUNLAND military COA. The COA assessed as most likely was a central thrust into the MAZARIAN controlled part of the disputed area to seize and secure the oil fields. This would be followed by an expansion of force

presence until the entire disputed area was under LANUNLAND control. This would be gradual and piecemeal, so that LANUNLAND forces did not get overstretched, could consolidate gains and implement a robust resupply plan from the outset of the invasion. In this COA the amphibious task force was assessed as likely to be a deception plan and embarked forces were unlikely to be landed. Special forces would be used to conduct long range reconnaissance and possible small-scale raids in support of the invasion force itself.

3. The COA assessed as most dangerous was an invasion of MAZARIAN controlled territory from multiple lines of departure, with the aim of simultaneously capturing the oil fields and two key population centres on the MAZARIAN side of the disputed area. The invasion force would then quickly link up from these three points, forming a new makeshift border at the southern end of the disputed area and clearing internal parts of the area itself later. This COA would rely on speed and shock action to overwhelm MAZARIAN defences before a coherent counterattack could be mounted. This was a riskier COA for LANUNLAND because their motorised infantry brigades would initially be divided, and logistic support would be dispersed initially. Nevertheless, it was more dangerous because of the likelihood of overwhelming MAZARIAN resistance early in the operation. In this most dangerous COA LANUNLAND's amphibious task force was assessed as likely to land to conduct either a raid or a feint that would put additional pressure on the MAZARIAN military, furthering the likelihood of its command and control breaking down before a response to the situation could be made. It was assessed as likely that conventional forces were embarked aboard LANUNLAND's amphibious task force and the J2 provided a list of possible landing locations and objectives to the planning team. In this COA, LANUNLAND special forces would play more aggressive role conducting raids into MAZARIAN territory outside the disputed area, putting yet another element of pressure onto MAZARIAN forces.

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4. A list of possible targets for these raids was also provided by the J2. (Note: The most dangerous COA is based on an assessment of the extent of the threat posed to the success of BLUELAND operations. It is not based on the greatest threat to MAZARI or the MAZARIAN military. In this case the threat to BLUELAND operations from the most dangerous COA is greater due to the relatively large size of LANUNLAND's military and the multiple points at which it can threaten the BLUELAND JTF).

SUB-STEP TWO: DEVELOP DETAILED COURSES OF ACTION

4011. At the conclusion of the MA brief, the commander should have provided clear guidance about an operational approach to the problem and also given direction to explore a number of discrete themes to achieve the operational objectives. These may include:

- a. Different effects that will achieve the same DP condition and contribute to successfully meeting the objective and desired end state.
- b. Varieties of force composition and location.
- c. Time constraints and necessity to expedite force presence in the area.
- d. Speed and tempo required to achieve each objective.
- e. Capability to graduate response.
- f. Cost benefit in human and fiscal terms.
- g. Economy of effort.

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- h. Exploitation of specific domains.
- i. Differing degrees of operational risk.

4012. Based on this guidance, possible COA can now be developed. As well as being thematically different, alternative COA are also distinguished by other aspects such as:

- a. Geospatial distribution of tasks.
- b. Sequencing.
- c. Phasing.
- d. Focus of the Main Effort (ME).
- e. Variations to the JFAO.
- f. How supporting functions are integrated.
- g. Branches and sequels.

4013. COA should be refined to a manageable number that achieve the desired end state and should have sufficient detail to allow subsequent analysis before selecting the concept of operations.

GEOSPATIAL DISTRIBUTION OF TASKS

4014. Tasks should be allocated by space using deep, close and rear areas of the OE. Deep is that area in which the threat draws its strength or has its main resource base; close is the area in which the manoeuvre and contact occurs; and,

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rear is the area from which the friendly force is resourced. Spatial delineation helps break up the OE, and allocation of tasks and actions to geographic areas is captured separately in the synchronisation matrix. This document is the master matrix used during war gaming and displays the accumulated contents of all DP matrices combined with the geospatial perspective. See Annex B for an example of a simple synchronisation matrix.

SEQUENCING

4015. There are several aspects of sequencing to be considered during COA Development. These include the following:

- a. **Synchronisation**. Synchronisation allows for the execution of multiple related and mutually supporting actions, possibly across several domains and in different locations, timed to maximise their combined intended effects.
- b. **Simultaneity and Depth**. Simultaneity aims to paralyse the adversary command and control system by presenting it with so many simultaneous attacks or threats that it is unable to identify or implement a coherent response. Simultaneity has the most impact when it combines actions across all domains and reaches deep into the adversary's operational and strategic capabilities. Fully developed simultaneity denies an adversary force strategic direction, situational understanding, command and control, and support and manoeuvre. It is not an end in itself but, rather, lays a force open to the targeting of its CF.
- c. **Tempo**. Tempo is the rate of activity relative to the adversary, and comprises speed of adapting to changing circumstances, speed of decision, speed of execution, and speed of transition from one operation or action to the next. The belligerent that is able to consistently maintain

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higher tempo than its adversary tends to seize and retain the initiative and develop the campaign or operation on its own terms.

PHASING

4016. DP, and their associated tasks, are allocated and sequenced in time. Phasing is required when there is a major change to command and control (C2) arrangements or resources, when certain DPs are achieved, or upon completion of a particular task or group of tasks.

4017. Plans will normally contain lead-up phases (often called Prelim op or phase 1) prior to engaging the adversary. These lead-up phases are used to shape the OE and prepare/position forces to commence the decisive phases of a manoeuvre operation. Termination and redeployment actions should also be contained in a phased COA.

4018. Phases show where an operation cannot be further developed until set DP and activities are complete or a task organisation change is required. Phasing may also be required when insufficient forces are available to conduct all the required tasks at once. Sequencing a campaign or operation in phases helps both commanders and subordinates to focus on effects and understand how they can contribute to achieving the commander's intent. During operational planning, commanders should determine the conditions that must be met before transitioning from one phase to the next can occur. The aim in phasing an operation is to maintain continuity and tempo.

4019. Figure 4-1 shows an operation divided into phases. Note that the line between phase 1 and phase 2 runs through DP 6. This indicates that achieving this DP is the point at which the operation will commence phase 2. The line between phase 2 and phase 3 does not intersect with any DP, indicating that phase 3 commences after all DP in phase 2 have been achieved (the time for this will need to be specified within the plan).

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Figure 4-1: Phases in a Course of Action

MAIN EFFORT

4020. Each phase should be identified by its ME. This is what the commander thinks is going to prove decisive and provides a focus for activities that are considered as crucial to success of the campaign, operation or phase. Supporting efforts should also be identified. For example, the main effort for one phase might be ISR and a supporting effort might be logistic support to a forward operating base from which ISR is conducted.

JOINT FORCE AREA OF OPERATIONS

4021. Discrete COA may be differentiated by alternative boundaries of the JFAO that still achieve the desired end state. Again, in consultation with other joint staff functions, and higher level stakeholders, such as other government departments and/or multinational partners, dimensions of the JFAO may be a distinguishing element between COA. The choice of most appropriate JFAO to achieve the end state will allow the effective cueing and employment of all units, weapons and systems, balanced with sufficient C2 to maintain the optimum span of control to carry out the mission.

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INTEGRATION OF SUPPORTING FUNCTIONS

4022. At the operational level a range of supporting functions are central to achieving the mission. Each of these supporting functions generates planning inputs to, and requires direction from, the JPG. The factors considered by the supporting functions will inform any COA being developed. In each case, the supporting functions will produce a range of options with which to support the plan effectively. Those supporting functions likely to contribute to the plan include:

- a. Intelligence, including collection operations.
- b. Legal, including rules of engagement.
- c. Sustainment, including personnel, logistics and health.
- d. Communication and information systems management.
- e. Joint fires, targeting and information activities.
- f. Force protection and operations security.

BRANCHES AND SEQUELS

4023. The sequence of events leading to the desired end state is not rigid. A commander needs the flexibility to change the order in which activities occur, to rebalance across LOO and to shift the main effort. During planning this flexibility is aided by the identification and preparation of branches and sequels, both initiated by a CDP.

4024. **Commander's Decision Point.** A CDP is a point along a LOO at which

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

4025. A CDP always precedes a branch or sequel; it may occur before transitioning to a new phase, before an operational pause or between DP. The conditions may describe the threat position, own force situation, the OE or all three. The articulation of CDP also assists the decision-making required to synchronise all capabilities of the joint force focusing effort on achieving the desired end state. As a result, appropriate ISR capabilities are positioned to report on NAI and TAI, which inform on the adversary's posture captured in CDP matrices.

4026. The matrix is a vital component of the commander's decision-making capability and is closely linked to CCIR which, in part, will confirm the adversary's posture and assist in clarifying decision options in the matrix. It informs and draws from the draft collection plan, since it is the accumulation and interpretation of a variety of indicators and warnings that will allow the commander to judge whether to continue down a LOO, branch to other DP, or enact an operational pause until the desired operational conditions are in place. An example CDP matrix is in Annex C.

4027. **Branches**. A branch is an option for a particular phase within a LOO, designed to anticipate DP and provide the commander with sufficient flexibility to maintain the initiative. It involves a deviation from, then return to, the same LOO. The addition of a branch creates flexibility within a plan by anticipating situations that could require other responses than the main LOO provides. Such situations may result from adversary action, availability of friendly capabilities or resources, or a change to conditions within the OE. The relationship between a LOO and a branch is graphically represented in Figure 4-2.

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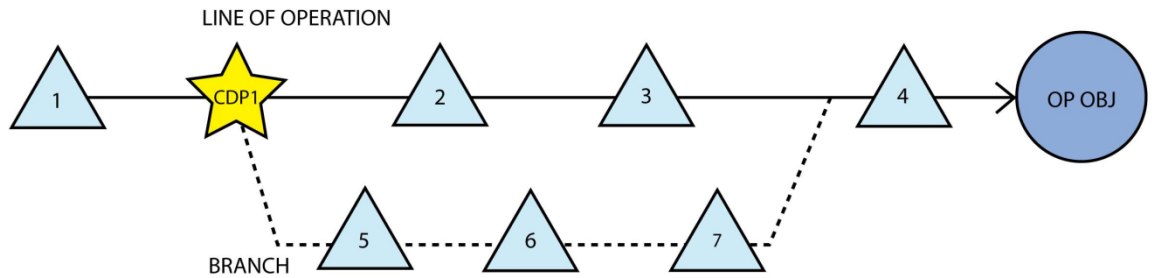


Figure 4-2: A Line of Operation Showing a Branch

4028. **Sequels**. A sequel is significant shift in focus and identifies a new LOO in a campaign or operation plan. Planning a sequel would likely be required because there may be an alternate objective that the commander wishes to account for that would become clear once a CDP matrix described the conditions and options. Alternatively, a sequel may be required after execution and, as the plan unfolds, a significant shift in operational direction has occurred that, after reframing the situation, results in a new objective and LOO. This new direction could be initiated by fresh strategic guidance, or by events in the JFAO that have affected the desired end state.

4029. Reframing may produce a new operational objective that cannot be achieved by the current LOO, and so a CDP matrix is created to frame the conditions necessary to diverge from the main LOO and on to the sequel, with the probability that fresh DP will need to be constructed. The relationship between a LOO and a sequel is graphically represented in Figure 4-3, whereby the sequel leads to achieving a different operational objective to that of the original LOO.

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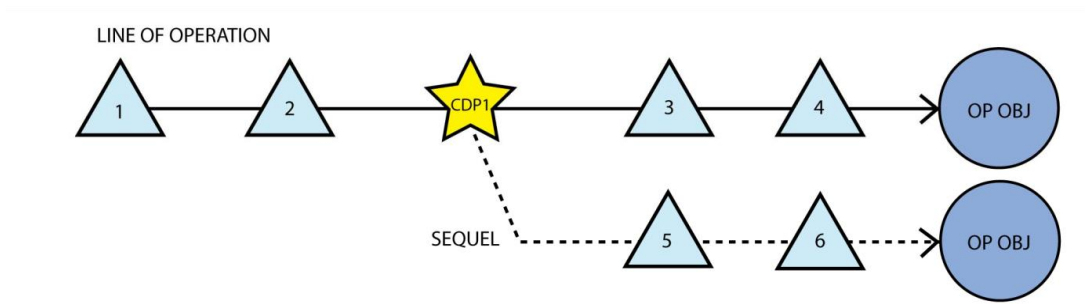


Figure 4-3: A Line of Operation Showing a Sequel

DECISIVE POINTS

4030. Part of creating a number of discrete COA is the analysis of each DP to differentiate how they can be achieved, especially in terms of desired effects and indicative forces to be employed. The commander should have stated at the conclusion of MA that the designed LOO, and DP identified, should be framed as separate COA along particular themes. Planning staff need to assess each DP along these thematic lines and decide on possible alternate effects and indicative forces that would still result in the successful achievement of the DP condition or provision of the overall effect. For each separate COA, this requires revision of any DP narrative explaining why it is assumed that creating a particular effect will result in achieving the desired condition or outcome.

4031. For example, a DP on a decisive manoeuvre LOO may seek to 'deny Country X forces from lodging in Country Y by D+10'. It contributes to undermining the Country X COG of 'JTF' and its capabilities to project force, which is also an operational objective. Even laying aside the commander's specified themes, there are several effects and actions that might achieve this outcome. Example, blockade, strategic attack, amphibious task group lodgement, airborne operations, diplomacy and information operations. Each COA will demand different resources, timings and logistic support, and another DP will have to reflect the overall emerging COA. Clearly, certain DP are capable of supporting all COA. Similarly, some may have been applied across several or

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all LOO in the original operational design schematic, but may not be suited to expressing a particular theme. For example, force preparation, conduct ISR or secure air lines of communication.

4032. Additionally, new DP could be identified as a result of closer scrutiny of the LOO, commander's themes and associated activities which were not obvious during earlier planning work. This might be due to more detail from the JIPOE and intelligence collection products, as well as the commander's operational approach and schematic being refined. It may be that a new and specific DP is necessary to reach the objective of one particular COA. If planning staff believe that achieving such a condition is worthy of it being a DP rather than a supporting effect within another extant DP, consideration should also be given to including it on the primary operational design LOO schematic. Furthermore, DP along the LOO may require sequencing in a different order from the initial design. This includes the option of placing new and/or extant DP on branches or sequels. In sum, each COA should use all of the design schematic DP, but certain COA may rearrange the sequence, and employ new DP along a LOO, particularly if a branch or sequel is required.

ADDITIONAL CONSIDERATIONS

4033. **Culminating Point**. A culminating point is the point in time and space beyond which a force lacks the means to achieve an objective or the desired end state. For example, this may be due to reduced combat power, attrition, logistics, or dwindling national support. Obviously, a successful campaign or operation should achieve its objectives before reaching its culminating point. During planning for each COA, staff should ensure that the plan can be implemented without culminating; this should become much clearer after COA Analysis is complete.

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4034. **Operational Reach**. Operational reach is linked to a FE culminating point and is therefore a form of risk to the success of the campaign or operation. Although operational reach may be limited by the OE, it can be extended by the forward positioning of capabilities and resources. When developing LOO, planners should ensure that the FE allocated to a LOO have the operational reach to achieve their objectives and transition to the next phase of the campaign or operation.

4035. During MA, limitations, in terms of constraints and restrictions, were considered. Immutable, physical limitations on the operation such as likely weather patterns, payload and range of aircraft, runway pavement classifications, or availability of commercial sealift, for example, are not strictly part of that intellectual exercise. However, they can be more closely analysed now for specific impact on each COA as the detail becomes apparent. Certain COA may be limited in action and flexibility due to their demand for resources that have fixed parameters or availability.

4036. **Operational Pauses**. Operational pauses are sometimes unavoidable. As a campaign or operation progresses, logistics demands, the desire to wait for more favourable circumstances within the OE (articulated in CDP matrices), the need to reconstitute forces or a shift in the main effort may impose a need for an operational pause in order to avoid reaching a culminating point. However, operational pauses risk surrendering the initiative to the adversary; as friendly forces recover and reset so does the adversary; and so are only justifiable when there are no alternatives. As far as possible, planning should aim for the sustainment of superior tempo until the conclusion of an operation. This will have an impact on phasing.

4037. **Force Assignment**. Once the phasing's completed, and the COA fully developed, indicative force assignment can be created. This force assignment should draw upon the forces identified during MA, and the possible forces

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required to achieve each DP as outlined in the DP matrices. This will identify to the commander any shortfalls that exist and highlight critical elements, timings and reserves. C2 arrangements can then be refined further if necessary.

4038. **Command and Control**. C2 arrangements should be determined for the entire COA, including points at which the arrangements change. Critical C2 components should also be determined since they may impact operational risk. In all circumstances the commander requires communication and information systems to discharge command responsibilities at all levels and to direct and monitor the execution of operations. The choice of HQ location should be made to optimise the commander's ability to influence the operation as it develops, while being mindful of possible vulnerabilities.

4039. Designated states of command determine the C2 authority a commander has over assigned FE, limitations on how the commander may employ those FE, how long the FE will remain under extant C2 arrangements, and whether the commander can further assign C2 of FE to a subordinate commander or not. For further information about states of command see MAFJD 0-02 - Command and Control in Joint Operation.

4040. **Operational Risk Management**. Having identified threats, hazards and risks during MA, the DP matrices can be refined to articulate mitigation and control measures that can be analysed during war gaming to leave residual risk. To allow the commander to maximise operational potential, an objective risk matrix, balanced by intuition and experience, is developed further. In doing so, staff must consider the various risks attached to apportioning capabilities and rates of effort to achieve objectives and tasks.

HYPHOTHETICAL EXAMPLE
(DEVELOP DETAILED COURSE OF ACTION)

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

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

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

- a. Successful conduct of a non-combatant evacuation operation (NEO).
- b. Assistance in delivering humanitarian assistance if requested by another agency within the JFAO.
- c. Conduct of comprehensive information activities to deter LANUNLAND from invading MAZARI.

(Note: In accordance with the commander's thematic guidance further COA may be developed based on the various factors that complement each of the three themes (see paragraphs 4011 and 4012). For example, within the 'land

force heavy' theme multiple COA may be developed by using different sequencing, phasing, tasks and force composition. Development of additional COA within each theme is viable when enough planning time is available and is not further elaborated in this example).

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

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

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

b. Identification of different joint force areas of operation. Each COA's JFAO was unique because it matched the theme for that COA. Because the land force light COA relied more heavily on air power than the others, the JFAO extended to the airspace of the entire deep area (which was assessed to be the whole of LANUNLAND). The offshore COA JFAO extended furthest out to sea, while the land force heavy COA had the smallest JFAO, centred on the MAZARIAN controlled part of the disputed area.

c. Identification of different phases. Although phases were similar (all COA had some variation of a phase encompassing preliminary actions and another encompassing redeployment at the conclusion of hostilities), they were nevertheless varied based on the theme of each COA. For example, the offshore COA had four phases, phase 2 involving deployment of the amphibious task group to MAZARI waters, conduct of demonstrations and extensive information activities and phase 3 involving the conduct of a lodgement and land operations in the case that deterrence failed. For the other COA these actions were all included in a single phase and it was expected they would occur in a different order within that phase.

d. Identification of different force element requirements. Each COA needed FE to suit its theme. For example, the land force heavy option had far more land-based FE than either of the other two COA, and also had a much higher percentage of land forces than either maritime or air FE. The other two COA had a more even balance of FE. Revision of COG analysis to suit each COA. The friendly force COG analysis was refined for each COA because each emphasised the importance of a different FE. For the land force heavy option, armoured forces emerged as the COG; for the land force light option, fighter aircraft were selected; and for the offshore option, amphibious ships DP

were selected; and for the offshore option, amphibious ships DP related to protecting own COG and defeating the adversary's COG were subsequently amended to reflect the updated COG analysis.

e. Identification of different force element requirements. Each COA needed FE to suit its theme. For example, the land force heavy option had far more land-based FE than either of the other two COA, and also had a much higher percentage of land forces than either maritime or air FE. The other two COA had a more even balance of FE. Revision of COG analysis to suit each COA. The friendly force COG analysis was refined for each COA because each emphasised the importance of a different FE. For the land force heavy option, armoured forces emerged as the COG; for the land force light option, fighter aircraft were selected; and for the offshore option, amphibious ships. DP related to protecting own COG and defeating the adversary's COG were subsequently amended to reflect the updated COG analysis.

f. Identification of different main efforts. In addition to different FE providing the designated ME for each COA, a further differentiation was that in some COA the ME changed between phases, in others it did not. For example, in the land force heavy COA, mechanised forces provided the ME for the entire operation. In the offshore COA the amphibious task group executed the ME for phase 2, but land-based FE then dictated the ME once a lodgement had commenced.

g. Sequencing was differentiated. Differentiation of sequencing was a natural by-product of the use of different FE and the selection of different JFAO – without a corresponding difference in sequencing, each COA would not have been workable.

h. Integration of supporting functions was differentiated. Integration of support functions happened across a range of aspects for each COA. For example, in the land force light and offshore COA; collection operations were more heavily dependent on aerial sensors, such as reconnaissance and surveillance aircraft, whereas the land force heavy COA emphasised a balance between these and collection of human intelligence by land FE.

i. Revision of the lines of operation and development of different branches and sequels. The group developing each COA revised the LOO diagram designed during MA. This revision led to two key differences between each COA:

(1) First, the position of particular DP along each LOO varied according to the phase within each COA. For example, for the land force heavy COA the sequence of DP on the LOO corresponding to the objective 'MAZARIAN controlled territory is secure' remained unchanged from the initial LOO diagram, but some DP were moved forward or backwards along the LOO to correspond to their temporal position within the respective phases of the operation. The offshore COA, on the other hand, removed DP 5, 6, 18, 7, 10 and 11 from this LOO entirely and derived a new DP in their place: 'conduct of information activities commenced no later than D-1'. For this COA, the LOO corresponding to the objective 'LANUNLAND's military has been defeated' commenced with a CDP (if deterrence failed) and did not begin until phase 3, when the lodgement was to occur. For the land force heavy COA, the early presence of BLUELAND land forces in MAZARI negated the need for any of these alterations.

(2) Second, the position of branches and sequels was different. For example, coordinating closely with the three groups of planners developing COA aligned with the three generic themes, the group developing the land force heavy COA identified a sequel I, a branch and three CDP for their own COA. It was determined that the LOO corresponding to the objective 'LANUNLAND's military has been defeated' would become a sequel to the LOO corresponding to the objective 'MAZARIAN territory is secure'. The CDP corresponding to this sequel would be triggered by an assessment that deterrence of LANUNLAND had failed. The most likely indicator of this would be that LANUNLAND's military crossed the makeshift border within the disputed area. A second CDP was established at the beginning of the LOO corresponding to the objective 'sufficient humanitarian assistance has been delivered'. This CDP would initiate activities on that LOO, and its trigger would either be receipt of a request from another BLUELAND government department for assistance, or the determination that military activities were worsening the existing humanitarian problems in the area. It was also determined that actions against the criminal network would become a branch within this LOO and a third CDP would be triggered if, delivery of humanitarian assistance having commenced, confirmation was subsequently received that activities of the criminal organisation were interfering with efforts on this LOO. In this case, the commander would switch to the branch and commence counter-criminal organisation activities.

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SUB-STEP THREE: TEST COURSES OF ACTION

4041. The principal test of a COA is whether it meets the commander's intent and mission. Once developed, COA should be tested for:

a. **Feasibility**. For a COA to be feasible, planners must be able to answer 'Yes' to the following questions.

(1) **Time**. Is there sufficient time to execute the concept as envisioned?

(2) **Space**. Is there adequate ground and/or air space to conduct the operation?

(3) **Means**. Are indicative forces capable of deploying and sufficient to conduct the operation?

(4) **Limitations**. Does the COA take into account all the constraints and restrictions identified during MA?

b. **Acceptability**. The COA is assessed for acceptability by comparing the probable risk versus the probable outcome of the COA in fulfilling the superior commander's intent. The overall risk includes the operations security risk. If the probable risk is too great in light of the desired outcome, the plan is unlikely to be acceptable.

c. **Suitability**. For a COA to be suitable, planners must be able to answer 'yes' to the following questions.

(1) Has the superior commander's intent been met?

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(2) Have all tasks been accomplished?

(3) Does the COA conform to commander's guidance and relevant theme?

(4) Is this COA likely to avoid culminating and succeed in reaching the desired end state?

d. **Sustainability**. The COA is assessed for sustainability during each phase by deep, close and rear areas. Have the planning staff allowed enough time for forces to prepare, deploy and reconstitute for subsequent operations? Is the logistics support for this COA realistic, and are costs reasonable or within any guidelines?

e. **Distinguishability**. The COA is assessed on its uniqueness in comparison with other COA. Each COA should be a viable alternative and substantially different from other COA.

4042. Planning staff should not immediately discount or discard COA that do not meet the necessary criteria. Instead, these COA should be further assessed to determine whether or not they could be developed as deception plans, or stored for possible use in future circumstances.

**HYPHOTHETICAL EXAMPLE
(TEST COURSES OF ACTION)**

The J5 worked with each of the three groups planning the primary COA – labelled land force heavy, land force light and offshore COA, respectively. Each COA was subjected to a series of questions aligning with the areas identified in paragraph 4041 and it was determined that each met all the required criteria to be considered as feasible, acceptable, suitable, sustainable and distinguishable. The testing at this time was conducted quickly and only looked for major problems. The J5 and staff knew that more comprehensive analysis would be conducted during war gaming as a part of COA Analysis. In accordance with the planning timeline established in the Scoping sub-step of Scoping and Framing, testing the COA concluded the second day of planning.

COURSE OF ACTION DEVELOPMENT BRIEF

4043. COA Development concludes with a briefing to the commander and/or JOPG, which details all COA developed. The commander assesses which COA are to be further developed through war gaming and provides any further guidance on modifications to the selected COA. The number of COA taken forward will often depend on available time for the war game. Subsequent to any briefing, formal staff work may be developed based on COA Development products, and disseminated to subordinate HQ to enable parallel and sequential planning.

4044. An example of a COA Development brief is in Annex D.

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Annexes:

- A. Course of Action Development Aide-Memoire.
- B. Simple Synchronisation Matrix Template.
- C. Commander's Decision Point Matrix.
- D. Suggested Course of Action Development Brief Format.

COURSE OF ACTION DEVELOPMENT AIDE MEMOIRE

INPUTS	SUB-STEPS	OUTPUTS
(a)	(b)	(c)
Scoping and Framing, MA, JIPOE Steps three and four	1. Review commander's guidance and current situation: a. Review completed planning, reframe if the situation has changed. b. Is the thematic guidance sufficiently coherent to continue planning COA?	Confirm LOO schematic relates to superior commander's intent and mission
As above	2. Develop detailed COA. Each COA is thematically distinguishable due to: a. Different effects that will achieve the same DP condition and contribute to successfully meeting the objective and desired end state. b. Varieties of force composition and location.	• Detailed COA with DP matrices • Outline synchronisation matrices by phase • CDP, branches and sequels identified

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(a)	(b)	(c)
	c. Time constraints and necessity to expedite force presence in the area. d. Speed and tempo required to achieve each objective. e. Capability to graduate response. f. Cost benefit in human and fiscal terms. g. Economy of effort h. Exploitation of specific domains or environments. i. Differing degrees of operational risk.	
	3. Other factors unique to each COA may include: a. Geospatial distribution of tasks. b. Sequencing. c. Phasing. d. Focus of the main effort e. JFAO. f. How supporting functions are integrated. g. CDP, branches and sequels.	

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(a)	(b)	(c)
As above	4. Test COA for: a. Feasibility b. Acceptability c. Suitability. d. Sustainability e. Distinguishability.	A number of valid COA ready for analysis

SIMPLE SYNCHRONISATION MATRIX TEMPLATE

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

Note:

Adversary action (phase and ME) content is added in the next JMAP step COA Analysis. Example of Synchronisation Matrix as Appendix 1 and Completed Synchronisation Matrix as Appendix 2.

APPENDIX 1 TO
ANNEX B TO
CHAPTER 4

SYNCHRONISATION MATRIX (EXAMPLE 1)

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

Note:

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

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SYNCHRONISATION MATRIX												
Friendly Action	Though detailed ISR NEF force disposition will be identified providing greater fidelity on NEF intent while enhancing current I&W. PAM forces will conduct final workup activities to reach full operational capability and liaison element will be establish in TI.					Though detailed ISR NEF force disposition will be identified providing greater fidelity on NEF intent while enhancing current I&W. PAM forces will conduct final workup activities to reach full operational capability and liaison element will be establish in TI.						
Adversary Action	NTF-53 will focus on the detailed ISR of TUPAM force preparation utilising the SSG, fishing fleet and MPA. The MPA will also attempt to provoke hostile action from TUPAM forces in order to legitimise NEF hostile action in response. The main effort for NEF forces will be focus on force preparation under the guise of exercise Northern Thunder					NTF-53 will focus on the detailed ISR of TUPAM force preparation utilising the SSG, fishing fleet and MPA. The MPA will also attempt to provoke hostile action from TUPAM forces in order to legitimise NEF hostile action in response. The main effort for NEF forces will be focus on force preparation under the guise of exercise Northern Thunder						
Phase	PHASE ONE					PHASE ONE						
Date	13-Jul-12		14-Jul-12		15-Jul-12		16-Jul-12					
Time	D - 48 to D - 36		D - 36 to D - 24		D - 24 to D - 12		D - 12 to D		D to D + 12	D + 12 to D + 24	D + 24 to D + 36	D + 36 to D + 48
Task	Establish FMB Magillos		Establish FMB Magillos		Establish liaison with TI		Establish FMB Magillos		Establish FMB Magillos		Establish liaison with TI	
	Conduct MCM IVO Magillos Hbr		Conduct MCM IVO Magillos Hbr		Commence IO Campaign		Conduct MCM IVO Magillos Hbr		Conduct MCM IVO Magillos Hbr		Commence IO Campaign	
	Conduct RAS		Conduct RAS		SF augmentation of NEF Emb		Conduct RAS		Conduct RAS		SF augmentation of NEF Emb	
	ABN/ATG workups complete		ABN/ATG workups complete		SF augmentation of NEF Emb		ABN/ATG workups complete		ABN/ATG workups complete		SF augmentation of NEF Emb	
Main Effort	ISR					ISR					ISR	
ISR	Deep	ODGIA to conduct Strategic ISR of key NEF installations focussed on I&W of NEF preparation / intent										
	Close	SF CPAI is to deploy to the PAM embassy in NEF and plan options to ensure the safety of PAM/AFN within NEF, while providing limited ISR										
	Rear	92 WGS MPA commences ISR IVO approaches to TI (NAI1), priority is to locate and report on the build up NEF NTG/ ATG and SSG location										
	Rear	92 WGS MPA to conduct ISR IVO approaches to PAM (NAI 7.8 & TAI 8, priority is to locate and monitor the NEF fishing fleet movement and locate NEF SSG										
SOCC	Deep	1 x Tp SASR deploy to TI ISO TPI 1 x SASR Tpi provide training / assistance to TI police force										
	Close	Remaining SASR FE and Cdo Elm to conduct Force prep and move to FMB Magillos										
	Deep	SSG transiting to IVO NEF IOT provide ISR in NAI 3.6 & 8										
	Close	SSG in location IVO NAI 3.6 & 8										
MCC		Commence MCM for Magillos Hbr and approaches										
		CDT commence conduct of REA										
		CDT deploy to TI										
		NTG/ATG Sail for TI										
LCC	Deep											
	Close											
	Rear	2 PIB Grp conducting final operation build up Rehearsal exercises										
	Deep	1 PIB Grp conduct final force preparation and move to MUP with the 1 APG Grp load onto ATG assets										
ACC	Close	77 SQN provide CAP to support MPA ISR in NAI 1										
	Rear	75 SQN & 33 SQN conduct AAR workup										
	Deep	4 x C130H (36 SQN) to support 2 PIB Grp										
	Close											
LOG	Deep											
	Close											
	Rear											
	Deep											
TIDF/IIPOL	Rear	Commence Force preparation, FMB Magillos to be operational NLT D+12 h										
	Close	Commence VAP/RAS on TI										
	Deep											
	Close											
IO	Deep	IO Campaign conduct in NEF seeking to undermine NEF Military capability equipment and leadership. NEF Military actions are unlawful and unacceptable.										
	Close	Aggression against TI is not in the best interest of NEF people										
	Rear	IO Campaign commenced to reinforce the relationship between PAM and TI, confirm the PDF is not treat to TI and reinforce the genuine threat that NEF presents to TI sovereignty										
	Deep	PDF are a professional fighting force and will be resolute in the defence of our national interests, our cause is just										
ASSUMPTION												

**ANNEX C TO
CHAPTER 4****COMMANDER'S DECISION POINT MATRIX**

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

SUGGESTED COURSE OF ACTION DEVELOPMENT BRIEF FORMAT

LEAD	SUBJECT
(a)	(b)
COS/J5	Purpose of brief and timing
COS/J5	Situation review
J2	Changes (only) to current situation, environment effects and JIPOE
J5/J3/J2	<u>COA Brief</u> Outline the range of COA options and associated DP then, for each detailed COA, brief: • Outline COA objective and supporting diagram. • Detailed COA statement • Adversary COA exploited, countered or risk managed. • Effects achieved. • ME. • CDP, branches and sequels. • Risk deductions and risk statement. • COA integration and coordination (synchronisation). • Time and phasing. • Tasks within JFAO deep, close, rear and/or domains. • Supporting functions (eg legal, targeting and IO). • COA force assignment and C2 structure.

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(a)	(b)
J3	Joint or environment/component operations considerations
J2	Intelligence key supporting concepts
J1	Personnel and health key supporting concepts
J4	Logistic support key supporting concepts
J6	Communication and information systems key supporting concepts: • OE analysis on CIS • Adversary analysis (nodes, C2, information flows, mostly likely and most dangerous COA, CIS capabilities, critical nodes, EMS usage) • Friendly force analysis (C2, possible nodes and information flows, available CIS assets) • Presentation of COAs (outline communications diagrams, EW concept, services to be provided, locations, resources required, mission critical paths and support to decisive points, C2) • CIS shortfalls
Specialist staff (as required)	Specific support function staff as required. Note: the command and staff organisation of the HQ will dictate how the supporting functions are managed and hence how the functions are briefed. May include external liaison officers from multinational partners and other government departments.
Commander	Select COA for analysis

CHAPTER 5

COURSE OF ACTION ANALYSIS

Executive Summary

- This step allows planners to identify the advantages and disadvantages of each course of action.
- Course of Action Analysis involves two sub-steps:
 - Prepare to conduct war game
 - Conduct war game
- The key to successful Course of Action Analysis is the war game process that validates each course of action to determine workability, strengths and weaknesses.

INTRODUCTION

5001. Step 4 in JMAP is COA Analysis. It analyses friendly COA against adversary COA or threat scenarios using a selected war gaming method. A war game simulates, by whatever means, a military operation bringing together two or more actors (opposed or not) to study the consequences of their interaction. The object is to expose flaws in the friendly COA particularly when pitched against adversary COA, so as to refine and improve the friendly COA. The military experience and operational art of commanders and staff are paramount to validate and verify each friendly COA against the adversary's most likely and most dangerous COA, or any non-adversarial threat scenarios.

5002. **Inputs**. Inputs are the COA that was developed during COA Development plus additional input from the JIPOE.

5003. **Sub-Steps**. There are two sub-steps in COA Analysis:

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- a. Prepare to conduct war game, including:
 - (1) Determine participants.
 - (2) Staff organisation.
 - (3) Orchestration.
 - (4) Determine war game start state.
 - (5) Select war game method.
 - (6) Select war game recording method.
- b. Conduct war game.

5004. **Outputs**. At the conclusion of this step each COA has been war gamed, the results have been recorded and executed, and as a result each COA has been improved. Specific outputs of this step include:

- a. Robust, modified COA.
- b. Updated synchronisation matrices and other supporting matrices.
- c. Refined lists of NAI and TAI.
- d. A COA Analysis brief.

5005. **Aide-Memoire**. A COA Analysis aide-memoire is in Annex A.

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**JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL
ENVIRONMENT INPUT TO COURSE OF ACTION ANALYSIS**

5006. All steps of the JIPOE, including step four (determine threat COA/scenario), must be completed and available prior to COA Analysis. The intent of COA Analysis is to compare, usually through war gaming, all threat COA/scenarios against all friendly COA, using as many combinations as time will allow. The intent is to expose flaws in the friendly COA against threat COA/scenario, so as to ultimately improve the friendly COA. Perhaps obvious, but it is worth noting that COA Analysis does not amend or improve the adversary's anticipated COA.

5007. J2 staff contributes to COA Analysis in the roles of friendly force to model the threat COA/scenario. The component of roles it may as Senior Intelligence Officer (SIO), Collection Manager (CM), Counter Intelligence (CI) Officer and PSYOP Officer. If intelligence staff numbers are not sufficient to provide personnel for all four roles, the SIO or CM roles should be filled first.

5008. The friendly force SIO responsibility during COA Analysis is to advise the JOPG of the intelligence-related shortfalls in any friendly COA, to recommend improvements to the plan and to identify risks associated with the plan. The CM is responsible for integrating friendly intelligence collection into the friendly COA. The CI Officer advises on threat to validate OPSEC measures including force protection-related risks. The PSYOP Officer is to assist the SIO in added value in intelligence collection. The person acting in the role of the SIO is normally responsible for outlining the threat COA/scenario during the analysis.

5009. Appreciating that any competent adversary will respond to friendly operations and seek to thwart them, J2 staff are expected to develop indicator lists and warning matrices that assist in suggesting that a specific threat action is underway or about to commence. COA Analysis allows the JOPG to test and

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improve indications and warning based on the outcome and if necessary, to develop or augment contingency plans, branches and sequels.

5010. CI inputs to COA Analysis enable the commander to protect the friendly plan and enhance OPSEC processes. The identification of threat collection capabilities and operations enables the staff to recognise where, when and why indicators of friendly force activity may be revealed. Key indicators of friendly disposition, capability or intent can be hidden by destroying or deceiving threat collection by amending the plan, or may require the commander to accept the risk of loss of security. Additional CCIR may also be identified at this point.

WAR GAMING

5011. A war game is the tool that facilitates meaningful analysis of each COA. It could be as simple as a conceptual discussion in response to a series of 'what if' questions or it could involve a complex, long-term computer simulation activity, testing new theories, technologies and doctrine. However simple or complex, successful war gaming requires a number of key ingredients:

- a. An agreed start state.
- b. The portrayal of a sequence of events towards a desired end state.
- c. One or more friendly COA.
- d. Adversary COA/threat scenarios developed during JIPOE.
- e. Evaluation criteria.
- f. Method of recording deductions and adjustments.

5012. The process, rules and assessment criteria should be consistent

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throughout COA Analysis. Furthermore, staff should understand their war game responsibilities and remain objective.

5013. The purpose of war gaming is to:

- a. Identify the advantages and disadvantages of each friendly COA.
- b. Assist the commander to make decisions based on a judgement of defined and acceptable risk.
- c. Synchronise friendly force activities to achieve the superior commander's intent.
- d. Enhance and improve friendly force COA.

5014. Preferably, each COA should be war gamed through to the intended end state. The more time and detail applied, the more useful the results. Normally there will not be enough time to conduct in-depth war gaming for more than two or three friendly COA, against the adversary COA or threat scenarios. When possible, it is advisable to war game at least each friendly COA against the adversary's most likely and most dangerous COA.

5015. War gaming validates potential CDP identified for each COA. Ideally, war gaming will ensure friendly CDP are timed to occur prior to relevant threat CDP to ensure the commander retains decision superiority. War gaming may also identify additional CDP, DP, branches or sequels.

5016. As a war game progresses, the commander and staff consciously visualise the flow of tasks and actions to identify potential events and requirements that are then used to enhance and improve each COA or reveal unworkable COA. Friendly and threat actions are reviewed to ensure that the friendly COA retains

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the initiative, and achieves the mission and end state.

OPERATIONAL RISK

5017. Key events may be identified during COA Analysis which clarify and refine risks to the mission that had been analysed in early planning (see Chapter 1 and Annex B). Risk management may take the form of additional branches or sequels within the COA and designating further CDP to initiate them. During the war gaming of DP, there is an opportunity to further define the threats and hazards, expand on mitigation strategies, and articulate the residual risks remaining. This level of residual risk is a key element in considering which COA will be selected as the final CONOPS for development. The commander needs to either accept the risk or elevate it for approval by the most appropriate higher authority. It is only after COA Analysis that a complete picture of residual risk becomes apparent.

SUB-STEP ONE: PREPARE TO CONDUCT WAR GAME

5018. Successful COA Analysis requires the conduct of a war game only after careful and detailed preparation. Preparation includes determining participants, staff organisation, orchestration, determining the war game start state, method and recording method.

DETERMINE PARTICIPANTS

5019. The scope of COA Analysis will depend on the number of HQ staff involved, from the core JOPG through to specialist planning groups, subordinate and superior HQ representation or specific FE. Too many participants, however, can distract from capturing essential modifications to the plan and could add unnecessary complication.

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STAFF ORGANISATION

5020. Staff involved in the war game may be organised into joint or component HQ, or as decided by the commander or COS. The staff organisation used directly affects the way information is presented and recorded, as well as the way the friendly and threat COA are analysed.

5021. Normally, the COS or deputy HQ commander arbitrates and the commander provides direction during the war game. The commander may participate in the entire process or only during significant events. Whoever leads, coordination and control of the war game is a key requirement for success. The initial war game may be the first time that all the planning staff has assembled in one place, which can detract from the process, so rigorous discipline and focus is essential.

5022. **Indicative Staff Responsibilities.** Indicative staff responsibilities for COA Analysis are:

- a. **Commander.** The commander should maintain an overview of all analysis. Specific tasks the commander may undertake include:
 - (1) Agree and direct efforts for resolving CCIR for CDP.
 - (2) Direct priorities for key resources. For example, Special Forces (SF) or specialist health capabilities.
- b. **Chief of Staff.** The COS normally coordinates all staff responsibilities and, in the absence of the commander, leads the war game and analysis. Alternatively, the J5 may lead the analysis; however, this could reduce the effectiveness of cross functional coordination. The coordinator brings the analysis together and identifies issues able to be resolved within the HQ and those requiring synchronisation based on

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commander's guidance or direction. Specific responsibilities may include:

- (1) Analysing the risk for each COA and refining mitigation measures
- (2) Drafting CCIR for CDP.

c. **Operations (J3) and Plans (J5) Staffs.** The J3 and J5 staffs execute the friendly force aspects of the war game. They contribute to the major manoeuvre and combat aspects of a COA and may involve FE operations staff to enable greater fidelity in subordinate planning, including control and coordination issues. Key tasks for the J3 and J5 staffs in the analysis are to:

- (1) Consider the manoeuvre aspects of the friendly forces allocated for each COA.
- (2) Direct the recording of updates for synchronisation matrices for each COA.
- (3) Refine the situation overlays including NAI, TAI, and DP and CDP matrices.
- (4) Confirm CCIR that support CDP.
- (5) Identify any shortfalls in rules of engagement.
- (6) Assist COS to analyse the risk for each COA and refine risk mitigation measures.

d. **Intelligence (J2) Staff.** The J2 staffs input include the latest JIPOE

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and executing the adversary's most likely and most dangerous COA. J2 staffs also identify opportunities for Intelligence Collection (IC) operations, including support for targeting and OPSEC. During the analysis, intelligence staff may also:

- (1) Analyse the intelligence-related risk for each COA and determine measures for reducing risk according to adversary COA.
- (2) Identify adversary actions, projected losses and provide the Master Target List (MTL) for each COA war gamed. In particular, a MTL sub-component, the joint target list, will be refined and prioritised into the Joint Prioritised Target List (JPTL). Further explanation of JPTL can be referred to MAFJD 2-03 Targeting.
- (3) Articulate the degree of confidence in the assessment of each COA.
- (4) Identify information requirements to support CDP including updating and verification of NAI and TAI.
- (5) Identify risk posed by adversary intelligence and related capabilities.
- (6) Identify essential elements of friendly information that may be visible to adversary IC to support OPSEC planning.

e. **Personnel and Logistics (J1 and J4) Staffs.** The J1 and J4 staffs considers personnel support and sustainability issues during the analysis including:

- (1) Determining casualty liability.

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- (2) Determining potential logistics and sustainability risks with options to improve shortfalls.

f. **Communication and Information Systems (J6) Staffs.** J6 staffs consider Communication and Information Systems (CIS) management aspects of the COA including:

- (1) Identifying potential weaknesses in CIS and probable solutions.
- (2) Analysing information management issues and determining any associated risks.

g. **Specialist Staff Functions.** Specialist staffs that may provide benefit to the outcome of the war game are identified allocated responsibilities and provide advice about their area of subject matter expertise. Participating specialist staff may include staff specialising in military law, gender advice, information operations, targeting, geospatial information, SF, and advisors from Other Government Departments (OGD).

ORCHESTRATION

5023. Orchestration includes briefing the staff on the scope, level of involvement and staff organisation, war game methods, including recording methods, to be used and a reminder of the war gaming rules. War gaming in its simplest form involves the JOPG staff performing the friendly force, adversary force and recorder roles. Specialist staffs provide input based on a detailed understanding of their respective service or specialisation.

DETERMINE WAR GAME START STATE

5024. The war game should commence as close as possible to either a specific

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date/time, the start of a specific COA phase, a DP or CDP, or other suitable point. It could also commence where the friendly and adversary force plans begin to interact (i.e. both friendly and adversary plans need to be in the same time and space for the war game to facilitate analysis). The COS, or person responsible for the conduct of the war game, will determine this start point in consultation with J2 and J5 staffs. To enable the war game to be conducted effectively, the following information is required:

- a. **Friendly Forces Data**. Friendly forces are considered in terms of either indicative FE or as a specific JTF and their disposition, readiness and capability at the war game start point assessed.
- b. **Adversary Course of Action and Decisive Points**. J2 staff outline the adversary COA developed in JIPOE step four and identify major activities and DP.
- c. **Significant Factors**. Significant factors that affect COA Analysis are derived from commander's guidance and the planning that has been conducted. Significant factors may include acceptable risk, force protection and time analysis.
- d. **List Commander's Critical Information Requirements and Assumptions**. List all outstanding CCIR and critical assumptions before commencing the war game.

SELECT WAR GAME METHOD

5025. The methods for war gaming vary depending on the level of analysis required and time available. Irrespective of the war game method chosen, analysis of the entire OE should be conducted whenever possible. There are various methods available to conduct war gaming, which can be used separately

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or in combination:

- a. **Time-Event**. This method is the most frequently used in operational level planning and analyses a COA using a time-driven, logical sequence of tasks, actions and DP. This method is beneficial in highlighting the sequencing of activities throughout the OE in the deep, close and rear areas at any time during the COA allowing for ease of updating the associated synchronisation matrices.
- b. **Avenue in Depth**. This method is useful for modelling the manoeuvre of a key capability or component over a number of operational phases and across a large area of the OE, focusing on specific opportunities and threats. It can also be used to focus on a single LOO within a multiple LOO COA. An example might be to war game the manoeuvre of an amphibious task group from the rear to the close during the preparatory and shaping phases.
- c. **Time Box**. This method focuses on one critical activity or DP of a COA. The method is useful if time is extremely limited and only the critical DP can be war gamed. As it focuses on a single portion of the COA, it may not fully take into account those activities occurring elsewhere in the OE. Thus, one example of the practical use of this method would be to analyse in detail a single action, the success of which is vital to the achievement of a particular DP or operational objective.
- d. **Belt**. This method may be used where there are multiple actions occurring simultaneously over a wide area of the OE. It takes into account the interdependency of numerous DP to be achieved in a short space of time. This entails the analysis of a 'vertical' slice through all LOO of a COA based on related or dependent DP. An example might be to analyse major air activities across a broad front during a specific phase.

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e. **Computer Simulation.** Computer or other artificial systems may be used to support the conduct of war gaming. These systems allow for the play of any portion of a COA any number of times with different inputs as required. As most systems are time dependant, a scenario may be run at high speed several times with differing inputs to achieve a spread of results. However, the preparation of such simulation systems may be time intensive. Development of the plan, construction of computer algorithms, and development of system requirements may restrict their use to deliberate planning only.

SELECT WAR GAME RECORDING METHOD

5026. COA Analysis results can be recorded and displayed using a war game matrix, narrative method, the sketch note method, or a combination. It is important for the staff to identify and provide a method that suits a commander's analytical and decision-making style. Recording results ensures that information is displayed in a manner that assists during the final stage of planning, helps prepare the CONOP and enhances DP, CDP and synchronisation matrices.

5027. A description of each recording method is given below.

a. **War Game Matrix.** A war game matrix is a very effective method of recording results. It is useful for capturing the time and space relationship of an operation and ensuring all elements are incorporated. The war game matrix is based on the synchronisation matrix and provides the framework for updating the synchronisation matrix. It may be organised according to JTF, component or areas (deep, close and rear) and displays the detailed coordination required for the CONOP.

b. **Narrative.** The narrative method describes the operation in sentence form. It provides extensive detail and clarity, but is time

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consuming to design and review. It is also difficult to transfer data from the narrative to the synchronisation matrices. The narrative method is best used in deliberate planning.

c. **Sketch Note**. The sketch note method employs a sketch and brief notes outlining major activities, DP and tasks. All pertinent data for each major activity, DP and task is recorded on a war game worksheet during its conduct. This method is quick and effective, but can be cumbersome when transferring detail to synchronisation matrices.

HYPOTHETICAL EXAMPLE
(PREPARE TO CONDUCT WAR GAME)

In accordance with the planning time line, the third day of planning commenced with COA Analysis. COS, who had been briefed the previous evening by the J5, decided to war game all three friendly COA against the most likely and most dangerous adversary COA. So, a total of six scenarios would be conducted during war gaming. COS would arbitrate, with the J5 playing the role of the BLUELAND JTF commander and J2 staff coordinating LANUNLAND inputs. The J5 and J2 each selected three members of their staff to assist them during the war game. Additional members of the J5 staff attended to take notes during the war game and thereby ensure that accurate records were kept-enough staff was present that both the war game matrix and narrative methods of war game recording could be used, enabling post-analysis cross referencing. Some members of the J3/5 team also attended the war game as observers; in preparation for assisting the J5 staffs develop the CONOPS

into a plan ahead of operations. Representatives of the J1/4 and J6 staff, as well as the legal officer, Department of Foreign Affairs and Trade liaison officer and the senior gender advisor also attended the war game. The COS, J5 and J2 had previously agreed that the time-event method would be used for the war game and that the start state would reflect the expected situation at D-3 (the operational timeline had established that this was potentially as soon as 36 hours away). COS brief the participants on this method and start state, and the J5 and J2 then brief on the disposition of friendly and adversary forces at the start state. The war game was now ready to begin.

SUB-STEP TWO: CONDUCT WAR GAME

5028. COA Analysis is a disciplined process to enable the commander and staff to visualise the flow of an operation and identify major activities and the robustness of each DP. These may result in modifications to workable COA and reveal unworkable COA.

5029. The commander and staff must be cautious when assessing war game results. The process attempts to visualise the plan as it unfolds focusing on resultant activities and possible decisions required; it is not a prediction of what will happen. In all likelihood, the adversary and friendly forces will not react exactly as the war game predicted. However, moving through the operation reduces risk and exposes gaps in problem solving.

5030. **War Gaming Rules**. The reliability and quality of products are dependent on adherence to some general rules. These rules are designed to ensure the integrity of the war gaming process and to avoid bias. They include:

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- a. **Impartiality**. Remain objective and impartial. Personalities should not have an undue influence over the process. It is critical that staff recognise this when they are war gaming their input for both friendly and threat COA. Staff should not become intellectually or emotionally attached to a particular COA.
- b. **Credibility**. Ensure each COA remains credible. If at any time during the war game a COA becomes implausible, the war game should be stopped and the COA removed as an option, or modified to ensure it becomes credible.
- c. **Independence**. Each friendly COA should be war gamed against each threat COA separately.

5031. **War Gaming Process**. The commander confirms and directs which adversary COA or threat scenario will be analysed. The process involves war gaming each major activity or DP in turn, depending on the war game method selected. This is usually done using agreed time increments. The war game allows staff to analyse selected major activities, DP and CDP within each phase and identify the tasks the force must accomplish. The war game for each COA may begin with a briefing, focusing on each phase of each COA in a logical sequence.

5032. War gaming relies heavily on judgement and experience. The war game consists of an action from one side, concurrent action from the other side, and a review sequence. This process quickly identifies strengths and weaknesses for every DP within each COA. COA is modified as weaknesses are found, which ensures force assignment is appropriate and allocated tasks are realistic. To save time, only workable COA are completely analysed, normally through to the end state or culmination, whichever is the sooner.

5033. **War Game Action Sequencing**. It is crucial that this process is

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coordinated and adjudicated appropriately. Each staff member should bring a thorough understanding of the capabilities and limitations of their respective specialist area, which is crucial to a realistic appreciation of each COA. Participants involved in the war game should be aware of the threat capabilities and doctrinal procedures.

5034. The war game is conducted using an action, action and review sequence. Both plans are analysed concurrently in time and space, although some recognition of initiative can be incorporated. Commander and staff assessment of the expected situation determines whether a force has sufficient initiative for the purpose of the war game to warrant a clear advantage in sequencing activities. There are no set criteria for making this assessment and planners therefore need to exercise careful judgement. There are, however, some obvious indicators. An example, a force that is in defence is much less likely to have the initiative than a force that is on the offensive. Likewise, a force that is acting with the element of surprise is much more likely to have the initiative than their adversary.

5035. The war game is continued for each major activity until a decisive outcome is achieved, including identification of possible new branches and sequels, or the COA culminates. Any new branches and sequels applicable to the final COA selected by the commander should also be war gamed.

5036. Since both friendly and adversarial forces may be manoeuvring and interacting simultaneously, this prompts the commander and planning staff to consider what circumstances are required to maintain decision superiority and, conversely, what might the adversary do to seize their own decision superiority. Depending on time and simulation support, a coincident or parallel running of activities may be possible that will give the war game a realistic flow.

5037. The requirements for each sequence are addressed according to the following headings and depicted in Figure 5-1.

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- a. **Action**. Staffs position the respective FE in their start locations in accordance with the expected force dispositions at the selected war game start point. Staffs describe actions by FE at a given time and place. This is done by articulating the tasks that those FE will likely be conducting using friendly and adversary synchronisation matrices.
- b. **Action**. Staff position opposing FE in accordance with the selected COA and describes the effect they will have on the OE. All possible actions should be stated. This includes actions from FE outside the JFAO that could influence operations. The dispositions of all FE and their interaction with the opponent's actions must be identified and explained. Actions and assets are recorded on the war game record, which is later used to refine the friendly synchronisation matrices.
- c. **Review**. A full review concludes the sequence. It analyses the 'so what' response to the action/action run of events. The aim is to refine and improve friendly force actions in light of plausible adversarial action. This involves agreement on the likely outcomes of the unmodified actions as they stand.

5038. As part of the review sequence any new threats should be identified, along with a consideration of additional tasks or FE needed to minimise the risk to friendly force actions. The review may also provide a chance to exploit new opportunities depending on whether the adversary or friendly forces have a degree of decision superiority.

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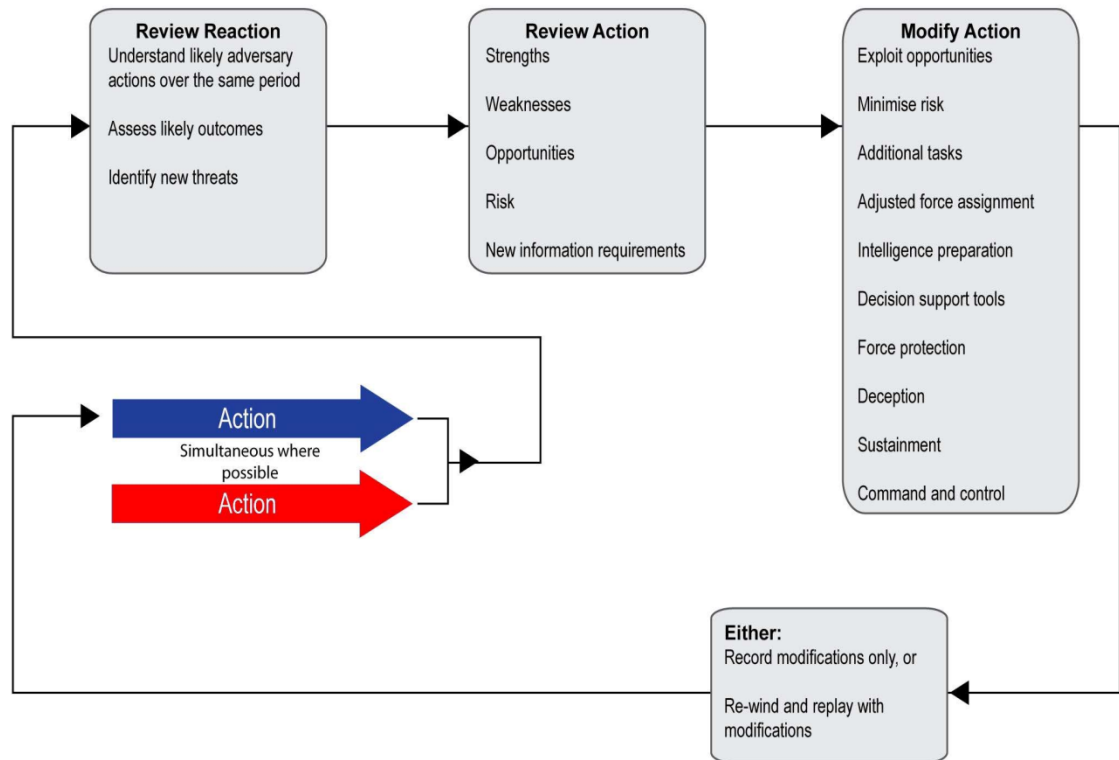


Figure 5-1: Action, Action and Review Sequence

5039. During these sequences of action, action and review, the war game lead and staff refine the capabilities and resources that each action may require. If the demand for resources exceeds the available forces, then force employment priorities must be established and forces allocated to a particular task or activity re-examined. Conversely, it may be determined that the force allocation is surplus in which case excess forces may be allocated to supporting another DP or phase.

5040. It is important to note that subsequent action after the review process may incorporate modifications, tasks and resources only within the framework of the existing COA. If it results in a change of main effort or the identification of a new DP, it may suggest that the COA has reached a culminating point unless additional branches or sequels are added. There is little benefit in continuing the war game at this point. Instead, rewind the war game to the last viable phase, DP

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or CDP and introduce a branch or sequel.

WAR GAMING RESULTS

5041. Results should be recorded immediately they become obvious. Observations should be used to improve COA, to update synchronisation matrices, and considered for use in deception plans or rehearsals. Insights from COA Analysis may identify:

- a. Enhanced and viable friendly COA.
- b. COA advantages and disadvantages.
- c. COA CDP, main and supporting effort requirements.
- d. Residual risk.
- e. Possible branches and sequels, as well as requirements for deception and surprise.
- f. Subordinate commander actions and activities, and priorities derived from DP matrices.
- g. Command and control measures, including task organisations.
- h. COA JPTL refinements.
- i. Synchronisation of manoeuvre.
- j. Refined NAI, TAI, DP and supporting CDP including known and additional major tasks and activities.

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- k. Adversary and friendly force casualty projections.
- l. Refined synchronisation matrices.

5042. **Branches and Sequels.** Inherent within the war gaming process is the identification and analysis of a range of branches and sequels. These should be cross-referenced through the war game record to CDP on the respective COA. Within each COA there should be opportunities to achieve an objective with only minor variations to the basic theme. The decision to activate a branch is determined by a CDP, which should be war gamed to ensure the triggers and warnings are framed appropriately.

5043. Sequels, on the other hand, are significant shifts in focus, effectively becoming new LOO, and activated by a CDP. Adversary sequels will have been identified by the JIPOE, and considered during planning.

5044. **Commander's Critical Information Requirements.** As a result of war gaming each COA, DP, CDP, TAI and NAI will be reviewed. In addition, the specific CCIR needed to support each CDP will be confirmed. War gaming will also assist in refining the draft IC plan formulated in JIPOE step four, enabling the commander to make best use of collection assets.

**HYPOTHETICAL EXAMPLE
(CONDUCT WAR GAME)**

1. The first war game followed the LOO that had been established for the 'land force heavy' COA. It was determined that LANUNLAND had the main momentum, since their military had been preparing to invade MAZARI for some weeks and is physically closer than the BLUELAND JTF. Despite there being no doctrinal requirement for sequential analysis based on who has the initiative (action-action-review should involve simultaneous movement of friendly and adversary forces if possible), J2 staff described first the LANUNLAND forces initial actions for their most likely COA (the most dangerous COA would be war gamed separately later on).

J5 staff then described the planned BLUELAND operations in the same time period. After both sides had described their actions and moved their forces accordingly, COS led a review, probing all staff about aspects of the plan such as risk, possible opportunities to be exploited, supporting force requirements, command and control, and other factors. Improvements to the plan were identified and recorded, and synchronisation matrices were updated to reflect any modifications and refinements.

2. Once this review was completed for the first allotted time period, the action-action review process was repeated for the next time period. This continued until the plan had been war gamed from commencement until successful conclusion of the operation or culmination. Where friendly and adversary forces came into direct contact during the war game, the COS determined which forces sustained what losses on the basis of probability, erring on the side of the adversary (but staying within the bounds of plausibility) so that weaknesses in the plan could be more comprehensively identified and addressed. At the conclusion of the war game, a list had been compiled of several modifications. These included small changes (such as the deployment of additional specialist FE that may be required at short notice for a task not foreseen during earlier planning) and significant changes such as the re-sequencing of some DP along the LOO, which would necessitate alterations to the planned sequence of events, force structure and priority of tasks).

3. Once the war game concluded the material was reset to the start point and another war game conducted for the same friendly COA, but this time against the adversary's most dangerous COA. Then a third war game tested the next friendly COA against the adversary's most likely, and so on, until a total of six war games had been conducted. Modifications were made to all three COA as analysis unfolded.

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BRIEF

5045. COA Analysis normally concludes with a brief to the commander, which details the updated COA and their relative merits in achieving the mission. Staffs recommend, and the commander confirms, which COA are to be compared. This informs a decision about which COA is to be developed into the CONOPS. If the commander has been involved in the conduct of the war game, this brief may be informal, not conducted at all, or combined with the Decision and CONOPS Development brief.

Annex:

- A. Course of Action Analysis Aide-Memoire.

ANNEX A TO
CHAPTER 5

COURSE OF ACTION ANALYSIS AIDE-MEMOIRE

INPUTS	SUB-STEPS	OUTPUTS
(a)	(b)	(c)
War game lead/COS guidance JMAP Completed JIPOE	1. Prepare to conduct war game: a. Direct scope. b. Organise staff. c. Explain responsibilities. d. Explain orchestration. e. Determine war game start state: (1) Significant factors. (2) Critical assumptions. (3) Friendly force data (dispositions, readiness, capabilities). (4) Adversary COA including DP and CDP.	• Staff prepared and oriented. • Data and COA prepared for war game. • War game method selected. • War game recording method selected.

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(a)	(b)	(c)
	f. Select war game method: (1) Time-event. (2) Avenue in depth. (3) Time box. (4) Belt. (5) Computer Simulation. g. Select war game recording method: (1) War game matrix. (2) Narrative. (3) Sketch note.	
JMAP JIPOE Step Four	2. Conduct war game. For each friendly COA against each adversary COA: a. War game action sequencing is either both forces acting simultaneously, or the force with a clear initiative can act first: (1) Action. (2) Action. (3) Review.	• Workable COA with risk understood. • Unworkable COA as basis for other plans. • Requirements for supporting plans. • Recorded COA advantages and disadvantages, and residual risk.

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(a)	(b)	(c)
	b. Record and validate insights and risks (both physical as well as information/OPSEC), mitigation and unresolved issues, to improve the plan, including: (1) DP and CDP (including associated CCIR). (2) NAI and TAI. (3) Broad branches and sequels for contingency planning. (4) Considerations for supporting plans. c. Take workable COA and using war game records, modify COA to be more robust; mitigate risk leaving residual risk. d. Take unworkable COA and using war game records, modify COA as a basis for contingency or deception planning.	

CHAPTER 6

DECISION AND CONCEPT OF OPERATIONS DEVELOPMENT

Executive Summary

- Decision and Concept of Operations Development involves three sub-steps:
 - Compare courses of action.
 - Select preferred course of action.
 - Develop concept of operations.
- The approved concept of operations forms the basis for developing the operation plan.

INTRODUCTION

6001. In this fifth and final step of the JMAP, the commander compares the strengths and weaknesses of each friendly COA enhanced and improved during the COA Analysis. The commander decides which COA is to be developed into a CONOP that will form the basis for the OPLAN to be executed. Once developed, the CONOP is passed to the superior commander for approval.

6002. While the comparison and decision activity is listed as a separate step in the planning process, the commander and staff could possess sufficient detail to decide on the best COA immediately following COA Analysis. Indeed, they might be left with only one COA that could achieve mission success. Notwithstanding, there will be little, if any, gap in the planning effort and flow between COA Analysis and deciding on the best COA, but the two are separated for convenience of explanation.

6003. **Inputs**. Inputs are the COA that was amended as a result of COA Analysis and an update of the JIPOE.

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6004. **Sub-Steps**. There are three sub-steps to Decision and CONOP Development:

- a. Compare COA.
- b. Select preferred COA.
- c. Develop CONOP.

6005. **Outputs**. Output from this step is:

- a. The commander's selected COA.
- b. A fully developed CONOP.

6006. **Aide-Memoire**. A Decision and CONOP Development aide-memoire is in Annex A.

JOINT INTELLIGENCE PREPARATION OF THE OPERATIONAL ENVIRONMENT INPUT TO DECISION AND CONCEPT OF OPERATIONS DEVELOPMENT

6007. During Decision and CONOP Development, the intelligence staff will continue to research and resolve outstanding priority intelligence requirements and brief the commander and JOPG as required. They will also continue to update the analysis of the operational environment as appropriate, as well as the collection plan, to be provided as part of the CONOP.

6008. **Synchronisation**. Intelligence synchronisation occurs in two areas: intelligence support to planning (the JIPOE); and intelligence support to operations (the intelligence support plan). Intelligence support to joint operations

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planning is the basis for subsequent intelligence support planning at subordinate HQ, such as JTF or component HQ.

SUB-STEP ONE: COMPARE COURSES OF ACTION

6009. The aim of comparing friendly COA is to determine which has the highest probability of successfully achieving the objectives and desired end state, taking into account the most likely and most dangerous adversary COA. In addition, the commander assesses the residual risk associated with each COA. COA that are not selected during the comparison may be kept as a basis for contingency options, or may also be used in deception planning to support the selected COA.

6010. In comparing COA, any comparison technique may be used that results in staff providing the best recommendation and the commander's making the best decision. Some comparison techniques are suggested below.

COURSE OF ACTION COMPARISON TECHNIQUES

6011. **Numerical Analysis**. The numerical analysis decision matrix contains the following three components:

- a. **Courses of Action**. These are the remaining modified COA.
- b. **Criteria**. The criteria are usually identified by the commander as priorities during COA Development and include:
 - (1) Suitability to mesh with strategic communication and information operations.
 - (2) Duration and fiscal implications.

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- (3) Flexibility and use of DP.
- (4) Adherence to the principles of war.
- (5) Application of operational joint functions.
- (6) Support of doctrinal principles for the type of operation being conducted.
- (7) The level of risk against perceived payoff (cost versus gain).

c. **Weighting**. The weighting factor of each criterion is based on its relative importance to the commander's guidance and priorities.

6012. Each COA is then compared and numbered in order of priority against each criterion. The COA ranking for the criterion is then multiplied by the weighting factor to produce a numerical score for the selected criterion. The numerical scores for each COA are then totalled, with the highest score indicating the strongest COA.

6013. Each COA is numbered in order of priority of advantage for each criterion. The best COA for each criterion receives the highest score. For example, at Table 6-1 for Mission and Essential Tasks, COA 1 is rated a '2', COA 2 is rated a '1' and COA 3 is rated a '3', the best COA with regard to the selected criterion. Each COA rating is then multiplied by the criterion weighting. Again, using the Mission and Essential Tasks criterion example, the weighted results are COA 1 = 6, COA 2 = 3 and COA 3 = 9. This results in two scores for each COA; one raw score and one weighted score.

6014. The scores are then totalled giving a raw and weighted order of priority for the COA. In the example at Table 6-1, all raw scores are the same, but applying

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the weighting factor reveals a priority order of COA 3, 1 then 2. COA 3 is identified as potentially being the strongest COA.

Criteria	Weight (W)	COA 1		COA 2		COA 3	
		Rating (R)	R x W	Rating (R)	R x W	Rating (R)	R x W
Mission, essential task	3	2	6	1	3	3	9
Sustainability	2	2	4	3	6	1	2
Principles of war	2	2	4	1	2	3	6
Risk	1	2	2	3	3	1	1
Total		8	16	8	14	8	18
Rank		2		3		1	

Table 6-1: An Example of Numerical Analysis Matrix

6015. The benefit of a numerical analysis is that it provides a relatively simple means of determining a preferred COA based on given criteria. The disadvantage of this method is that commanders will often require more substantial justification than a numerical score before they select one COA over another. For this reason, the advantages and disadvantages COA comparison technique should be used to support the staff's recommendation.

6016. **Advantages and Disadvantages Analysis.** This technique involves listing the advantages and disadvantages of each COA against selected criteria. It is particularly useful when combined with other techniques. The matrix allows staff to expand upon those criteria that the commander indicated as the most important. Additionally, it may be used to summarise each COA. An example is shown in Table 6-2.

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COA	Advantages	Disadvantages
1	• Surprise and security • Compensates for some tactical weaknesses • Decision superiority • Less casualties	• Potential loss of domestic and international support • Jeopardises moral authority • May compromise alliances
2	• Pre-positioning • Strengthens moral authority • Flexibility	• Long-term sustainability • Vulnerability of forward deployed forces • Highly dependent on host nation support
3	• Moral authority and international acceptance • Domestic support	• Cedes military initiatives • Lacks decision superiority • May result in attrition of own forces

Table 6-2: An Example of Advantages and Disadvantages Analysis Matrix

6017. **Broad Categories Analysis**. Unlike the numerical analysis, this technique does not weight criteria. The assessment for each criterion is simply expressed as a positive (+), neutral (0) or negative (-). Against each criterion, COA are compared to provide a broad awareness of the merits of one COA over another. The advantage of the broad category method is that it is simple and relatively quick. This approach is useful in indicating each COA strengths and weaknesses and is particularly useful if staffs are uncertain how to weight criteria or feel the weighting will unrealistically skew the comparison result.

6018. Like the numerical analysis, this technique alone will rarely provide the commander a comprehensive argument as to why one COA should be selected over another. Table 6-3 shows an example of a broad categories analysis matrix.

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Factors	COA 1	COA 2	COA 3
Mission, essential tasks	+	-	+
Sustainability	0	+	-
Principles of war	0	-	+
Risk	+	+	0
Total	2+	0	1+
Rank	1	3	2

Table 6-3: An Example of Broad Categories Analysis Matrix

6019. **Staff Ranking By Branch.** Staff ranking by branch is simply use of the other matrices to analyse criteria by principal staff officers or by individual staff branch members. This can then be recorded in a staff decision matrix such as the example in Table 6-4. Each staff branch may conduct their own analysis of each COA before the staff's combined comparison is made.

	COA 1	COA 2	COA 3	COMMENTS
J1	√	X	X	
J2	√	√	√	
J3	√	X	X	
J4	√	X	√	
J5	√	X	√	
J6	√	√	√	
J7	√	X	X	
J9	√	√	X	
J1 (Law)	√	X	√	
Component	X	√	X	

Table 6-4: An Example of Staff Ranking Matrix

6020. **Course of Action Risk Assessment Matrix.** In addition, the commander assesses the risk associated with each COA. The situation and the Superior Commander's Intent will determine the elements of risk and their relative importance. The JOPG will decide the meaning of criteria high, medium and low

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before awarding for each COA. An example of a COA Risk Assessment Matrix as per Table 6-5.

Risk Assessment	COA 1	COA 2	COA 3	Comments
Loss of capability	Extreme	Low	Medium	
Sustainability	Low	Substantial	Low	
Loss of personnel	Low	Extreme	Low	
Effect on the environment	Medium	Medium	Substantial	
Humanitarian and social implications	Substantial	High	Low	

Table 6-5: An Example of Course of Action Risk Assessment Matrix

6021. Commanders and/or staff branches identify the most appropriate comparison method. It should be stressed that the use of any method is simply a means to differentiate between COA based on criteria established by the commander.

**HYPHOTHETICAL EXAMPLE
(COMPARE COURSES OF ACTION)**

Once the three friendly COA – dubbed ‘extensive land forces’, ‘limited deployment land forces’ and ‘amphibious’ for ease of reference – had been modified as a result of the war game, the commander needed to decide which to develop into a CONOP for execution. They determined to make this decision following a mix of two techniques. The first would be an advantages and disadvantages analysis, and this would be enhanced by a staff decision matrix so that the commander could gauge preferences across the HQ. The results of these two comparisons are shown in the following tables.

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Advantages and Disadvantages of Each Course of Action		
COA	Advantages	Disadvantages
Extensive land forces	• Pre-positions forces to respond to adversary most dangerous COA. • Best supports information activities plan. • Enables high degree of operational synergy with host nation.	• Highly dependent on host nation consent. • Large logistics support requirements. • Relatively the most monetarily expensive option.
Limited deployment land forces	• Comprehensive use of air power. • Limited number of ground personnel means smaller logistics support requirements. • Embedded personnel able to assist MAZARIAN military directly.	• Limited land forces are more vulnerable to adversary most dangerous COA . • Requirement for rapid deployment of additional forces if situation degenerates is vulnerable to limited APOD/SPOD facilities.
Amphibious	• Strategic flexibility. • Resupply afloat means minimal logistic support requirements. • Relatively the least expensive monetary option.	• Collection of human intelligence difficult. • Yields initiative to adversary. • Vulnerable to limited APOD/SPOD facilities.

SUB-STEP TWO: SELECT PREFERRED COURSE OF ACTION

6022. On completion of the comparison the commander selects the preferred COA. If the commander modifies a proposed COA, the staff may need to revisit some or all of the previous JMAP steps. If time permits, COA Analysis should then be completed again in full.

6023. Once a COA has been selected, the commander's statement of intent and critical information requirements may be refined. The selected COA is now developed into a CONOP which, once approved by higher authority, is the basis for the OPLAN and supporting plans. These are likely to have been drafted as

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planning progressed. The OPLAN, in turn, informs the preparation and issue of orders.

COMMANDER'S DECISION BRIEF

6024. Sub-steps one and two together constitute the decision portion of this JMAP step. After completing the analysis and comparison, staffs identify the preferred COA and make a recommendation to the commander. If required, staff may conduct a formal briefing for the commander to obtain a preferred COA decision. Alternatively, the commander may simply decide on a COA and direct the staff to develop the CONOP. A suggested decision brief format is in Annex B.

HYPHOTHETICAL EXAMPLE (SELECT PREFERRED COURSE OF ACTION)

1. Taking into account the results of COA Analysis, both of the above comparison techniques, and professional judgment and experience, the commander selected the first COA (land force heavy). However, it was also directed that the air elements of the targeting and collection plans from the second COA (land force light) be used instead of its equivalent in the first COA due to this work being better developed. The result would be a hybrid COA that combined the strengths of the first and second COA.
2. Normally such a decision would result in the conduct of another war game to test the new hybrid COA, however in this instance due to time constraints the commander decided to accept the higher degree of operational risk that accompanied not conducting another COA Analysis step. The J5 did, however, direct that the JPG revisit several of the Mission Analysis and COA Development sub-steps, including:

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- **Determine Decisive Points.** The planning team reviewed aspects of both COA to be integrated and confirmed that there was no requirement for additional DP.
- **Develop Lines of Operation.** The planning team reviewed the schematic for both COA that would be integrated. They selected several aspects of the diagram for the 'land force light' COA that related to the air targeting and collection plan and incorporated these into the existing diagram for the 'land force heavy' COA. The result was an adjustment to the relative positioning of some DP along some line of operation.
- **Develop Detailed Courses of Action.** This is where the main integration of the two COA occurred. Aspects of the 'land forces heavy' plan were adjusted to accommodate the air targeting and collection aspects of the 'land forces light' plan, leading to modification in the following areas:
 - The joint force area of operations.
 - The force element requirements.
 - The main effort during Phase 1.
 - Sequencing.
 - Integration of supporting functions.
- **Test Courses of Action.** Although a full war game was not conducted, the J5 nevertheless tested the hybrid COA to ensure that it was feasible, acceptable, suitable, sustainable and distinguishable.

Once these aspects of the JMAP had been revisited, and the J5 was satisfied that the hybrid COA was workable, the commander was briefed a second time. The commander was satisfied with the new hybrid COA and authorized its development as the CONOP.

SUB-STEP THREE: DEVELOP CONCEPT OF OPERATIONS

6025. The CONOP is a detailed description of how an operation will be conducted. It identifies the functions and processes, and their corresponding interactions and information flows, command and control, stakeholders, and roles and responsibilities. A draft CONOP is usually developed as the JMAP unfolds. During this sub-step, any remaining detail is added to complete the draft and arrive at a fully developed CONOP.

6026. **Synchronisation**. Synchronisation should occur throughout joint operations planning and before a CONOP is finalised to ensure an OPLAN and any supporting plans, both within and external to the HQ, are compatible. Any plan must also be synchronised with current and future operations. Assisting in this is the completed synchronisation matrix from COA Analysis.

6027. Once fully developed the CONOP is passed to the superior commander for approval and may be modified, rejected or approved. If modified, the JOPG should review the modification and, if necessary, complete any necessary JMAP steps again to ensure the modification can be incorporated appropriately into the COA. If the CONOP is rejected, the JOPG should reconvene and complete the JMAP steps necessary to produce another viable COA for development into another CONOP.

CONCEPT OF OPERATIONS BRIEF

6028. A CONOP brief may be presented in an oral, written or graphic format, or a combination. The CONOP should contain sufficient detail to convey key aspects of the operation to the superior commander and allow subordinate HQ to commence (or continue) detailed planning. A CONOP brief format is in Annex C.

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CONCLUSION OF JOINT MILITARY APPRECIATION PROCESS

6029. When the CONOP is approved, the superior commander may issue an alert order. Approval of the CONOP usually signals the completion of the JMAP and the JOPG disbands. Any changes to the plan are normally managed by the plans and operations staff as they monitor progress of the operation. At any stage there may be a requirement to re-assemble the JOPG and apply the JMAP to plan a significant change to the operation. Throughout an operation, assessment and intelligence information will drive further re-framing of the situation which will inform future fragmentary orders and revisions to the operation or campaign plan.

**HYPHOTHETICAL EXAMPLE
(DEVELOP CONCEPT OF OPERATIONS)**

1. Closure of formal planning was development of a detailed CONOP, which was drafted by a core group of staff within the JOPG but with contributions from staff across a range of specialty areas throughout the HQ. In accordance with the planning timeline derived at the beginning of planning, the CONOP was ready by the conclusion of day three. Once approved by the commander, it was passed to strategic level staff for approval. Receipt of this approval signaled the conclusion of the JMAP, although some members of the planning team subsequently drafted a corresponding OPLAN (see Chapter 7) and then conducted a handover to J3 staff (who had been engaged from an early stage of planning) to assist further administrative activities ahead of implementation.

Postscript

2. Implementation of the plan began immediately after handover to the J3 staff. The next day, a status of forces agreement was concluded with MAZARI

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while concurrently force elements from each of the three Services were formed into a joint task force (JTF), concentrated, and frantically conducted vital pre-deployment activities. The day after that the JTF HQ and an advanced party deployed to the MAZARIAN capital, Duri, and an amphibious force sailed from BLUELAND bound for MAZARI. The third day after planning was D-Day. Several FE were air lifted into MAZARI on D-Day. Some of these initial FE commenced a non-combatant exfiltrate operation, and aircraft returning to BLUELAND were able to exfiltrate several hundred BLUELAND nationals over the next three days. Concurrently, other FE moved quickly along the road from Duri to the MAZARIAN controlled oil fields inside the disputed area, securing them on D+1.

3. Due to the hybrid COA that had been developed, the initial FE inserted included several combat aircraft. These began routine flights over the MAZARIAN controlled part of the disputed area on D-Day and continued this routine, sending a strong message of deterrence to the LANUNLAND military. On D+2 the amphibious force from BLUELAND arrived and commenced disembarking in Duri. Once landed, these forces were tasked to conduct a thorough route clearance of the road to the disputed area, to commence repairs on an abandoned World War Two-era airfield closer to the disputed area (so that this could be put into use by BLUELAND forces), and to develop a storage and distribution facility at Duri as part of the logistics support plan. Although much remained to be consolidated, by the end of D+3 – only eight days after the JMAP had commenced – it was assessed that enough BLUELAND FE were now in MAZARI that they would be capable of adequately responding should LANUNLAND forces cross the border. The work of the JOPG had not been in vain.

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Annex:

- A. Decision and Concept of Operations Development Aide-Memoire.
- B. Suggested Decision Brief Format.
- C. Concept of Operations Brief Format.

DECISION AND CONCEPT OF OPERATIONS DEVELOPMENT
AIDE-MEMOIRE

INPUTS	SUB-STEPS	OUTPUTS
All analysed COA	1. Compare COA: - COA comparison techniques selected. - Selected comparison techniques applied to each COA.	COA comparison techniques selected and applied to each COA.
COA decision tools	2. Select preferred COA: - COA comparison results briefed to commander - Commander decides on the COA to be developed into CONOP. - Commander selects COA to be used as branches, sequels, contingency or deception plans to support selected COA.	- COA selected for CONOP. - COA selected as branch, sequel, contingency, deception plan.
All selected COA documents and relevant JMAP outputs	3. Develop CONOP. Refine synchronisation matrices and confirm: - NAI and TAI. - DP and CDP. - Branches and sequels. - Develop the OPLAN and supporting plans - Prepare and issue orders/instructions.	- CONOP. - OPLAN and supporting plans. - Orders/instructions.

SUGGESTED DECISION BRIEF FORMAT

LEAD	SUBJECT	JMAP STEPS
(a)	(b)	(c)
COS/J5	Brief purpose Purpose of brief and timing	
COS/J5	Mission Superior commander's intent Own mission Own CF Analysis Own forces Status CCIR Operational design schematic LOO	Mission Analysis, COA Development
J2	Intelligence Adversary mission Adversary COA selected by commander Adversary CF analysis	JIPOE Mission Analysis COA Development

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(a)	(b)	(c)
J5/J3	COA For selected COA: • Range of COA • COA selected for CONOP development. • COA selected for contingency and/or deception.	COA Development COA Analysis
J5/J3	Subordinate commanders operations planning considerations, risk and guidance required for detailed planning	N/A
J2	Intelligence collection and force protection considerations, risk and guidance required for detailed planning	COA Analysis
J1	Personnel support considerations, risk and guidance required for detailed planning	COA Analysis
J4	Logistic support considerations, risk and guidance required for detailed planning	COA Analysis
J6	Communication and information systems support considerations, risk and guidance required for detailed planning	COA Analysis
Commander	Confirm COA for CONOP development	

**ANNEX C TO
CHAPTER 6****CONCEPT OF OPERATION BRIEF FORMAT**

1. The commander's CONOP is a verbal or graphic statement, in broad outline, of their intent in regard to an operation or campaign. The concept is designed to give an overall picture of the operation. A CONOP may be presented orally, as a written document, in graphic form or a combination. Table below shows a CONOP briefing format. Once approved, the CONOP is then developed into an OPLAN.

LEAD	SUBJECT	EXPLANATION
(a)	(b)	(c)
Commander/ COS	1. Intent of higher commanders, including intended desired end state. 2. Critical assumptions.	- Conveys the military end state. Intent should reflect the vision and convey the thinking of the commander. - These are listed and checked before forces are committed. Thus a need to vary the plan can be identified quickly.
J2	3. Updated intelligence estimate: a. Situation. b. Environment effects. c. Updated adversary COA. d. Assessed adversary Critical Factors (CF) analysis and associated CDP and DP.	This will be drawn from the JIPOE, based on the most likely adversary COA. This allows identification of the need for changes due to unexpected developments. It should also include an assessment of the adversary CF, which provides a focus for all planning.

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(a)	(b)	(c)
Commander/ COS	4. Commander's intent. 5. Outline CONOP. A broad indication of how the mission is to be achieved and an outline of the lines of operation chosen highlighting the CDP, DP and objectives. 6. The general grouping of forces. 7. The effects to be produced on the adversary (as applicable).	• This describes the commander's mission. It allows subordinates to analyse their allocated tasks in context of the overall operation. Tasks are linked with specific units and described. Responses to alternative adversary actions are stated. The commander's intent for the mission is included.
J5/J3	8. Detailed CONOP: a. Scheme of manoeuvre (deep, close, rear or domains) by phase. b. Address each component. 9. ME for each phase. 10. Phase boundaries, whether time or trigger governed, taking into account critical timings. 11. Specified tasks and groupings of forces, possibly zone oriented (deep, close, rear) and scheme of execution, including any use of deception. 12. Phase command and control, based on responsibility for tasks, and delineating degrees of authority. 13. Rules of engagement for each phase. 14. Critical cross functional considerations, including: a. OPSEC. b. Offensive support. c. Targeting d. Information activities. e. Pre-planned contingency and alternative solutions.	

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(a)	(b)	(c)
J2	15. Concepts for intelligence operations: a. Outline concept of intelligence collection. b. Link collection to PIR, DP (assessment) c. Outline concept of counterintelligence. Relate to OPSEC plan.	
J1/J4	16. Concepts of personnel, logistics and health support: a. Outline concept of support to zones of operation. b. Outline support phase, matched to operational phases. c. Key locations. d. Next highest commander's support priorities. e. Respective support priorities. f. Higher support provided. g. Summarise support issues (significant, critical, unusual functions, internal and external priorities): (1) Before operations. (2) During operations (3) After operations. h. Significant personnel/logistics/health risks.	
J6	17. Communication and information systems details.	
COS/J5/J3	18. Command and signal.	
Commander/ COS	19. Vulnerabilities and risks and how will they be minimised.	

CHAPTER 7

OPERATION PLAN DEVELOPMENT

Executive Summary

- Once the JCC approves the CONOP, the OPLAN and supporting plans are finalised during the JOPP Phase III (Plan Development), IV (Plan Review) and V (Supporting Plan) and promulgated through OpO or operation instructions.
- Synchronisation should occur throughout the JOPP and before any plan is finalised and also after the issue of OpO to ensure both internal and external to the relevant headquarters are compatible.
- Upon execution of the operation, responsibility passes from the plans staff to operations staff to execute and manage. Operations staff provides oversight and detailed coordination to manage the plan and support the commander's intent.

INTRODUCTION

7001. Once the JCC approves the CONOP, the OPLAN and supporting plans are finalised during the JOPP Phase III (Plan Development), IV (Plan Review) and V (Supporting Plan) and promulgated through an OpO or OPINSTR. Careful synchronisation and coordination of the OPLAN and Supporting Plans will be crucial to success of the operation. Synchronisation covers two main areas: synchronisation within the JFHQ of the OPLAN with the Supporting Plans, and synchronisation external to JFHQ of the OPLAN with superior and subordinate commander of the operations. All plans should also be synchronised with current and future operations. Figure 7-1 indicates where OPLAN Development is positioned in the JOPP.

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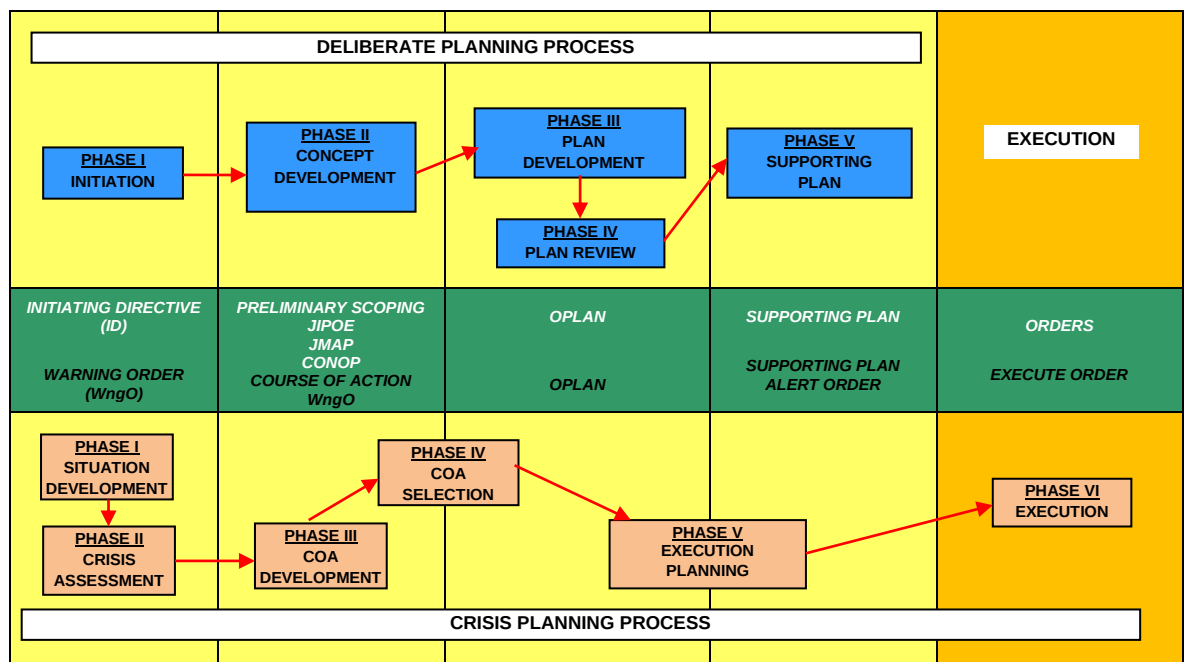


Figure 7-1: Joint Operations Planning – Operation Plan Development and Execution

OPERATIONS PLAN DEVELOPMENT

7002. Based on the JCC approved CONOP, the JOPG will then continue with the JOPP Phase III (Plan Development) and Phase IV (Plan Review). On completion of this phase the JOPG will then produce the OPLAN based on the Phase IV (Plan Review) that has been approved by the JCC. Once the OPLAN is ready the JOPG will then proceed with Phase V (Supporting Plan) formulation. The success of the operation is dependent on the supporting plan that has been formulated. A suggested OPLAN format is at MAFJD 5-01.

7003. **Preparation and Issue of Orders.** Once the OPLAN is complete, the staff may brief the plan, if required. This brief is used to ensure all JFHQ staff understands the OPLAN and the commander's intent. This brief may also be used as a handover point from the JFHQ plans staff to JFHQ operations staff. Handover points, if any, will largely be a function of individual HQ structures, manning and SOP. The J3 and J5 staffs will then transform the

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OPLAN into OpO and once it has been approved by the JFC it will then be distributed to the various commanders of the operation concerned including the immediate HQ where the forces are assigned from.

SYNCHRONISATION

7004. Synchronisation is a staff level coordination activities which bind together the plan and the force as a coherent whole. Synchronisation is generally led by the COS and supported by the ongoing work of the staff branches, cross-functional specialist staff and commander's personal advisers. The activity is supported by a range of boards, cells and conferences supported by working groups and staff activities, which coordinate within and between staff to identify or resolve issues. Key elements of synchronisation are the command and staff involved, types of supporting plans and the sequence itself.

7005. **Indicative Command and Staff Elements**. The synchronisation required within a HQ will depend upon the size, complexity and command and management of the specific HQ. Indicative command and staff aspects addressed in synchronising a HQ may include:

- a. **Commander**. The commander should provide key guidance for the conduct of the operations. Usually, guidance will be based on staff input. This aspect is addressed through each phase of the operation.
- b. **Chief of Staff**. The COS synchronises the staff effort. The COS ensures that each of the functional areas within the HQ continually liaises with the others to ensure that their work remains coordinated and not tangential to the direction of the problem-solving process. The COS would aim not to coordinate all branch actions, rather to focus on key issues where cross-staff coordination is required. The COS enables the commander's intent by matching an oversight of planning with

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synchronisation of the current battle. Key COS functions during synchronisation include:

- (1) Validate priorities and rates of effort for the coming period.
- (2) Confirm operations are leading to DP and that adversary CF can be located, manoeuvred against, engaged and re-engaged as appropriate.
- (3) Confirm the OpO or Op Instr is being executed appropriately and identify additional risk.
- (4) Manage outstanding CCIR on behalf of the commander, including identifying and managing decision support to CDP to enable command decisions regarding branches and sequels.
- (5) Task J3 staff to produce/release fragmentation orders and other orders to amend or supplement extant plans.

c. **Branch Heads**. Branch heads are responsible for branches and functions. They form the basis for the HQ capability to provide advice to plan and execute operations. They are responsible for providing the detail for the synchronisation including identifying cross-branch and cross-functional specialist issues requiring further guidance. As such, the coordination of the functions and staff effort they manage is central to effective synchronisation. Additionally, staff advisers may include legal, public affairs, health, religion and science. These staffs have an important role within their focused areas of expertise.

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d. **Specialist Cross-Functional Staff**. Specialist staff provides detailed insight into the cross-functional requirements such as effects, targeting and IO.

7006. **Sequence**. The sequence of synchronisation should include:

a. Prior to synchronisation each HQ branch and specialist area normally conducts internal coordinating meetings or working groups. This includes identifying and prioritising competing demands within each branch especially for Intelligence Collection requirements and Intelligence Collection Operations.

b. Synchronisation meetings:

(1) Priorities and determine rates of effort for the impending period within each branch.

(2) Coordinate between conflicting demands and establish overall priorities of effort between staff.

(3) Confirm operations are leading to DP and that CF can be located, manoeuvred against, engaged and re-engaged as necessary.

(4) Synchronises current operation with other coming plans.

c. Subsequent to synchronisation, fragmentation orders and supplementary instructions are drafted and released to direct detailed synchronisation measures.

SYNCHRONISATION AND PLANNING

DRAFTING AND COMPLETING SUPPORTING PLANS

7007. Planning takes time and may slow tempo. When planning, it is vital to ensure that time taken is appropriate to the activity required. The goal is to reduce the time taken for planning and minimise the sequential nature of the planning process. The precursor element is intelligence and the subsequent element is the supporting plans. As such, detailed prioritisation and synchronisation is required to maximise the effectiveness of the outputs and minimise the time taken to plan. A suggested Supporting Plan format is at MAFJD 5-01.

7008. **Concurrent Planning**. Ideally, the main and supporting plans are completed concurrently. However, supporting plans require key inputs from the main plan and generally lag behind the development of the CONOP. In order to maximise parallel planning, key staff from branches, specialist functions and subordinate HQ should be involved early in planning to maximise the opportunities for parallel planning.

7009. **Consecutive Planning**. Practically, main and supporting plans are developed sequentially. The goal for planners is to minimise the time lost in sequential planning. This requires active anticipation of required inputs and outputs to the OPLAN and supporting plans during planning. The goal is to minimise the subsequent time required to complete the supporting plan after the CONOP is approved by the JCC.

7010. **Integrated Planning**. The main option available to reduce the time required for planning is to conduct integrated planning. Key staff from within the HQ as well as key staff from subordinate HQ should be involved in planning at the earliest opportunity. The range of key staff required should be carefully considered rather than simply designating the relevant HQ planning staff. Thus

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subordinate HQ intelligence staff in addition to specialist targeting and IO planners should be involved in the JIPOE.

7011. **Involvement is Best Done in Person.** However, information technology (IT) and communications and IT supported distributed planning tools may suffice. Regardless, command back-briefs using conferences or video-teleconferencing are required to validate staff input from each represented component or subordinate HQ. Integration enables parallel planning, minimises the time-delay of sequential planning and also widely distributes the key planning information.

7012. **Synchronising Main and Supporting Plans.** Synchronisation integrates the OPLAN with the supporting plans through the ongoing work of the key branch and specialist staff. Synchronisation is led by COS. The activity is supported by a range of working groups and staff activities, which coordinate within and between staff to identify and resolve issues.

SYNCHRONISING WITH SUBORDINATE HEADQUARTERS

7013. **Synchronising with Subordinate Headquarters.** The main tool to synchronise with subordinate HQ and minimise planning time is integrated planning. Representatives from subordinate HQ should be integrated within the superior HQ intelligence and planning teams.

SYNCHRONISING WITH CURRENT AND FUTURE OPERATIONS

7014. **From Planning to Operations.** Synchronisation integrates future plans with current and future operations.

- a. Deliberate Planning is well ahead of future and current operations. Synchronisation is thus achieved through the time separation between planning and implementation.

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- b. Future operations must guide current operations and, hence, be providing input in advance of the battle rhythm, to enable coordinated implementation.
- c. For immediate planning, dedicated efforts are required to synchronise between such immediate plans and current operations.

EXECUTION

7015. The execution of operation will commence on the termination of JOPP. It involves issuing orders, monitoring the plan through to completion, continually synchronising and coordinating activities until receipt of termination of the operation. Upon execution of the OpO, the J3 staff manages the day to day execution and monitoring of the plan. J5 staff may assist with the monitoring function and may also plan additional Branches and Sequels as required.

7016. **Commander**. The commander initiates OpO execution. The commander directs that appropriate staff work is completed and released for action by subordinate HQ and units. This requires those HQ and units to be under an appropriate status of C2 to that commander. In deliberate situations, such execution is achieved through release of the formal sequence of WngO, planning directives, CONOP, OPLAN and then OpO or OPINSTR. In crisis situations, the staff work may be substantially less with an increased reliance on directive control and execution is achieved through WngO, Alert Order and Execute Order.

7017. **Conduct of Operations**. Upon execution of the OpO or OPINSTR, responsibility passes to J3 staff to execute and manage. J3 provides oversight and detailed coordination to manage the plan and support the commander's intent.

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7018. **Intelligence Update**. Once initiated, the J2 staff will monitor, validate and support subsequent requirements. J2 staff supports J3 staff and monitors the JIPOE. The staff validates the commander's selected adversary COA by assessing adversary dispositions and activities to confirm or deny the selected adversary COA through monitoring NAI. This includes detailed analysis of the threat synchronisation and DP and CDP matrices. In parallel, intelligence plans staff supports planning staff in monitoring the OPLAN and prepares for branches and sequels, as well as any subsequent planning requirements.

7019. **Future Planning**. The J5 staff will continued with future plan and assist in planning new Branches and Sequels. Dependent on the size of the HQ involved, other staff may be allocated the task of preparing additional branches and sequels.

7020. At the tactical level, the JTFC is responsible for ensuring that a monitoring process is rigorously conducted and that staff do not become distracted by tactical level events and so lose sight of the operational end state.

7021. OpO execution, including continual synchronisation, planning branches and sequels and monitoring continues at all levels of conflict until the termination of the operation is received.

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