

ARMY, MARINE CORPS, NAVY, AIR FORCE



# OPERATION ASSESSMENT

## MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR OPERATION ASSESSMENT

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MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES

## FOREWORD

This multi-Service tactics, techniques, and procedures (MTTP) publication is a project of the Air Land Sea Application (ALSA) Center in accordance with the memorandum of agreement between the Headquarters of the Army, Marine Corps, Navy, and Air Force doctrine commanders directing ALSA to develop MTTP publications to meet the immediate needs of the warfighter.

This MTTP publication has been prepared by ALSA under our direction for implementation by our respective commands and for use by other commands as appropriate.



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# PREFACE

## 1. Purpose

This multi-Service tactics, techniques, and procedures (MTTP) publication serves as a commander and staff guide for integrating assessments into the planning and operations processes for operations conducted at any point along the range of military operations. It provides operation assessment “how to” techniques and procedures which complement current joint and Service doctrine, and provides guidance on disparate assessment related terms. The MTTP is a means for ensuring appropriate assessment information gets to the right decision maker at the right time to make a decision.

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Note: For the Army, the term “command and control” was replaced with “mission command.” Mission command now encompasses the Army’s philosophy of command (still known as mission command) as well as the exercise of authority and direction to accomplish missions (formerly known as command and control).

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## 2. Scope

This MTTP publication:

- a. Considers operation assessment that spans the tactical and operational levels of war for the Army division, Marine expeditionary force, and joint task force and below.
- b. Models integrated assessment that can:
  - (1) Recognize opportunities and risks.
  - (2) Shape unit of action priorities.
  - (3) Generate timely information requirements, tasking, and deliberate planning efforts.
  - (4) Enable rapid adaptation in complex operational environments.
- c. Identifies complementary command and staff activities for operation assessment, and describes assessment planning and integration into the planning and operations processes.
- d. Offers operation assessment tactics, techniques, and procedures (TTP) adaptable to each component’s general circumstance while recognizing Services perform similar assessment activity generally focused on differing domains.
- e. Integrates assessment best practice from the past decade of operations, and considers the implications of the current operating environment for assessment activity.

## 3. Applicability

This MTTP publication applies to commanders and staffs that plan and conduct operations.

## 4. Implementation Plan

Participating Service command offices of primary responsibility will review this publication, validate the information and, where appropriate, reference and incorporate it in Service manuals, regulations, and curricula as follows:

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g. This publication reflects current joint and Service doctrine, command and control organizations, facilities, personnel, responsibilities, and procedures. Changes in Service protocol, appropriately reflected in joint and Service publications, will be incorporated in revisions to this document.

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## OPERATION ASSESSMENT

### MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR OPERATION ASSESSMENT

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## **EXECUTIVE SUMMARY**

### **OPERATION ASSESSMENT**

Assessment is the continuous cycle whereby assessors observe and evaluate the ever-changing operational environment to inform decisions about the future and make operations more effective than those of the past. Done properly, assessment enables a shared understanding between relevant stakeholders and decision makers, ensuring unity of effort and purpose.

Successful assessment integration into the operations process gives commanders a means to proactively identify and adjust to emerging opportunities and risks to mission accomplishment. Timely recognition of opportunities and risks affords commanders a distinct advantage by possibly catching the enemy off balance and rapidly ending a battle; refocusing joint force capabilities to minimize disruption; or hastening accomplishment of objectives, conditions, and end states. Conversely, missed opportunities and risks result in protracted engagements, higher casualties, increased potential for tactical defeat, and operational and strategic setback.

Of the three major military operational functions described in joint doctrine (plan, execute, and assess), doctrine associated with assessment is the least described and understood. Military organizations exert extensive effort planning and executing operations yet devote comparatively little effort in developing a structured method to identify indicators of success or lack of progress. Recent military operations experienced significant challenges conducting operation assessment. Few documented assessment successes exist, with those successes achieved only after much effort and revision. A lack of doctrine providing guidance and discussion of the practical activity necessary to integrate assessment into the operations process was a contributing factor to this lack of success. Complex, ill structured, and adaptive operating environments quickly overwhelmed existing assessment doctrine, leaving units struggling to achieve situational understanding and inform decision-making. Hybrid threats and non-nation-state actor proliferation, in the current operational environment, virtually ensures continued assessment difficulty in the future.

This publication attempts to mitigate difficulty in assessing operations by stimulating discussion, and providing proven assessment techniques and procedures to ensure appropriate information gets to the right decision maker at the right time to make a decision about the future. Broadly, this publication provides the following key additions to existing assessment doctrine most commanders and staff officers should find useful. It:

- (1) Standardizes assessment related terminology.
- (2) Discusses the commander-centric nature of assessment. (That is, how assessment enabled understanding might influence the decision cycle, and the organization and execution of parallel staff assessment efforts to enrich and strengthen commander understanding and decision-making).
- (3) Provides an assessment framework and procedures for planning an assessment to meet mission-specific needs, and discusses prerequisites for successful operation assessment.

- (4) Illustrates practical assessment linkages to operations process activity, and discusses the effect of operational environment complexity.
- (5) Provides assessment vignettes adapting the assessment framework to various missions and levels of war.

History may question whether a formal assessment process is necessary to conduct operations. United States joint forces conducted successful and unsuccessful operations without effective formal assessment processes. Nonetheless, the need for continuous improvement in how we conduct operations demands identifying what works in assessment to formalize best practices, aid commander decision-making, and improve the outcome of operations.

This publication provides the important “how to” discussion, techniques, and procedures. It describes assessment integration into the operations and planning processes, and enables the development of operationally congruent assessment plans that generate timely, relevant, and evidence-based recommendations to enable leaders to make informed decisions about the future. The principles and concepts presented in this publication enable a common understanding of assessment that is applicable at any level of war.

A summation of each chapter and appendix of this publication follows.

### **Chapter I Assessment Terminology**

Chapter I clarifies disparate assessment terms of reference to enable effective communication.

### **Chapter II Assessment**

Chapter II discusses assessment, defines operation assessment, discusses considerations for organizing a headquarters to conduct assessment, and suggests roles and responsibilities for commanders and staff officers in operation assessment.

### **Chapter III Assessment Framework**

Chapter III describes an assessment framework that is adaptable to any mission-specific need. The discussion centers on how assessors might organize and compartmentalize the operational environment, analyze data, and communicate the assessment to a decision maker. The chapter concludes with four examples illustrating assessment framework adaptations from recent operations.

### **Chapter IV Planning the Assessment**

Chapter IV describes prerequisites for effective assessment planning, and suggests a three-step procedure to guide it. This chapter concludes with an example of an assessment plan and a corresponding example of an assessment annex to an operations order.

### **Chapter V Assessment Integration into the Operations Process**

Chapter V associates assessment activity with appropriate operations and planning process activity, and describes the best practice for integrating assessment into the operations process and the commander’s decision cycle.

## **Appendix A Measures of Effectiveness (MOEs), Measures of Performance (MOPs), Standards, and Indicators**

Appendix A describes considerations for developing effective measures, and discusses the iterative nature of measuring and the importance of applying professional military judgment to identify trends. This appendix suggests proven measures for consideration during assessment plan development and offers procedures for developing each.

## **Appendix B Considerations for Complex Operational Environments (OE)**

Appendix B describes ill structured and complex adaptive systems in the operational environment. It discusses the implications of complexity for operation assessment and offers suggestions for adapting the assessment framework in ill structured and complex adaptive operational environments.

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## Chapter I ASSESSMENT TERMINOLOGY

### 1. Understanding Assessment Terminology

- a. Understanding the terminology that supports assessment is one of the more difficult tasks in assessment.
- b. Typically, assessment involves many people from a variety of Services and organizations with their own assessment terminology and definitions.
- c. Within the Department of Defense (DOD), assessment has a number of different meanings and uses. Joint Publication (JP) 3-0, is the source of the term and gives a definition of it; and JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, lists four meanings for assessment. To increase confusion, joint doctrine defines nineteen distinct types of assessments. Fifteen of the assessment types use Merriam-Webster's definition of assessment rather than one of the four doctrinal definitions listed in JP 1-02. Only four of the assessment types, each found in JP 3-60, define the specific type of assessment using language that closely follows an assessment definition found in JP 1-02.

### 2. Commonly Accepted Assessment Lexicon

- a. Any meaningful assessment discussion must begin with establishing a commonly accepted lexicon. The following subparagraphs define the assessment-related key terms of reference to facilitate effective multi-Service assessment activity within the DOD. Be sure to establish a common assessment lexicon with partners, agencies, and organizations from outside the DOD early in the cooperation process.
- b. To avoid confusion, this multi-Service tactics, techniques, and procedures publication (MTTP) defines assessment as "the continuous cycle of observing and empirically evaluating the ever-changing operational environment (OE) to inform decisions about the future and make operations effective. The following terms from joint and Service doctrine convey the context for concepts, techniques, and procedures presented in this MTTP.

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Note: The following definitions are verbatim or paraphrased from several sources. These sources include Army Doctrine Reference Publication 5-0; JP 1-02; JP 3-0; JP 5-0, Joint Operation Planning; and the Commander's Handbook for Assessment Planning and Execution.

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- (1) Assessment Framework: the mission-specific application created and validated within the joint operation planning process (JOPP) that incorporates the logic of the operational plan and uses indicators to determine progress toward attaining desired end-state conditions. The assessment framework enables assessors to organize operational environment data, analyze the data, and communicate the assessment to a decision maker.
- (2) Complex Adaptive System: a system in which the elements independently and continuously learn and adapt to other elements within the system.

(3) Conditions: 1. the variables of an operational environment or situation in which a unit, system, or individual is expected to operate, and may affect performance. 2. A physical or behavioral state of a system that is required for the achievement of an objective.

(4) Critical Variable: a key resource or condition present within the operational environment that has a direct impact on the commander's objectives and may affect the formation and sustainment of networks. A critical variable is the focus for shaping, within the operational environment, to achieve the commander's desired end state.

(5) Effect: 1. the physical or behavioral state of a system that results from an action, a set of actions, or another effect. 2. The result, outcome, or consequence of an action. 3. A change to a condition, behavior, or degree of freedom. (Source: JP 3-0)

(6) End State: the set of required conditions that defines achievement of the commander's objectives.

(7) Evaluate: using criteria to judge progress toward desired conditions and determining why the current degree of progress exists.

(8) Ill Structured System: a system composed of many independent variables and relationships that cannot be decomposed and, therefore, must be dealt with as a whole.

(9) Indicator: an item of information that provides insight into a measure of effectiveness (MOE) or measure of performance (MOP).

(10) Key Tasks: activities the force must perform, as a whole, to achieve the desired end state.

(11) MOE: a criterion used to assess changes in system behavior, capability, or OE tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect.

(12) MOP: a criterion tied to measuring task accomplishment used to assess a friendly action.

(13) Mission: the task and purpose that indicate the action to be taken.

(14) Monitoring: a continuous observation of conditions relevant to the current operation.

(15) Objective: 1. in context to military operations, the clearly defined, decisive, and attainable goal toward which every operation is directed. 2. In context to data and information, based on facts rather than feelings or opinions. 3. Expressing or dealing with facts or conditions as perceived without distortion by personal feelings, prejudices, or interpretations.

(16) Operation Assessment: a continuous process to determine the overall effectiveness of employing joint force capabilities during military operations by measuring the progress toward accomplishing a task, creating a condition or effect, or achieving an objective that supports decision making to make operations more effective.

- (17) Operational Approach: a description of the broad actions the force must take to transform current conditions into those desired at end state.
- (18) OE: a composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander.
- (19) Operational Level of War: the level of war at which campaigns and major operations are planned, conducted, and sustained to achieve strategic objectives within theaters or other operational areas.
- (20) Staff Estimate: an evaluation of how factors in a staff section's functional area support and impact the mission. Estimates should be comprehensive and continuous and must visualize the future; but, at the same time, they must optimize the limited time available.
- (21) Strategic Level of War: the level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, then develops and uses national resources to achieve those objectives.
- (22) Subjective: 1. based on feelings or opinions rather than facts. 2. Modified or affected by personal views, experience, or background.
- (23) System: a functionally, physically, or behaviorally related group of regularly interacting or interdependent elements.
- (24) Tactical Level of War: the level of war at which battles and engagements are planned and executed to achieve military objectives assigned to tactical units or task forces. (JP 3-0)
- (25) Task: a clearly defined action or activity assigned to an individual or organization that must be done as it is imposed by an appropriate authority.
- (26) Threshold of Success: a level, point, or target desired for an indicator. Attainment of the target indicates success for the associated task, objective, or end state and signals the opportunity to reallocate resources.
- (27) Trend: an underlying pattern of behavior in a set of data with an associated measure of explained variability or error.
- (28) Variances: 1. an amount of difference or change. 2. The difference between the desired situation and actual situation at a specified time. Based on the impact of the variance on the mission, the staff makes recommendations to the commander on how to adjust operations to accomplish the mission more effectively.

c. The following terms support the concepts, techniques, and procedures presented in this MTTP.

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Note: By permission. From Merriam-Webster's Collegiate® Dictionary, 11th Edition ©2015 by Merriam-Webster, Inc. ([www.Merriam-Webster.com](http://www.Merriam-Webster.com)).

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- (1) Bias: systematic error introduced into sampling or testing by selecting or encouraging one outcome or answer over others.
- (2) Causality: the relationship between something that happens or exists and the thing that causes it.

- (3) Correlation: the relationship between things that happen or change together. Correlation does not prove causality.
- (4) Criticality: relating to or being a state in which or a measurement or point at which, some quality, property, or phenomenon suffers a definite change.
- (5) Empirical: originating in or based on observation or experience; capable of being verified or disproved by observation or experiment.
- (6) Metric: a standard of measurement.
- (7) Linear: having or being a response or output that is directly proportional to the input.
- (8) Quantitative: of, relating to, or expressible in terms of quantity.
- (9) Qualitative: 1. of, or relating to, how good something is. 2. of or relating to the quality of something.
- (10) Significant: probably caused by something other than mere chance.
- (11) Tractability: capable of being easily led, taught, or controlled.
- (12) Variable: a quantity that may assume any one of a set of values.

## Chapter II ASSESSMENT

### 1. Assessment

- a. Assessment is a continuous cycle of observing and empirically evaluating the ever-changing OE to inform decisions about the future and make operations effective.
- b. The purpose of the operation and desired end state define commander's intent. Assessment must link and reflect the status of progress toward accomplishing the purpose and end state.

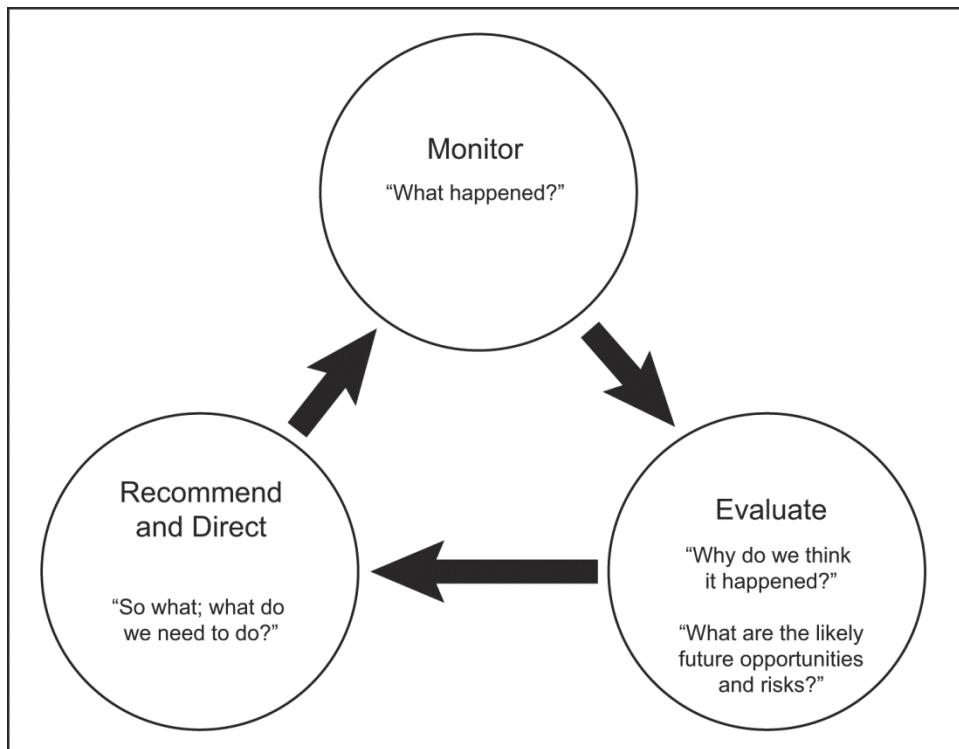
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Note: At times, this MTTP uses the phrase "next desired state" to refer to interim conditions or interim end states to make more meaningful sense, particularly during discussions of ill structured problems where inputs cannot result in predictable outputs.

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- c. Assessment is oriented on the future. Current and past actions are of little value unless they can serve as a basis for future decisions and actions. Assessment precedes and guides every operations process activity and concludes each operation or phase of an operation. As with any cycle, it has no beginning or ending, once underway.
- d. Assessment seeks to answer four essential questions:
  - (1) What happened?
  - (2) Why do we think it happened?
  - (3) What are the likely future opportunities and risks?
  - (4) So what; what do we need to do?
- e. To be effective, assessment must be:
  - (1) Focused on the commander's objectives and end state.
  - (2) Considerate of specific indicators in context with others and informed human judgment.
  - (3) Credible; i.e., validated through a whole-of-staff approach and sound underlying reasoning and analysis clearly expressing limitations and assumptions.
  - (4) Constructed and presented clearly and concisely.
  - (5) Contextual; i.e., explaining why evidence, arguments, and recommendations matter to the end state.
  - (6) Implementable; i.e., it does not impose unrealistic requirements on subordinate elements.
  - (7) Analytic and supported by professional military judgment: achieved in part through scrutiny of relevant evidence and logic.
  - (8) Unbiased; assessment must not be predetermined.
  - (9) Integrated, incorporating the insights and expertise of various staff sections and stakeholders.

- (10) Tailored; i.e., designed to handle the mission and the nature of the problem, whether well or ill structured.
- f. Integrated successfully, assessment will:
- (1) Depict progress toward accomplishing the end state.
  - (2) Deepen understanding of the OE.
  - (3) Inform commander's decision-making for operational approach design and operation planning, prioritization, resource allocation, and execution to make operations more effective.
  - (4) Produce actionable recommendations.
- g. Assessment consists of three activities: monitoring the current situation to collect relevant information; evaluating progress toward attaining the end state or next desired state conditions, achieving objectives, and performing tasks; and recommending and directing action for improvement. Figure 1 depicts the assessment activities integrated with the four essential questions.



**Figure 1. Assessment Activities**

(1) Monitoring. Monitoring entails continuously observing conditions relevant to the current operation. Monitoring allows staffs to collect necessary information, or indicators, about the current situation to compare it with the forecasted situation described in the commander's intent and concept of operations. Judging progress and executing adjustment decisions are not possible without an accurate understanding of the current situation, which serves as a baseline for assessment activity.

- (a) Incorporating indicators into the unit collection plan is essential to effective monitoring. Assessors must participate in joint intelligence preparation of the operational environment (JIPOE) and collection management activities to form a clear understanding of collection efforts and information requirements. This enables assessors to determine which necessary indicators are already included in the collection plan, and identify and levy additional information requirements to satisfy the remaining indicators.
  - (b) Unit collection plans generally do not incorporate MOPs and other metrics that subordinate commanders assess, judge, and report routinely during operation process activity. Assessors must monitor and participate in the operations process to satisfy these collection requirements.
  - (c) Leveraging, and possibly modifying, existing operations and intelligence reporting standard operating procedures should be the norm rather than continually creating new reports to support the assessment plan. With the proliferation of outside stakeholders and other DOD assets in the joint operations area (JOA), collection management must also consider submitting coordinated requests to outside stakeholders to satisfy collection requirements.
  - (d) Assessment information requirements compete with all other information requirements for collection resources. When an assessment information requirement is not allocated collection resources and a proxy is not available, staffs must inform the commander and include a clear understanding of the risk of the overall assessment presenting a skewed picture. Staffs then must adjust the assessment plan, specifically the indicators.
- (2) Evaluating. Commanders and staffs analyze relevant information collected through monitoring to evaluate an operation's progress and likely future trajectory. Evaluating uses criteria to judge progress toward desired conditions and determine why a current degree of progress exists. Evaluating is the heart of assessment, and is the activity where most analysis occurs. Evaluating helps commanders determine what is working, determine what is not working, and gain insight into how to better accomplish the mission. In addition to interpreting information into meaningful recommendations, staffs provide the commander with possible future opportunities and risks to mission success including their likelihood, impact, and actionable recommendations for each.
- (3) Recommending and Directing.
- (a) Assessment is incomplete without recommending and directing action.
  - (b) Staff assessments may diagnose problems; but, unless the diagnosis results in actionable recommendations, its use to a commander is limited. Based on the evaluation of progress, the staff constructs possible useful changes to the plan and makes preliminary judgments about the relative merit of those changes. The staff identifies those changes possessing sufficient merit and provides them as recommendations to the commander. Recommendations to the commander range from continuing the operation as planned, executing a branch or sequel, or making unanticipated adjustments.

Some desirable changes may be within the purview of a decision maker who is subordinate to the commander. In these cases, subordinates immediately execute those changes.

(c) Commanders integrate assessments and recommendations from the staff, subordinate commanders, and other partners with their personal assessment to make decisions. Necessary major adjustments occur via a joint planning group (JPG) or operations planning team initiating plan refinement, which might include assigning new tasks to subordinates, reprioritizing support, or significantly modifying the course of action (COA) and operational approach.

## 2. Assessing Operations

a. Operation assessment is the continuous process to determine the overall effectiveness of employing joint force capabilities during military operations by measuring progress toward accomplishing a task, creating a condition, or achieving an objective that supports decision-making to make operations effective. Identifying future obstacles to accomplishing tasks, conditions, or objectives is a central component of operation assessment activity. Table 1 depicts characteristics of operation assessment.

Table 1. Characteristics of Assessing Operations		
Focuses on...	Is...	Requires...
<ul style="list-style-type: none"> <li>• Performing a task</li> <li>• Achieving an objective</li> <li>• Attaining an end state</li> <li>• Accomplishing a mission</li> </ul>	<ul style="list-style-type: none"> <li>• Oriented on the future</li> <li>• Keyed to the overall purpose</li> <li>• The basis for adaptation</li> <li>• Focused on emerging opportunities and risks</li> </ul>	<ul style="list-style-type: none"> <li>• A basis for comparison in the form of planning goals (i.e., task, purpose, conditions, effects, etc.)</li> <li>• Feedback of the situation as it exists</li> <li>• Analysis and synthesis</li> <li>• Recommendations for change</li> </ul>

b. As the complexity of the OE increases, the trend is for tactical units to conduct both tactical and operational level assessments. This trend is likely to continue given the projected use of Marine expeditionary force (MEF) and Army division headquarters (HQ) to resolve small to medium crises through direct employment of a single-Service force HQ (or specific operational force) directly subordinate to the geographic combatant commander or in their assignment as joint task forces (JTFs).

(1) The most familiar tactical-level operation assessments inform units and task forces on various aspects of their organizations and progress toward mission accomplishment in the context of battles, engagements, and other military objectives. Such assessments are normally either functional (performed by a warfighting function to prevent or warn of pending culminating points) or combat assessments (such as battle damage assessment (BDA), munitions effectiveness assessment (MEA), and future targeting and re-attack recommendations).

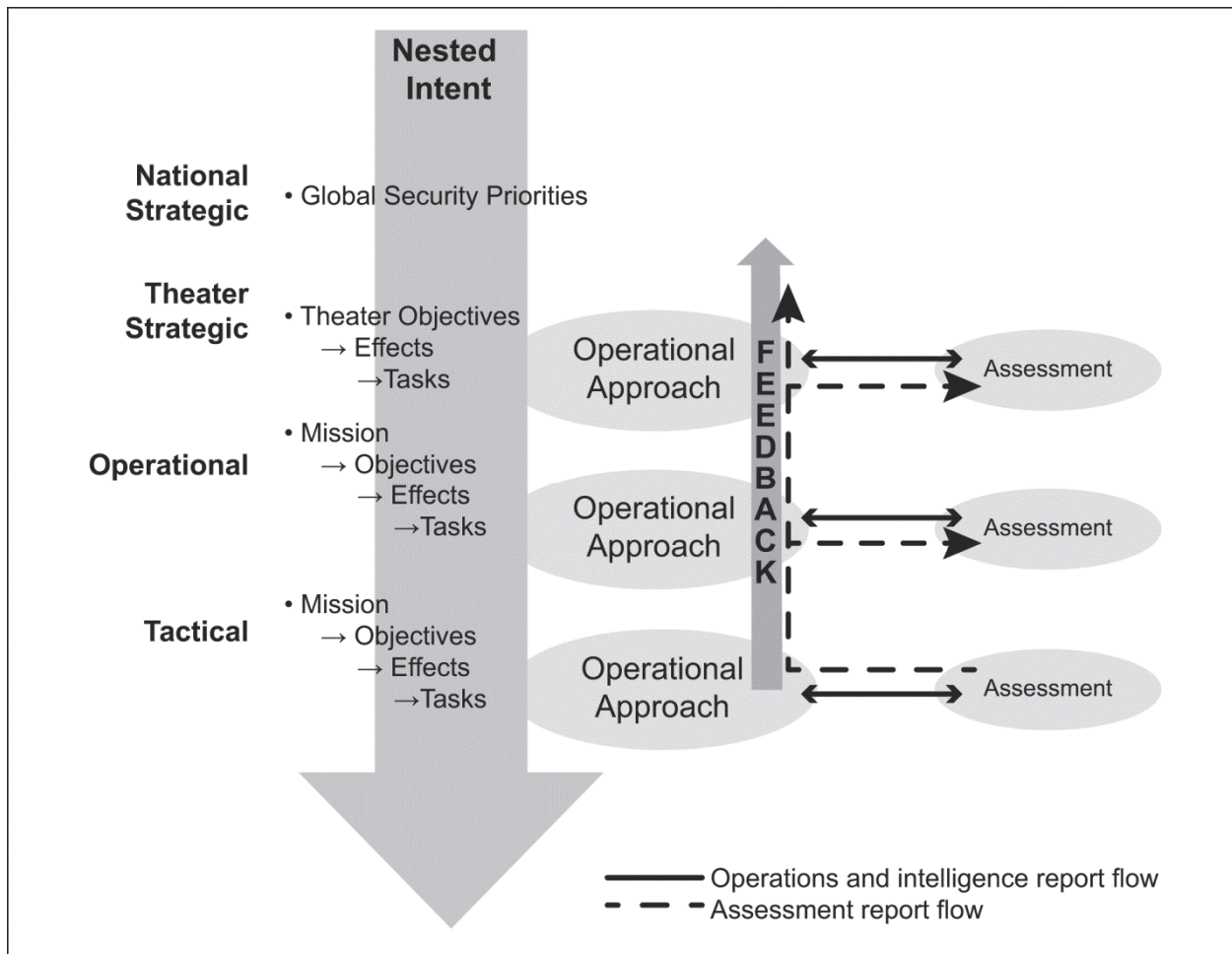
(2) “High” level tactical echelons (Army divisions, MEFs, air operation, and JTFs) generally have larger and broader assessment efforts that attempt to tie tactical information to campaign assessment requirements and their own mission assessment. “Low” level tactical echelons (i.e., regimental combat teams, brigade

combat teams, Marine expeditionary units, and below) generally have smaller, more limited assessment efforts, but also consider their own operational approach during assessment.

c. Operation assessment offers perspective and insight. It provides the opportunity for self-correction and adaptation and thoughtful, results-oriented learning. It involves deliberately comparing desired outcomes to actual event trends and trajectories to determine the overall effectiveness of force employment, and identifying likely future opportunities and risks to success to determine necessary decisions to deal with each.

d. A key function of operation assessment is facilitating a deeper, shared understanding of how the operation is progressing among the commander, staff, and other stakeholders. The primary user of operation assessment is the commander. Secondary users of the assessment might include the commander's staff; subordinate, supporting, and higher commanders and their staffs; external stakeholders; and coalition partners. In some cases, assessment efforts might specifically support outside stakeholders (e.g., Department of State (DOS), United States Agency for International Development (USAID), Federal Emergency Management Agency (FEMA), and foreign governments). It is important to recognize that assessments can have multiple stakeholders at various levels, some of which have agendas that may not align with the needs of the commander. Finding a balance between measuring mission progress and meeting the various demands of other stakeholders, particularly at higher headquarters, is a key challenge. Meeting the demands of other stakeholders occurs at the discretion of the commander. Generally, assessment activity required to support the commander's decision-making takes precedence.

e. Operation assessment works best when the supported and supporting plans and their assessments link and relate to each other. For example, operational level assessment considers tactical level details and assessments. The degree to which a commander's operational approach is congruent with the higher operational approach is a key factor in determining the amount of congruence in the two formal assessments. Though interrelated, and sometimes interdependent, the conduct of assessment is independent and responsive to how a particular commander visualizes, describes, and directs. As such, operation assessments at multiple levels are always congruent, but there may be elements at each level that do not directly feed into others. Figure 2 depicts the hierarchical nature of assessment.



**Figure 2. Hierarchical Nature of Assessment**

f. Generally, the level at which a specific operation, task, or action is directed should be the level at which activity is assessed. This properly focuses assessment and collection at each level, reduces redundancy, and enhances the efficiency of the overall operation assessment.

g. Effective operation assessment allows the commander to:

- (1) Make informed decisions towards mission accomplishment.
- (2) Compare observed OE conditions to desired end-state conditions.
- (3) Determine whether key planning assumptions remain valid.
- (4) Determine progress towards desired effects and objectives.
- (5) Determine the effectiveness of resources allocated against objectives.
- (6) Determine progress towards a decision point.
- (7) Identify the likely future risks and barriers to mission accomplishment.
- (8) Identify opportunities to accelerate mission accomplishment.
- (9) Develop recommendations for branches and sequels.
- (10) Communicate the evaluation of the plan to the higher HQ, staff, subordinate units, policy makers, interagency partners, and others (as necessary).

### **3. Assessment Principles**

a. It is important to establish core assessment principles accepted as credible by commanders, staffs, subordinate commands, and outside stakeholders.

b. Adopting intelligence community standards for writing narratives, Operation ENDURING FREEDOM's (OEF's) Regional Command Southwest (RC(SW)) developed principles that have been adapted to ensure credible assessments and engender frank discussion.

(1) Assessments must be unbiased and uninfluenced by pervasive beliefs within the command. Assessments must regard alternative perspectives, contrary reporting, and unanticipated developments.

(2) Assessments must not be distorted or altered with the intent of supporting or advocating a particular COA, policy, political viewpoint, or audience.

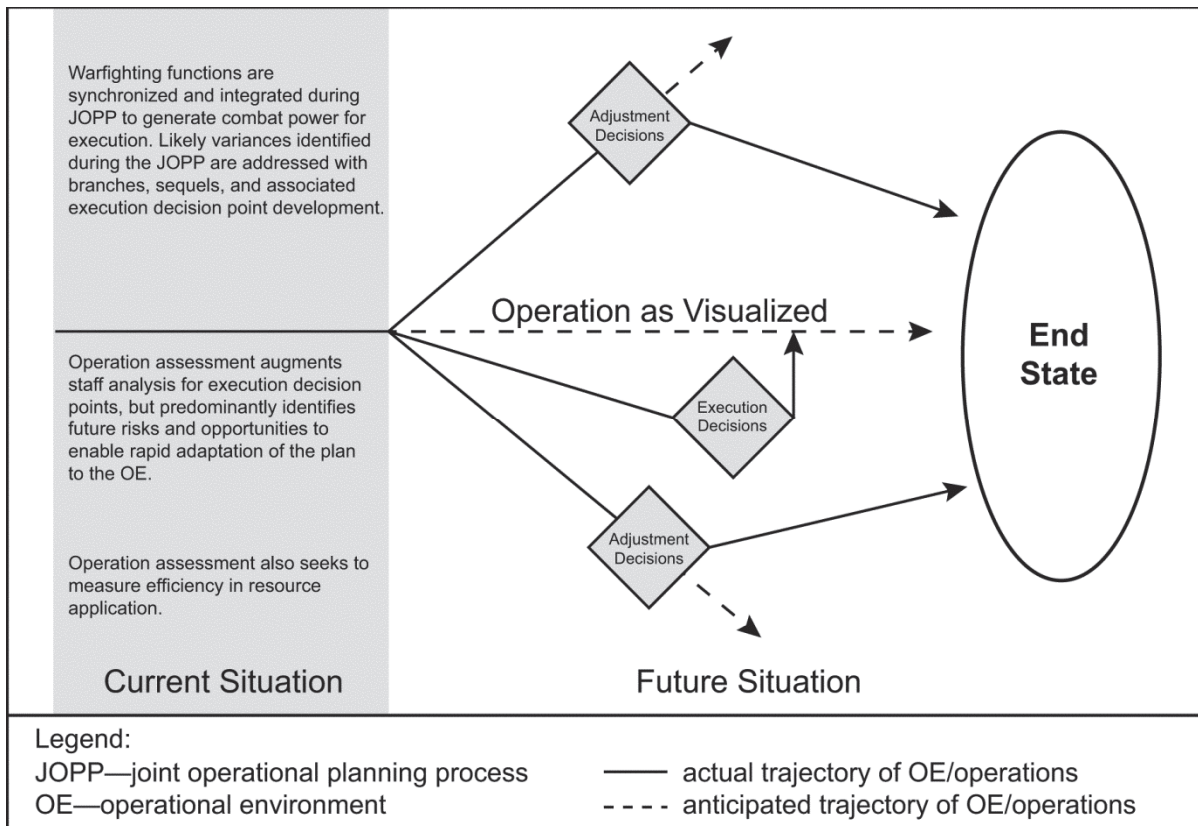
(3) All assessment products must be evidenced-based and contain sources.

(4) Commanders must receive assessments in a timely manner for them to be actionable.

(5) An assessment must be integrated across the staff sections and with appropriate stakeholders.

### **4. Assessment is Commander Centric**

a. Assessment of an operation is a key component of the commander's decision cycle that helps determine the results of tactical actions in the context of the overall mission objectives and provides potential recommendations for refining plans. Commanders continuously assess the OE and progress of operations, and compare them to their vision and intent. Based on their personal assessment, commanders adjust operations to meet objectives, and achieve the military purpose and end state. Figure 3 depicts assessment linkage with decisions.



**Figure 3. Assessment and Commander Decision-making**

b. The commander must set the tone and guide the conduct of assessment activity.

(1) A commander's top-down guidance initiates the planning effort leading to an operational approach expressed in purpose, time, and space that serves as the basis for organizing the assessment.

(2) Commanders establish priorities for assessment through their planning guidance, commander's critical information requirements (CCIRs), and decision points. By prioritizing effort, commanders avoid overanalyzing when assessing operations. Commanders have an important responsibility to tell their staff what they need, when (how often) they need it, and how they wish to receive it. Commanders also give their staffs guidance on where to focus the unit's limited collection and analytical resources.

(3) It is important for commanders to think through what they "can" know versus what they "need" to know. Effective commanders reject the tendency to measure things simply because they are measurable, to demand measures where valid data does not exist, and to ignore something pertinent because it is hard to measure.

(4) Commanders should provide their staffs guidance on the importance of the assessment relative to other tasks, based on the mission and the battlefield environment, so that the staff can balance the needs of assessment.

(5) Commanders must avoid burdening subordinates and staffs with overly detailed assessment and collection tasks. Committing valuable time and energy

to developing excessive, complicated, and time-consuming assessments squanders resources better devoted to other planning and operations process activities.

(6) Commanders must clearly define operation assessment expectations for the staff and ensure the staff can adequately perform necessary functions.

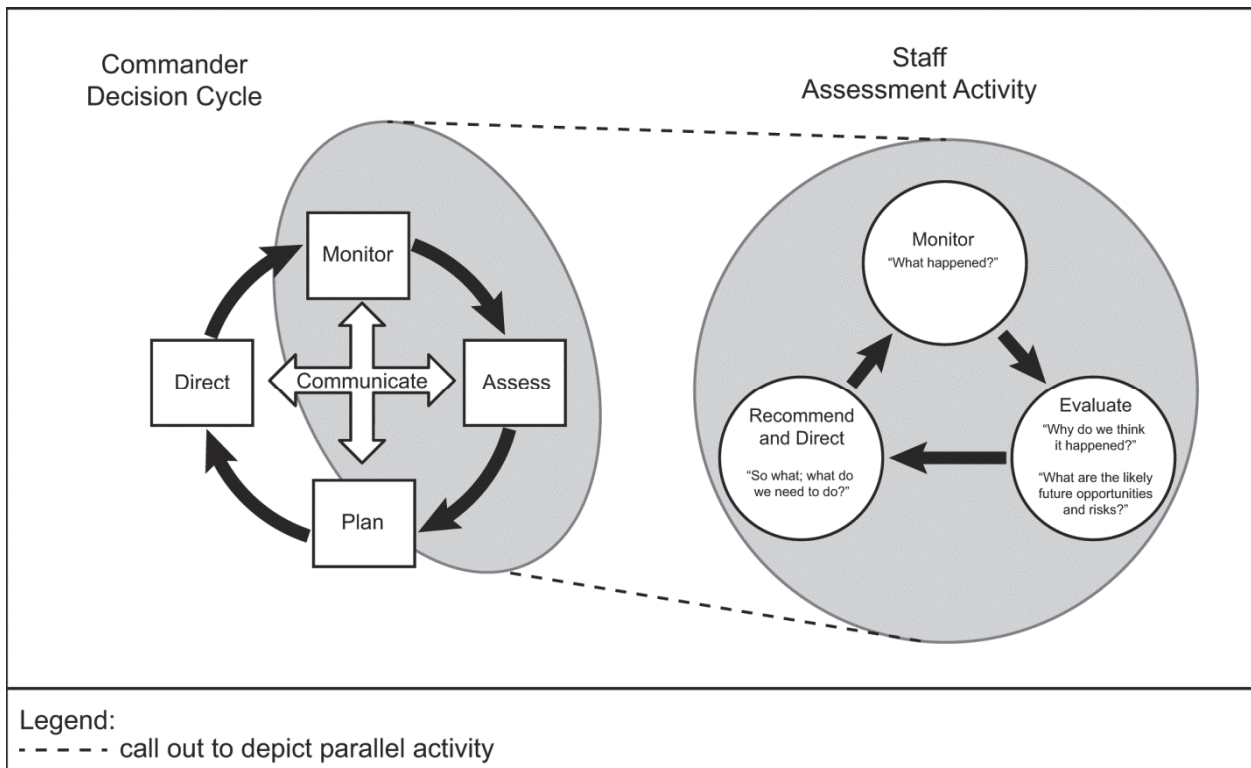
Commanders also must synchronize staff efforts and reinforce collaboration, and eliminate stovepipe situations during execution.

c. Commanders leverage staff and subordinate commander assessments, personal circulation of the battle space, discussions with stakeholders, and experience and instincts to formulate their personal, informal assessment. A commander’s personal assessment enriches subsequent guidance for operational approach and planning, commander’s intent, prioritization of effort and resources, and operation execution in pursuit of mission accomplishment.

d. Commanders must empower staff assessment activity to ensure the best possible, informed decision-making. While it is critical for commanders to remain engaged in assessment activity, it is equally important for the commander to remain objective if the staff is to provide an unbiased assessment. Therefore, it may be prudent for a senior leader, other than the commander (such as the chief of staff (COS)), to direct the assessment.

**5. Staff Role in Assessment**

a. As depicted in figure 4, staffs perform a critical role by conducting a formal assessment parallel to the commander’s personal, informal assessment.



**Figure 4. Assessment and the Commander’s Decision Cycle**

b. Staff assessments inform and strengthen their commander's assessment. This role was challenging for many staffs during combat operations in OEF and Operation IRAQI FREEDOM. The primary challenges staffs must often overcome to enable effective staff assessment activity follow.

(1) Integrate assessments into the planning and operations processes from the outset. Many staffs are formed late in the deployment process with additional team members and stakeholders added in the JOA. Such staffs often lack sufficient familiarity and training for effective integration of operation assessment. The most successful staffs are those where commanders invest heavily in organizational development to identify critical roles, functions, and processes and devise methods of implementation that eliminate stovepipes and duplicative processes. The Air Force routinely applies this concept to build staff teams for major exercises prior to execution. Some Army brigade commanders have contracted organizational development experts to assist with staff training in the final month prior to combat deployments to overcome staff manning challenges punctuated by numerous late arrivals.

(2) Units must conduct an adequate analysis before acting. Some organizations have a tendency to execute the plan rather than adapt to changes in the OE. The result, unnecessary action often is taken before achieving an adequate OE understanding. This is largely due to not comprehending the iterative nature of assessments and the value in testing assumptions before acting. Consequences can be far reaching. Unnecessary action often increases the incidence of unintended host nation populace and governmental expectations and the potential for strategic blunders early in an operational commitment that may have lasting negative implications and increase OE complexity.

(3) Many staffs are unable to keep pace with a commander's personal assessment driven by continual engagement with subordinate commanders, stakeholders, and their personal OE sensing during battle space circulation. Staffs are inherently isolated from the sights and smells of the battlefield, and must rely upon information provided by operational and intelligence reporting. As a result, meaningful contributions to assessment can be limited. Staffs best able to keep pace with and contribute meaningfully to the commander's assessment are those that leverage the collection management process, effectively calibrate the assessment activity to the pace of operations, and recalibrate assessments as the operation progresses through the joint operation phases.

c. Effectively supporting the commander requires staff assessment activity to conform to the commander's decision-making style. When it comes to thinking through how best to support commander decision-making, several aspects are worth considering, including the following.

(1) How does the commander prefer to make decisions? Some are comfortable receiving decision briefings, "slapping the table" with a decision at the end, and providing their guidance verbally. Others prefer to receive briefings deskside or via electronic or paper means so they can mull over the issue and spend a bit more time constructing their guidance.

- (2) How does the commander prefer to receive and process information? Some are extremely detail oriented and want to see the data and analysis that went into a decision brief or assessment product. Others are comfortable making a decision based on short point papers and the staff's recommendation.
- (3) What role does the commander want to play in the assessment? Some want to be intimately involved in the design and execution of their assessment, while others prefer to leave all but the most critical decisions up to others (e.g., COS or deputy commander).
- d. Commanders form assessment teams at all levels of command. While a universal staffing formula has yet to be determined, assessment within the HQ is a staff-wide effort, and not simply the product of an assessment cell.
- (1) Assessment benefits greatly from the professional military judgment of staff officers within their area of expertise. A broad range of skills adds balance to assessment activity and products. Some of the needed functional areas for an assessment team include intelligence, operations, logistics, plans, communications, civil affairs, host-nation representatives (if applicable), and other relevant stakeholders.
- (2) Primary staff officers conduct assessments as part of their normal responsibilities. They also can form and chair standalone assessment groups, joint planning teams, and operational planning teams, as necessary. Staff principals must provide resources to subject matter experts (SMEs) for required sub-working groups to ensure continuity and unity of effort.
- (3) While it may be preferred to vest leadership responsibility in the Operations Planner (J-5) (when available), the Operations Officer (J-3) is typically responsible. In any event, the leader must have the authority to supervise, integrate, and synchronize the staff in the execution of the assessment.
- (4) The specific assessment team structure should be a function of mission, level of assessment effort, and resources available in terms of time, systems, and people; but, a suitably "high level" of staff principals is preferred. The team must appropriately integrate joint, multinational, and interagency stakeholders.
- (5) Consider assigning staff ownership for the various aspects or lines of effort most closely associated with staff responsibilities rather than restricting the assessment function to one staff section or cell. This ensures staff-wide inclusion; ensures quality input into the process; and, ultimately, provides a deeper, more accurate and holistic assessment to the commander. While this idea may seem to conflict with the notion of unbiased assessment as staffs are "grading their own homework," this method effectively allows responsible staff sections to bring important issues to the commander and appropriately influence necessary change.
- e. The following key roles drive assessment and integrate it into planning, operations, and decision-making.
- (1) COS. The COS guides the staff-wide assessment effort to help bolster the commander's assessment and support decision-making. The COS often has the role of ensuring all staff primaries and staff sections are participating in

assessment activity. A significant, but often overlooked, role of the COS is the ability to act as an informal mechanism for the commander to relate pertinent information garnered during battlefield circulation to the assessors.

(2) J-3 (and Assessment Cell, if resources are provided). Every HQ has some organization charged with coordinating staff assessment activity with the commander. The chief for this section should have sufficient operational experience. While having quantitatively oriented operations research and systems analysis (ORSA) expertise in the cell can be an important analysis capability, the chief needs a broader perspective to better align and guide the cell's activities. ORSA personnel's strength lay in the ability to apply mathematical and statistical solutions to a myriad of problems. However, operation assessment does not require a robust set of mathematical skills. Similarly, while a Red Team may guard against biased thinking within the HQ, a distinct Red Team is not required for operation assessment.

(3) Intelligence Officer (J-2), Joint Intelligence Support Element (JISE), and Joint Intelligence Operations Center (JIOC). The J-2 plays an important role in assessment, particularly the OE component of the assessment. The J-2, JISE, and JIOC provide much of the necessary information, and much of these data are often broader than a military-only perspective.

(4) Staff Primaries. Because the entire staff has a role in assessment, commands, generally, assign staff ownership for the various aspects or lines of effort most closely associated with their staff responsibilities rather than restrict the assessment function to one staff section or cell.

(5) Mission Partners and Stakeholders. Commanders should appropriately include nongovernmental, interagency, coalition partners, and other stakeholders in arriving at their assessment. These additional perspectives enrich assessment. Continuous collaboration among the HQ and outside mission partners and stakeholders is important and desirable.

f. Effective staffs leverage and integrate planning and operations processes and existing reporting mechanisms, whenever possible, to enable assessments without adding significant time burdens to personnel and subordinate units. Among the most important staff processes are JIPOE, JOPP, joint targeting, and collection management. Chapter 5 of this MTTP discusses assessment integration into the operations process in detail.

## Chapter III ASSESSMENT FRAMEWORK

### 1. Introduction

The assessment framework organizes the staff's understanding of the OE to allow effective measurement and analysis for communication of the assessment to the commander.

a. The assessment framework broadly comprises three primary activities: organize the data, analyze the data, and communicate the assessment. Within these activities, the assessment team applies diverse approaches to specific missions. Adapting the assessment framework requires understanding the decisions necessary to support mission accomplishment. The framework is created and vetted within the JOPP, incorporates the logic of the operational plan, and uses indicators to determine progress toward attaining desired end-state conditions. While the overall approach to assessment is inherently qualitative, the employed information and the analysis approaches attempt to balance quantitative and qualitative methods supporting the assessment.

b. The assessment is not deterministic. Using a framework does not imply commanders mathematically determine the outcomes of military operations. Commanders and staff officers apply professional military judgment to analysis results to determine progress holistically. For example, commanders in an enduring operation may receive a monthly formal assessment briefing from their staff. This briefing includes the formal assessment products and expert opinions of staff members, subordinate commanders, and other partners. Commanders combine what they find useful in those viewpoints with their personal assessment of operations, consider recommendations, and direct action (as needed).

(1) Organize the Data. This stage compartmentalizes the OE by end state, phase, and geography (i.e., purpose, time, and space), or by other means appropriate to the situation, as determined by best military judgment. Remember, each MOE, MOP, critical question, or other metric informs the assessment. Assessors need to record why and how the effects expressed via metrics and critical questions, if achieved, help generate the end state or desired effect. The effective organization of these data lends to a clear understanding of their relevance and limitations, and the underlying logic behind their use; thus, supporting an effective assessment.

(2) Analyze the Data. Describe progress toward or regress away from achieving the end state, including the likely future trajectory of the operation. When able, apply qualitative and quantitative methods of analysis. Apply professional military judgment to address metrics and critical questions individually; seek to answer the fundamental questions of assessment; and then combine them into a relevant, holistic product for presentation.

(3) Communicate the Assessment. The commander will provide guidance on the presentation method. The presentation should be concise and clear while guarding against over simplification. Assessors must ensure full documentation of

every chart, diagram, table, and bullet. Every simplified presentation technique risks losing meaning or hiding gaps in logic. The display method used is not an analytic or assessment technique. It is simply a way to communicate the assessment to the commander, and should stand on its own.

## **2. Organize the Data**

a. The overall organization of data is fundamental to successfully developing the assessment. During mission analysis and COA development, assessors gain understanding of the OE, operational approach, and commander's logic for the plan. Based on this understanding, the commander and staff develop MOPs, MOEs, critical questions, and other metrics reflecting the commander's desired end state. These metrics serve as a basis for information gathering and plan refinement. The indicators are the actual data collected to inform the metrics and critical questions.

b. Part of organizing the data is addressing its validity. One rule of thumb when addressing data validity is to answer the question, "Is the data collectable, measureable, and relevant?" Gather data from credible sources. Describe any error within the data. For example, the intelligence community has standing procedures that vet collections data accuracy. Also, the North American Treaty Organization (NATO) assessors use the five-step process to check data listed as follows.

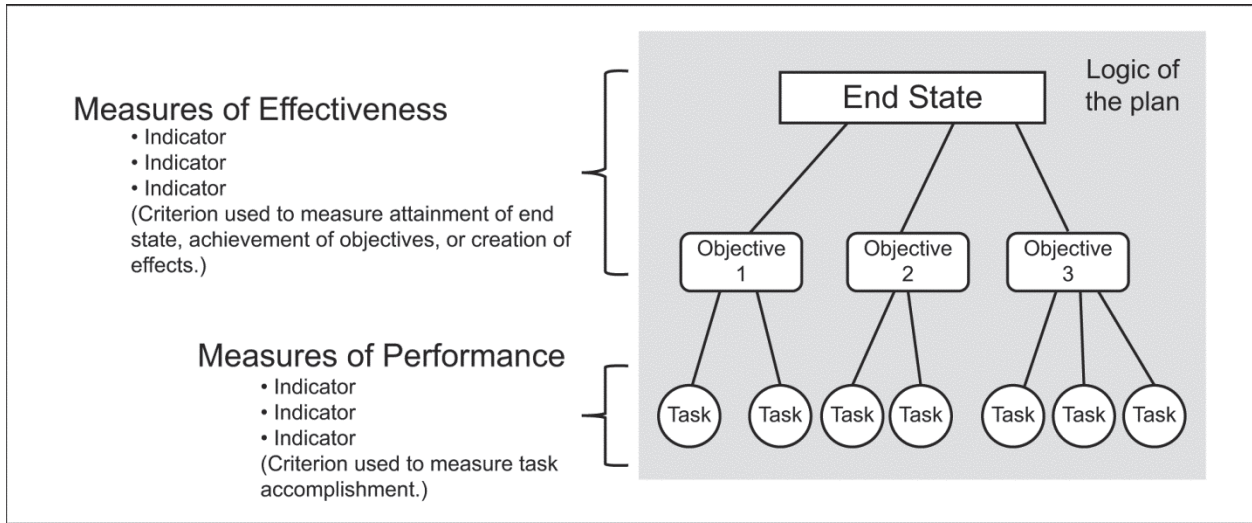
- (1) Data Profiling—inspect the data for obvious errors, inconsistencies, redundancies, or incomplete information.
- (2) Data Quality—verify the data, paying particular attention to those data that lie outside the expected range.
- (3) Data Integration—match, merge, or link data from a variety of disparate sources, looking deeper where independent sources provide different pictures.
- (4) Data Augmentation—enhance data using information from internal or external sources that were not included in the original analysis plan or data collection matrix.
- (5) Data Monitoring—look at the longer-term history of data to ensure control of data integrity over time.

Assessors should apply similar scrutiny to all data comprising the assessment. Assessment products must make the commander aware of data caveats, assumptions, limitations, and usability. Based on the process of evaluating data relevance, it is likely a number of the MOEs, MOPs, critical questions, and other metrics initially developed during planning will require refinement or elimination from the assessment plan.

c. Data associated with the OE may be organized by end state, phase, geography (i.e., purpose, time, and space), or a combination of these methods.

- (1) The purpose of a military operation is inherent in the commander's desired end state conditions. Planners often organize end states within plans or orders using key tasks, objectives, etc., as depicted in figure 5. Figure 5 illustrates the logical application of MOEs and MOPs as they relate to the commander's end state. Substituting or augmenting MOEs and MOPs with critical questions or

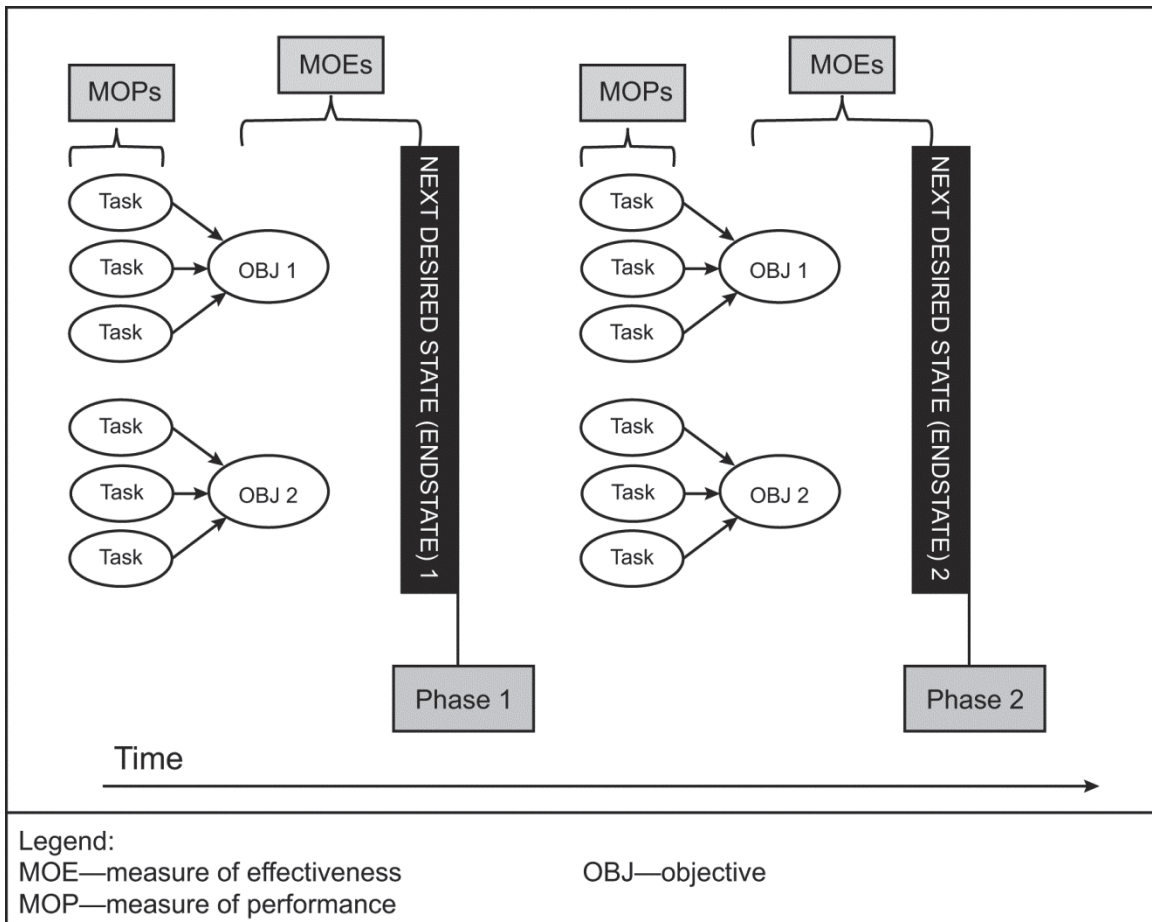
other metrics also could be used for this example. The end state acts as the starting point from which to distill further objectives and tasks.



**Figure 5. Organization of Data by End State**

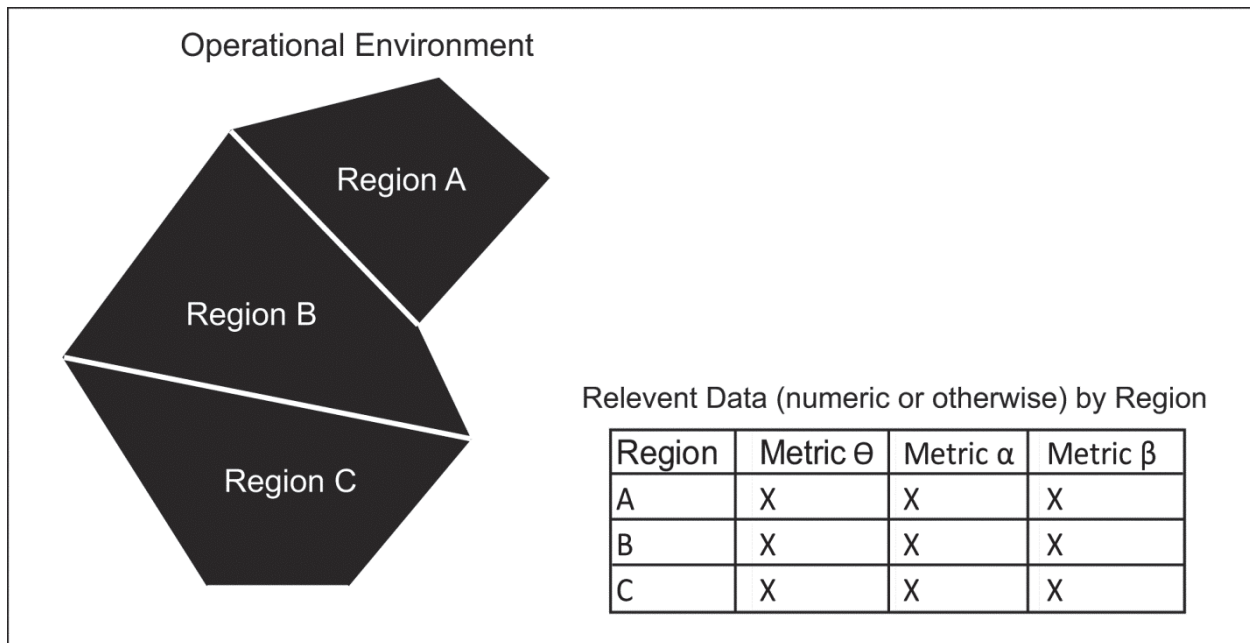
Note: MOPs indicators are often accepted tactical task doctrinal completion standards and, therefore, not normally stated explicitly.

(2) Planners often sequence military operations by phase and tie phases to time, objectives, or end states that accompany the phases. In this case, planners organize data hierarchically and sequentially by time. Data organized by phase may reflect where the force is simultaneously addressing multiple objectives or end states, and identifies a means for describing progress by trends. Figure 6 illustrates MOEs and MOPs tied to phase-specific end states, tasks, and objectives. Substituting or augmenting MOEs and MOPs with critical questions or other metrics could be used for this example.



**Figure 6. Time Sequenced Organization of Data**

(3) Specific geographical regions may define the boundaries for data organization. Various regions of the JOA, regarded as critical terrain, may demand assessments. Figure 7 is an example of assessment data defined by region.



**Figure 7. Geographical Organization of Data**

Note: The three primary methods of organizing data are complementary. In the instance depicted in Figure 7, several regional sets of data also could be organized by time to reflect a combination of all three methods of organization.

d. The following are cautionary notes to consider when organizing data for an assessment.

- (1) Do not let the availability of data drive the approach to data organization.
- (2) Do not be trapped into measuring what is “possible” to measure rather than what is “needed” to be measured.
- (3) Do not ignore data that are hard, but necessary, to measure. Report them early in the planning process to the commander. Not allocating collection resources to necessary measures puts the assessment quality at risk, and the commander needs to decide whether to accept that risk, reallocate resources to collection, or adjust the assessment plan.

e. Regardless of the specific approach chosen to organize data for the assessment, it is imperative that the staff explicitly records the logic used to select organization methods and adapt the framework. Staffs make organizational choices for a reason, and they must record the reasoning in a narrative form in the formal assessment plan. Lessons learned show formal assessment plan rationale routinely becomes lost during force rotations. Recording the assessment plan logic in an assessment annex to the operations order mitigates this risk.

### 3. Analyze the Data

a. After organizing the data and conducting collection and monitoring activity, assessors must address its meaning. Analysis seeks to identify operationally significant trends and changes to the OE and the trajectory of the operation. Using professional military judgment, the assessment describes progress toward or

regress away from achieving end states, objectives, decisive conditions, and effects by answering the essential assessment questions addressed in chapter 2, paragraph 1.d:

- (1) “What happened?”
  - (2) “Why do we think it happened?”
  - (3) “What are the likely future opportunities and risks?”
  - (4) “So what - what do we need to do?”
- b. To identify trends and changes, it is necessary to select from the data those differences that are the result of real changes in the system being monitored, rather than simply noise or normal variation in the collected indicators. Each question may have several answers that assessors must prioritize during their analysis. Some questions may be unanswerable. Assessors compile answers to the assessment questions into a final report for communication, focused on the commander’s end state.
- c. The following considerations apply when performing analysis.
- (1) When considering MOPs, ask: “Are we doing things right?” For each MOP, apply professional judgment and provide reasoning based on observations and data addressing how well each task was completed and if there are any shortfalls. Explain why shortfalls occurred and recommend what to do about them.
  - (2) When considering MOEs, ask: “Are we doing the right things (to effect the desired change in the OE)?” For each MOE, apply professional judgment and provide reasons based on observations and data that describe progress towards the commander’s end state conditions (including desired effects) and likely future obstacles to success. Answer the questions:
    - (a) What is the problem or gap?
    - (b) Why is there a problem or gap?
    - (c) What information, not seen, would indicate a problem or gap if present? Such information often requires subsequent research or collection to determine its actual existence.
  - (3) Because people are naturally optimistic or pessimistic, mitigate these biases by using a “devil’s advocate” or deliberately pessimistic approach. Do the assessment from a deliberately pessimistic viewpoint. If adequate time is available, do it again from an optimistic view and reconcile the outcomes.
  - (4) Assessment reports may be a narrative assessment for each end-state condition, using measures (MOEs, MOPs, standards, other metrics or critical questions, and indicators) to argue for or against progress rather than attempting to combine the measures in one holistic mathematical model. Using this approach, the assessment team builds the most convincing arguments they can for and against the achievement of a particular end-state condition. The assessment team leader adjudicates when the collective judgment is in dispute.
  - (5) Assessors should incorporate individually analyzed MOPs, MOEs, critical questions, and other metrics into a coherent, final assessment that extracts

maximum meaning from the available data. The insights gained from this analysis support creating actionable recommendations.

(6) Military operations are inherently human endeavors. Deterministic and mathematical models may falsely conceal the complexity of warfare, though some may be useful in certain analysis applications. Models, alone, do little to describe complex, ill-structured OEs and must include supporting context to be meaningful. In any case, the presence of numbers or mathematical formulas in an assessment does not imply deterministic certainty, rigor, or quality. As such, assessors should not be compelled to use mathematical modeling unless the models have been scientifically validated for use in the current OE.

(7) Military units often find stability tasks the most challenging to assess accurately. Use caution when attempting to quantify data related to social phenomenon. These types of data normally require sound statistical approaches and expert interpretation to be meaningful in analysis. Assessors should use all available expertise, including academically credentialed members of the staff, in particular, when treating data related to stability. There are quantifications that can be useful, but how one interprets those quantifications can be problematic.

(8) Take care when using a single list of metrics to inform the assessment of multiple areas and missions. Though such lists are often helpful as considerations for planning assessment, they should not become standards for performance at the tactical level of operation. Such informal standards of performance may encourage a misdirection of efforts and inappropriate expenditure of resources because not all situations require the same metrics.

#### **4. Communicate the Assessment**

a. The commander has numerous avenues for receiving information to support decision-making, among them is communicating the assessment.

(1) Communicating the assessment, clearly and concisely, with sufficient information to support the staff's recommendations and without too much trivial detail, is challenging.

(2) Commanders and staff officers must understand that the depiction of the assessment is NOT the assessment itself. Neither is it data for analysis. Well-designed assessments evaluate changes in indicators describing the OE and the performance of organizations. They contain a great deal of rigor that is not part of the depiction because the commander does not need to see the detail of every indicator. It is the staff's responsibility to organize the data; evaluate them (answer the four questions); and communicate, concisely, the results of their analysis (i.e., the assessment results, including recommendations) to the commander for a decision.

(3) The commander needs to see only those things specifically requested and that the staff thinks the commander needs to see.

(4) The depiction of the assessment is simply a communication method designed to convey information clearly and concisely to decision-makers. The depiction is NOT the assessment.

b. When planning to communicate the assessment:

(1) Analyze the operations process and staff battle rhythms to determine the appropriate interval and venue for the staff to communicate the assessment to best support planning, operations, and commander decision-making. Determine the likely method of communicating the assessment based upon the communicated information and the commander's personal preference.

(2) Receiving guidance from the commander is always the most critical step in designing the communication of the assessment. All the analysis in the world is useless if the communication is deficient or inconsistent with the commander's personal style of digesting information and making decisions. Scheduling feedback mechanisms for a time when the commander is always available and protecting the event is key.

(3) Staffs should strive to align efforts while communicating assessments. Inclusion of various staff products gains efficiencies by possibly eliminating duplicative briefings and decision boards. It also serves to convey proper context and ensure a staff-wide dialogue with the commander. Potential additional inputs may come from the following.

(a) Staff Estimates. Though generally not briefed, staff estimates should be accessible to answer questions. Staff primaries may include estimates while communicating their portions of the overall assessment report.

(b) JIPOE and Priority Intelligence Requirements (PIRs). As it links directly to decision points, briefing a PIR assessment adds necessary context to the assessment report. PIR assessment should relate the ability to collect on PIR and the progress achieved for each.

(c) Joint Targeting Cycle Results and Joint Integrated Prioritized Target List (JIPTL). Targeting results provide contextual snapshots of operations conducted for attendees not normally in the HQ for daily battle rhythm events. Inclusion of a holistic JIPTL review enables clear establishment and shifting of priorities beyond lethal targets.

(d) Commander's Planning Guidance and Operational Approach. Though generally not briefed, commander's planning guidance should be an accessible reference. An operational approach review provides the opportunity for an azimuth check to ensure assessment and commander guidance grounding in the desired end state.

(e) Outside Stakeholders and Key Enablers. These personnel often are not present in the HQ on a daily basis as they have their own operations to tend. Attendance provides the opportunity to gain a shared understanding, engage in dialogue, and eliminate ambiguity.

(f) Subordinate Commanders. Periodic attendance enables a full dialogue and eliminates ambiguity by ensuring key information and messages are not lost while staffs construct the formal assessment report. Consider monthly attendance at the lower tactical level to quarterly attendance at the higher tactical level. Attendance frequency usually depends upon the frequency of assessment cycles and how often the commander desires subordinate commanders' attendance.

- (g) Military Information Support Operations (MISO) and Media. MISO and media operations shape operations. Therefore, winning the battle for the narrative is essential to achieving objectives at all levels of warfare. Winning the narrative requires effective monitoring of the information environment. Inclusion of MISO and media in assessment reporting mechanisms and products enables commanders to proactively consider and direct information action to “be the first with the truth”, to counter enemy messaging, and focus upcoming media engagements on stories the commander wants told with some modicum of agility.
- c. The following considerations apply when communicating the assessment.
- (1) Assessment activity must engender communication within the staff or the quality of the assessment becomes compromised. The communication of the assessment must spark a two-way conversation between the commander and the staff. The commander will challenge the staff’s assumptions and conclusions, and then provide his guidance. Without the commander’s decision and subsequent action, the assessment has no value.
  - (2) The communication methods the staff selects depend upon the information presented and the preferences of the commander. Regardless of the methods, assessment products must be clear and concise, but not oversimplified. Every simplified presentation technique risks losing meaning or hiding gaps in logic. As Albert Einstein said, “Make everything as simple as possible, but not simpler.” Most of all, it is imperative that the communication method answers the assessment questions.
  - (3) Assessors must document fully any product that leaves the HQ so it is transparent to readers outside of the organization. When depicting assessment information on a slide, the slide should stand alone with notes, if necessary, so if used in another briefing or alone, it does not lose its context.
  - (4) Assessment products must guard against known biases, including those of the commander, the staff, and the assessment team. Avoid common biases such as silver bullets (panaceas); assumed answers (group think); news that the boss does not want to hear; over optimism; and expectation bias (what does “green” really mean?). *The University of Foreign Military and Cultural Studies Red Team Handbook* and the *Air Force Tongue and Quill (Air Force Handbook (AFH) 33-337)* discuss these common biases.
  - (5) Graphic products frequently display a status and a trend of an indicator that represents a fact or judgment. Accurately differentiating between facts and judgments within the assessment enables their accurate communication. An example of a factual indicator would be counting the number of unit personnel trained on a task, while an example of a judgment-based indicator would be the leader’s assessment of the unit’s ability to execute a tactical task. Metrically, a unit can be “green” on all individual indicators and judged “amber” on the assigned task.
- d. Assessors can use various ways to communicate assessment information. While not exclusive, the following is a list of common practices for communicating information, the appropriate use of each, and some advantages and disadvantages

of each. Assessors must take care not to allow any displayed indicator to supplant the objective. In other words, the joint force's objective is to change the OE in support of the end state. The objective is NOT merely to "get a green" on a briefing chart.

(1) Narrative.

(a) The narrative adds context and meaning to empirical information that forms the basis of the assessment result. Alone, a well-written narrative answers the four essential assessment questions. However, when coupled with some form of graphic depiction of empirical information, the narrative still answers the four questions, but does so in a manner that is usually more convincing than the narrative alone. A narrative is also the only way to express recommendations and explain risks and opportunities.

(b) A well-written narrative is difficult and time consuming to produce, because it requires logical thinking and clear, concise writing skills. It also requires time and effort on the part of the reader to understand and evaluate the ideas contained in it. Like a table, a poorly written narrative can obscure essential points by providing too much information.

(2) Stoplight Chart (Bubble Chart).

(a) A stoplight chart (shown in table 2) uses several levels of assessment to depict the status of an indicator. The most common colors used are red, amber, and green, which give the chart its name. Stoplight charts are useful because, universally, commanders understand them, and stoplight charts effectively draw the commander's attention to items that require it.

(b) Often, stoplight charts are an abbreviated method of providing judgments about the implications of information that may be quantifiable, such as the amount of ammunition on hand or the graduation rate of a partner nation's basic officer course. In this case, the levels need to be clearly defined and generally uniform across subordinate elements. For example, fewer than five rifle magazines per service member is "amber" or a graduation rate greater than 90% is "green." Assessors should define required thresholds of each color during assessment framework development to increase objectivity and provide a clear understanding of requirements, rather than develop the color standards during data analysis.

(c) Sometimes, stoplight charts present simple information that is not easily quantifiable, but has a clear order. For example, a unit leader's judgment of the unit's ability to accomplish a tactical task as "untrained, needs practice, or trained" or the status of a civil affairs project as "stalled, on track, or complete."

(d) Stoplights have important limitations. For example, the simplicity of the communication method may be mistaken for simplicity in the described system (which is actually complex or ill structured) or may hide a lack of rigor in the assessment. Additionally, stoplights poorly depict a series of items where most have an indeterminate status. In other words, if all items are amber, the commander is not well informed.

<b>Table 2. Stoplight Chart Example (1230 Report to Congress, July 2013)</b>		
<b>Line of Operations (LOO)</b>	<b>Current Capability Milestone Rating (CM)</b>	<b>CM-1B Date</b>
<b>LOO #1: Support to Operations</b>		
Afghan Ministry of Defense Intelligence Policy	CM4	Post 2014
Afghan Ministry of Defense Reserve Affairs	CM2B	3Q, 14
Ministry of Defense Chief Constructor and Property Management Division	CM2B	1Q, 14 Army
General Staff G2 Intelligence	CM2B	2Q, 14
General Staff G3 Operations	CM2A	3Q, 13
General Staff G5 Policy and Planning	CM1B	Achieved
General Staff G6 Communications	CM2A	4Q, 13
General Staff G7 Force Structure, Training and Doctrine	CM2A	3Q, 13
Ground Forces Command	CM2B	4Q, 13
Afghan National Army Special Operations Command	CM3	1Q, 14
Afghan Air Force Command	CM2B	Post 2014
Medical Command	CM2A	4Q, 2013
<b>CM Rating Legend</b>		
CM-1A	Capable of autonomous operations.	
CM-1B	Capable of executing functions with coalition oversight, only.	
CM-2A	Capable of executing functions with minimal coalition assistance; only critical ministerial or institutional functions are covered.	
CM-2B	Can accomplish its mission but requires some coalition assistance.	
CM-3	Cannot accomplish its mission without significant coalition assistance.	
CM-4	Department or institution exists but cannot accomplish its mission.	

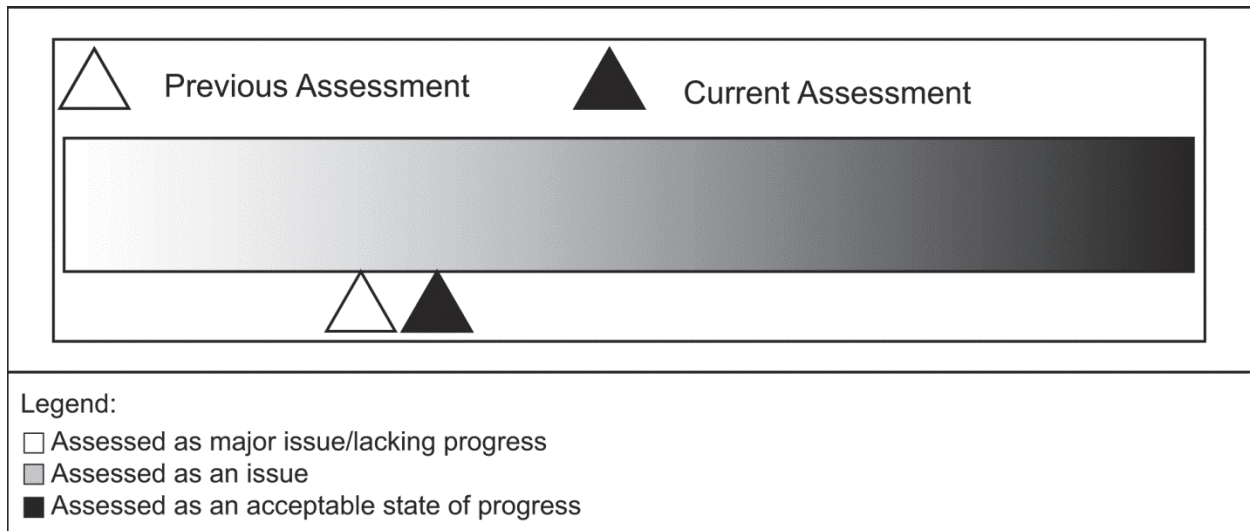
(3) Thermographs.

(a) A thermograph is a colored depiction similar to a stoplight. The difference is it depicts progress with slider bars along a single continuum.

(b) Thermographs permit the appearance of more nuance in an assessment than a stoplight chart. They suffer from the limitation that, often there is no consistent or objective method for precisely locating the slider. Therefore, the thermograph creates the illusion of science, where decision makers viewing the graph may think the movement of the sliders on the graph accurately depicts the nuance that is apparent in the environment. Typically, it is not. Consequently, most trained assessors discourage using thermographs in favor of other methods of communication.

(c) A thermograph can be useful as an abbreviated method to portray easily quantifiable information. However, in this situation, the statement of the actual quantity in the current period, as part of a trend, is probably better. For information that is not easily quantifiable, thermographs oftentimes suffer from

the assessor's temptation to nudge the slider to the right. Figure 8 is an example of a thermograph chart.



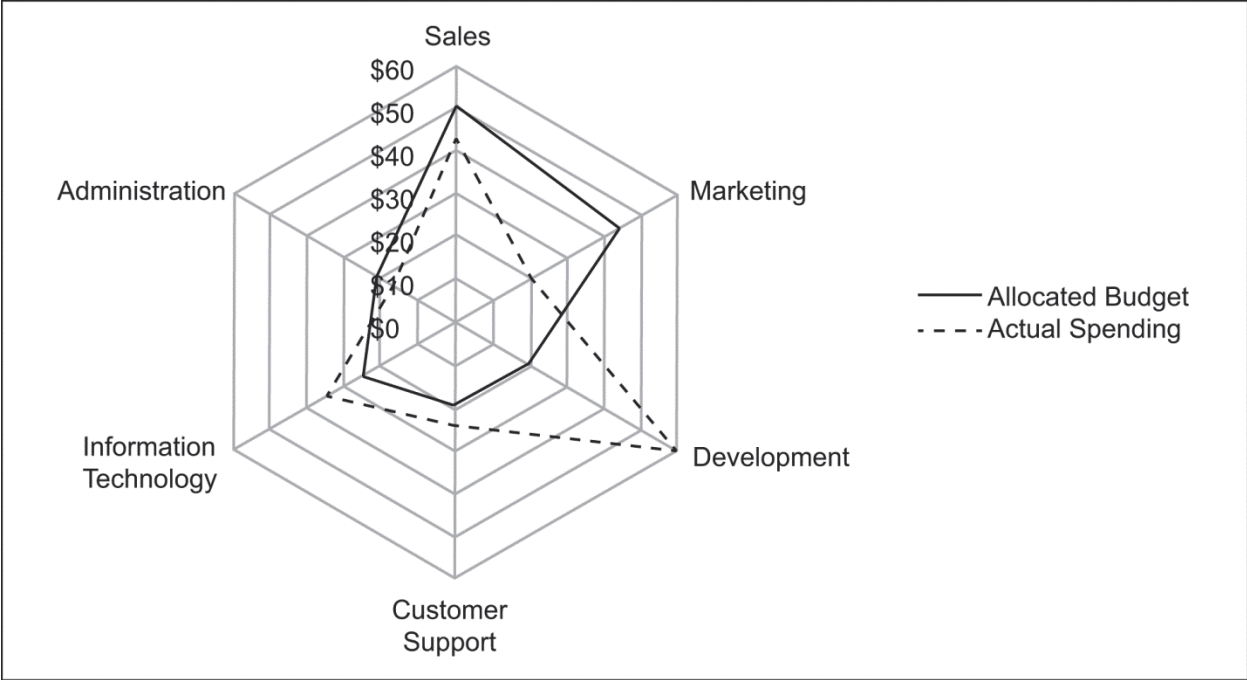
**Figure 8. Thermograph Example**

(4) Spider or Radar Chart.

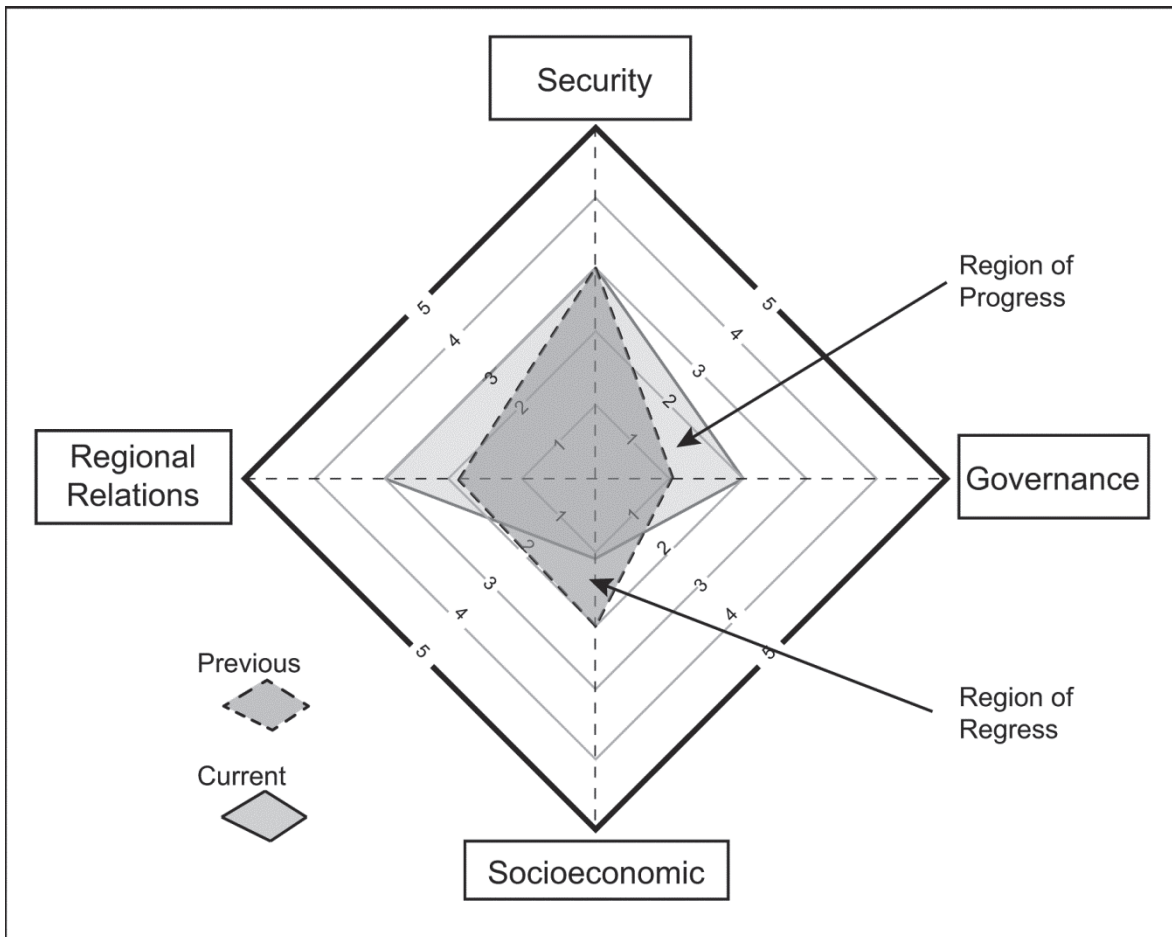
(a) A spider chart allows the depiction of several indicators in the same graphic. A spider chart is useful for comparing alternatives based on several criteria when measuring the criteria in the same unit (i.e., dollars or days). If a “best” alternative exists, it is best in all or most criteria and the best alternative becomes obvious. If one alternative is best in one criterion and another alternative is best in some other criterion, the chart is not as useful.

(b) Spider charts also can compare planned conditions to what actually occurred. Figure 9 compares budgeted expenditures in several categories to actual expenditures in the same period. The military use of spider charts to depict several ordinal indicators simultaneously can depict change, as illustrated in figure 10. However, one cannot directly compare across dimensions because depicted indicators are often not of the same units of measure. These ordinal depictions are the equivalent of several stoplights leaned together.

(c) Assessors must avoid the temptation to calculate and compare the geometric areas within the lines that join the indicator values, such as the polygons depicted in figure 9. Such calculations are meaningless and contaminate the assessment with nonsense.

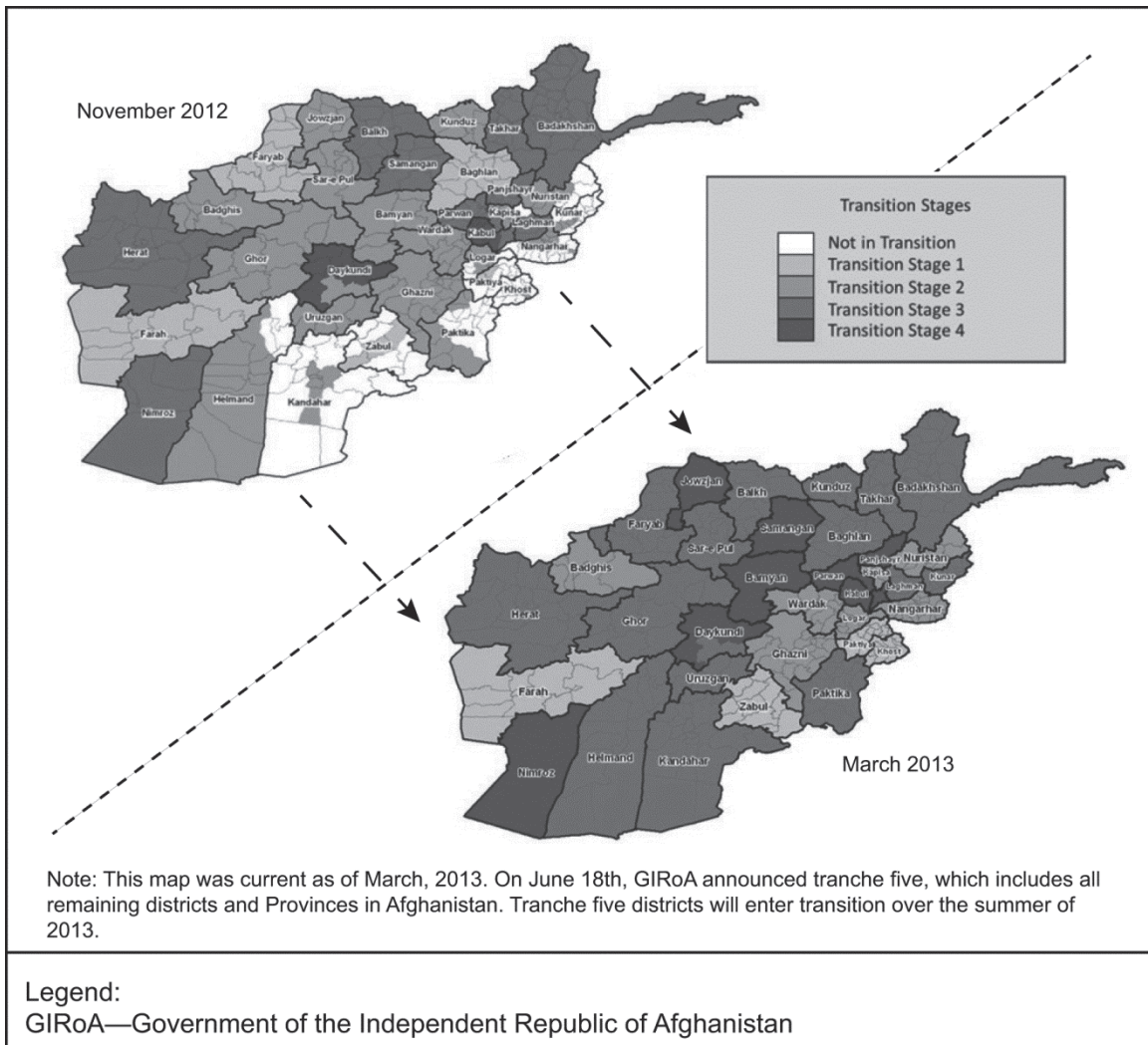


**Figure 9. Spider Chart Example**



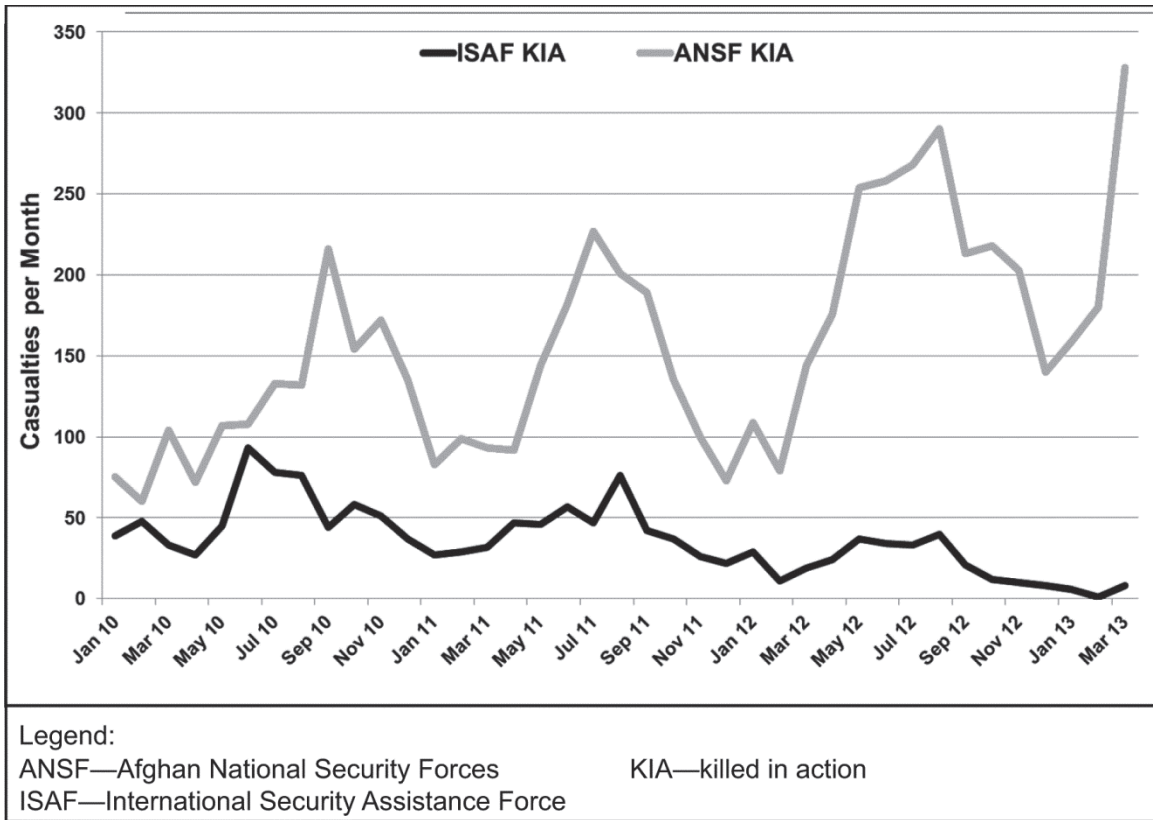
**Figure 10. Spider Chart Depicting an Ordinal Assessment**

(5) Geospatial. A geospatial chart, as shown in figure 11, is the only way to communicate geographical or spatial data. Geospatial communication methods can provide nominal information (such as demographics) or it can provide ordinal information on a color scale (such as the status of security at the district level). The use of geospatial communication methods draws the attention of decision makers to areas on a map that requires additional focus. Geospatial charts also can depict the density of events (such as the locations and number of IED or small arms attacks along a specific route). The main limitation of geospatial communication methods is that the scale of the map can hide important details. For example, a national-level map may depict an entire province as transition ready, while a provincial-level map may expose important areas within the province where major problems still exist.

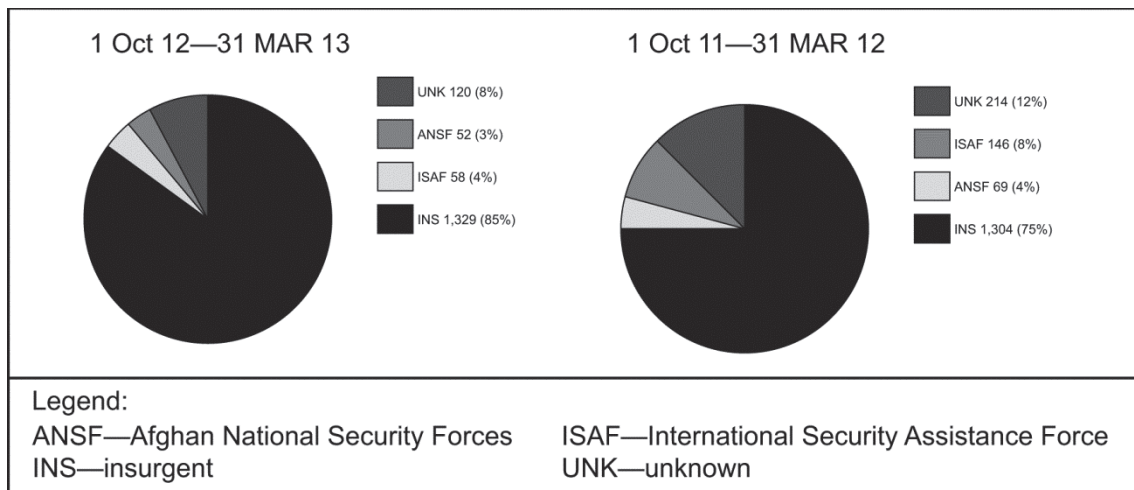


**Figure 11. Geospatial Example (1230 Report to Congress, July 2013)**

(6) Graphs. Graphs (i.e., line, bar, and pie) provide methods for depicting information as a picture. Graphs enable easy understanding of trends and relative magnitudes, such as the number and types of attacks or the number of host nation forces trained in a specific period. Figure 12 is an example of a line graph and figure 13 is an example of a pie graph.



**Figure 12. Line Graph Example (1230 Report to Congress, July 2013)**



**Figure 13. Pie Graph Example (1230 Report to Congress, July 2013)**

(7) Tables. Tables provide a means for decision makers to obtain quantitative information in a concise format (as shown in table 3). Tables are so efficient at providing information that assessors can easily include large volumes of information that often distracts decision makers from the most critical indicators and their implications. Assessors should include a clear accompanying statement of the assessment with every table communicated to a decision maker.

<b>Table 3. Table Example (1230 Report to Congress, July 2013)</b>						
<b>Operational Category</b>	<b>Oct 12</b>	<b>Nov 12</b>	<b>Dec 12</b>	<b>Jan 13</b>	<b>Feb 13</b>	<b>Mar 13</b>
ISAF SOF Unilateral Operations (Total)	11	19	31	16	2	6
ANSF SOF Unilateral Operations (Total)	39	55	45	28	1	75
ANSF-led, Partnered SOF Operations	233	207	140	156	108	132
ISAF-led, Partnered SOF Operations	48	25	26	28	38	2
ISAF SOF Advised Operations with ANSF in Lead	47	53	63	78	57	23
<b>Total Ops</b>	<b>378</b>	<b>359</b>	<b>305</b>	<b>306</b>	<b>206</b>	<b>238</b>
Total Partnered or Advised SOF Operations	328	285	229	262	203	157
Total ISAF-Led Operations	59	44	57	44	40	8
Total ANSF-Led Operations	319	315	248	262	166	230
Percentage of Total Operations Led by ISAF	16%	12%	19%	14%	19%	3%
Percentage of Total Operations Led by ANSF	84%	88%	81%	86%	81%	97%
Legend: ANSF—Afghan National Security Forces ISAF—International Security Assistance Force SOF—special operations forces						

## 5. Examples of Framework Adaptations from Recent Operations

This paragraph provides four vignettes of assessment efforts from recent operations.

### a. Joint Special Operations Task Force-Philippines.

#### **Joint Special Operations Task Force-Philippines (JSOTF-P)**

As of 2012, the JSOTF-P quarterly assessment had three major inputs: command and staff, data on violence trends, and public perception survey results. These data formed responses to ten “informing questions,” which stemmed from the commander’s input on “what kept him up at night.” The three subordinate commanders to JSOTF-P also provided brief narrative appraisals of progress in their area of operations. The staff output of the assessment was a written report and a briefing of progress, trends, and recommendations presented to the commander.

**SOURCE: USSOCOM**

b. Latin American Assessment.

**Latin American Assessment**

The Latin American assessment analyzed the deployment of Latin American task forces during Operation IRAQI FREEDOM. The deployed staffs of four Latin American allies were asked to provide narrative assessments across the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) areas, broken out by three periods (i.e., before, during, after). This resulted in 84 (4x7x3) narrative vignettes that the assessment team used to evaluate trends across countries and DOTMLPF areas to arrive at a consolidated list of three key actions to improve ongoing deployments. The success of this approach depended upon using a structured narrative to solicit the free form, narrative responses.

**SOURCE: USSOCOM**

c. International Security Assistance Force Campaign Assessment.

**International Security Assistance Force (ISAF) Campaign Assessment**

As of 2012, the ISAF headquarters' assessment effort measured the state of the war in Afghanistan and the progress towards achieving strategic and campaign goals. This vignette illustrates the campaign assessment portion of the ISAF assessment effort.

ISAF commander (COMISAF) guidance for planning the assessment follows.

- The process must assess all aspects of the war in Afghanistan, rather than just the military aspects.
- The assessment must stimulate discussion among senior leaders, as opposed to just presenting information.
- The results of the assessment must be actionable. COMISAF wanted the process to identify items that could address challenges and opportunities within his span of control, and on which he could take, direct, or request action as appropriate.
- Subordinate and supporting commanders will be involved in the assessment's inputs, outputs, and outcomes.
- The ISAF assessment cell will leverage the ISAF staff and ISAF's subordinate and supporting commands for necessary expertise. The ISAF assessment cell will not act as an independent entity.
- The process will adhere to the quarterly cycle of reporting and the battle rhythm requirements levied by North American Treaty Organization and United States chains of command.

In applying the assessment framework, the ISAF assessment cell chose to organize data by purpose. The ISAF operational plan did not contain explicitly stated objectives. Rather, it listed eight essential tasks along with the assertion that accomplishment of the eight tasks would equate to mission accomplishment. The assessment cell identified four fundamental domains across which they would measure progress towards or setbacks from achieving ISAF campaign goals for each essential task. Table 4 depicts the adopted organizational method.

<b>Table 4. Generic ISAF Campaign Data Organization Method</b>				
	<b>Campaign Goals</b>			
	Campaign Goal 1			
	Campaign Goal 2			
	Campaign Goal 3			
	<b>Command Assessments</b>			
	<b>Security</b>	<b>Governance</b>	<b>Socioeconomics</b>	<b>Regional Relations</b>
<b>Campaign Essential Tasks</b>	Essential Task 1: XXXX			
	Essential Task 2: YYYY			
	Essential Task 3: ZZZZ			
	Essential Task 4: AAA			
	Essential Task 5: BBB			
	Essential Task 6: CCC			
	Essential Task 7: DDD			
	Essential Task 8: EEE			

The ISAF assessment cell developed standards for each fundamental domain for each essential task to provide a common framework for thinking about the campaign and provide necessary space for including nuance and context. COMISAF required subordinate and supporting commands to assess and report progress and setbacks for each essential task against the domain standards depicted in the five-point rating definition scale in table 5.

<b>Table 5. Notional Assessment Standards for an Essential Task</b>					
<b>Campaign Essential Task 1: Secure Areas XXXX and YYYY</b>					
<b>Category</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
<b>Security</b>	Stated areas are not secured.	Stated areas are partially secured, but with significant risk of reversion.	Stated areas are partially secured, but with moderate risk of reversion.	Stated areas are partially secured, but with minimal risk of reversion.	Stated areas are fully secured with minimal risk of reversion.
<b>Governance</b>	Key government actors are not present in the stated areas.	Some key government actors are present in the stated areas and/or their actions are significantly undermining security.	A majority of key government actors is present in the stated areas and/or their actions are moderately undermining security.	All key government actors are present in the stated areas and/or their actions are minimally undermining security.	All key government actors are present in the stated areas and they are actively working to enhance security.

**Table 5. Notional Assessment Standards for an Essential Task  
(cont'd)**

<b>Category</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
<b>Socioeconomic</b>	Security conditions in or around the stated areas are significantly hindering legitimate socioeconomic activity.	Security conditions in or around the stated areas are moderately hindering legitimate socioeconomic activity.	Security conditions in or around the stated areas are having minimal impact on legitimate socioeconomic activity.	Security conditions in/around the stated areas are having no impact on legitimate socioeconomic activity.	Security conditions in/around the stated areas are enhancing legitimate socioeconomic activity.
<b>Regional Relations</b>	Other countries are playing a significantly negative role with respect to security in the stated areas.	Other countries are playing an overall moderately negative role with respect to security in the stated areas.	Other countries are playing an overall minimally positive role with respect to security in the stated areas.	Other countries are playing an overall moderately positive role with respect to security in the stated areas.	Other countries are playing an overall significantly positive role with respect to security in the stated areas.

Data collection was conducted using the campaign assessment template depicted in figure 14. COMISAF afforded subordinate and supporting commands the ability to select and rate only those tasks and domains that pertained to their specific mission. Subordinate and supporting commands chose the standard that is most representative of their situation for each selected task in each selected domain, and provided narrative justification for their particular standard choices. Subordinate and supporting commands also provided narratives on the most significant obstacles to future progress for each selected task, the most significant opportunities for ISAF to act on, and any other items of interest. Additionally, subordinate and supporting commanders submitted a less structured, personal assessment directly to COMISAF summarizing “the heart and mind of the commander” regarding their efforts to execute the ISAF operational plan.

<b>Security</b>	LEVEL XX		<p style="text-align: center;"><b>Instructions</b></p> <p>Each subordinate/supporting command should complete the assessment template for each of the campaign essential tasks. This consists of:</p> <p>Completing the progress performance chart, using the rating levels for each domain. When putting marks on the chart for each domain, restrict placement to the hashmarks provided as these correspond to the rating levels (i.e., do not assess "between the levels"). The rating levels and their definitions cannot capture all nuances of each command's assessment; therefore, choose the "most applicable rating level" and note the exceptions (positive and negative) in the narrative fields. Connect the four marks on the progress performance chart to form a light gray shaded area with a red outline. Ensure the last quarter's assessment is included as a dark gray, shaded area with black outline.</p> <p>Provide a narrative explanation of the rating levels chosen for each domain. Focus on justifying the chosen rating level along with positive/negative exceptions, as discussed above. Include a comparison to the last quarter's assessment and expectation of future trends.</p> <p>Provide an overall assessment narrative highlighting the most important points for the commander to consider in regard to progress or setbacks in accomplishing the essential task. Recommendations for mitigating setbacks or exploiting successes should also be included.</p>
<b>Governance</b>	LEVEL XX		
<b>Socio-Economic</b>	LEVEL XX		
<b>Regional Relations</b>	LEVEL XX		
<b>Overall Assessment</b>			

**Figure 14. ISAF Campaign Assessment Data Collection Template**

Analyzing data primarily consisted of studying all the commands' responses against the developed standards for each domain of each task. Analysis revealed differences in views among subordinate and supporting commanders as to what was and was not working in the campaign. These differences often served as discussion points among the ISAF staff and for the Commanders' Quarterly Assessment Conference. Another key component of analysis was the identification of opportunities and challenges to future progress in each task, and an appraisal of the risk to the overall mission if ISAF failed to overcome the identified challenges. Appropriate actionable recommendations were developed.

The ISAF assessment cell used two distinct products to validate the analysis results during a series of working group meetings and, subsequently, to communicate the assessment to the COMISAF. The first assessment product was a set of PowerPoint slides summarizing the commands' inputs for each of the eight essential tasks. Having all of these data presented on a single slide for each of the eight essential tasks stimulated significant discussion. The inclusion of the actual standards corresponding to the "consolidated response" in the chart kept the discussion focused on achieving the stated campaign goals. Presenting subordinate and supporting commands' comments verbatim on the slides preserved and effectively communicated the raw data supporting the assessment. The second output of the campaign assessment was a narrative set of issues identified via the "overall assessment" portion of the campaign assessment template (shown in figure 15).



- Ensure Department of Defense (DOD) HA and DR readiness.

The Maritime Assessment Group organized the assessment according to stated objectives and conditions derived from the operations plan. Table 6 depicts objective linkage to effects and associated measures of effectiveness (MOEs) and indicators comprising the assessment plan.

Unanticipated mission and force package adjustments occurred during FY2013, necessitating changes to the operations plan and associated supporting objectives. Impacts on the assessment plan for FY2013 follow.

- In the original operations order, planners conceived Objective 1 as involving “health security”. The amended operations order made no provision for “health security”, so assessors scored Effects 1.2 and 1.3 as contributing to Objective 2.
- A joint force patrol vessel (Coast Guard cutter or Navy frigate) was no longer available to support MARSEC. Planners subsequently curtailed Objective 1 from conducting cooperative patrols with HN vessels to merely facilitating subject matter expert exchanges via seminars.

<b>Table 6. MOE and Indicator Linkage to Effects and Objectives</b>							
#	OBJ	EFFECT #	EFFECT	MOE #	MOE	MOE-I #	MOE-I
1	<b>IMPROVE MARITIME SECURITY</b>						
		1.1	Expand host nation cooperation in fisheries management.				
				1.1.1	Increase the knowledge, skills and abilities of host nation fisheries management personnel.		
		1.2	Improve host nation ability to provide health care to the public to sustain health security capacity.				
				1.2.1	Increase the professional expertise for host nation medical providers.		
						1.2.1.1	Effectiveness of professional Education support in host nation.
				1.2.2	Improvement in the host nation’s delivery of direct health care services.		
						1.2.2.1	Effectiveness of direct medical care support conducted in the host nation.
				1.2.3	Improvement in the host nation’s health delivery system(s).		
						1.2.3.1	Effectiveness of health system support events conducted in the host nation.
		1.3	Improve water harvesting capacity: improve access to clean, safe drinking water by installing water tanks, roofing and guttering.				
				1.3.1	Increased capacity of potable water capture and storage within planned visit areas (referenced to the predeployment site survey baseline).		

**Table 6. MOE and Indicator Linkage to Effects and Objectives (cont'd)**

#	OBJ	EFFECT #	EFFECT	MOE #	MOE	MOE-I #	MOE-I
<b>2</b>	<b>IMPROVE HOST NATION HUMANITARIAN ASSISTANCE (HA) AND DISASTER RELIEF (DR) CAPABILITY</b>						
		2.1	Improve the host nation's capacity to coordinate with regional countries to provide a timely response to HA and DR and search and rescue.				
				2.1.1	Host nation demonstrates the ability to coordinate with regional countries.		
						2.1.1.1	Host nation develops and maintains a key contact list of regional HA and DR expertise.
		2.2	Improvement in the host nation's ability to respond to a health crisis.				
				2.2.1	The host nation participates in planning and execution of medical readiness, response, and recovery activities in conjunction with a HA and DR exercise.		
						2.2.1.1	Demonstrated relevance and effectiveness of medical HA and DR services conducted in the host nation.
				2.2.2	Increase in the number of new or improved facilities from which the host nation can effectively respond to or shelter from HA and DR events.		
				2.2.3	Demonstrated increase in professional expertise and procedures of host nation HA and DR responders.		
<b>3</b>	<b>REGIONAL NATIONS CONTINUE TO BUILD ENDURING PARTNERSHIPS THROUGHOUT THE REGION</b>						
		3.1	The partner nation demonstrates coordination efforts to build the host nation's capability to respond and mitigate hazardous events.				
				3.1.1	Partner nations willingly provide personnel to plan and participate in HA and DR events		
				3.1.2	Partner nations effectively lead events as officer-in-charge, with US participation, to mitigate HA and DR events.		
				3.1.3	Host nation leaders publicly echo benefits of the operation and multilateral approach to shared security concerns.		
				3.1.4	Host nation and partner nation media reports highlight the value of a multilateral approach to improving HA and DR readiness.		
		3.2	Promote sound relationships between the visiting US and partner nation and visited host nation.				
				3.2.1	Department of State (i.e., US country team) satisfied that operation promoted US interest with the host nation.		
				3.2.2	The partner nation is satisfied that the operation promoted its interests with the host nation.		
<b>4</b>	<b>CONTINUE TO IMPROVE PARTNER NATION HA AND DR INTEROPERABILITY</b>						
		4.1	The partner nation takes an increasing role in leadership and execution compared to prior operations of the series.				
				4.1.1	Effectiveness of partner nation integration into combined command and staff for US-led host nation visits.		
				4.1.2	Effectiveness of US integration (combined command and staff) into partner nation-led host nation visits.		
				4.1.3	Capability gaps identified for any functional area in partner nation-led host nation visits.		

**Table 6. MOE and Indicator Linkage to Effects and Objectives (cont'd)**

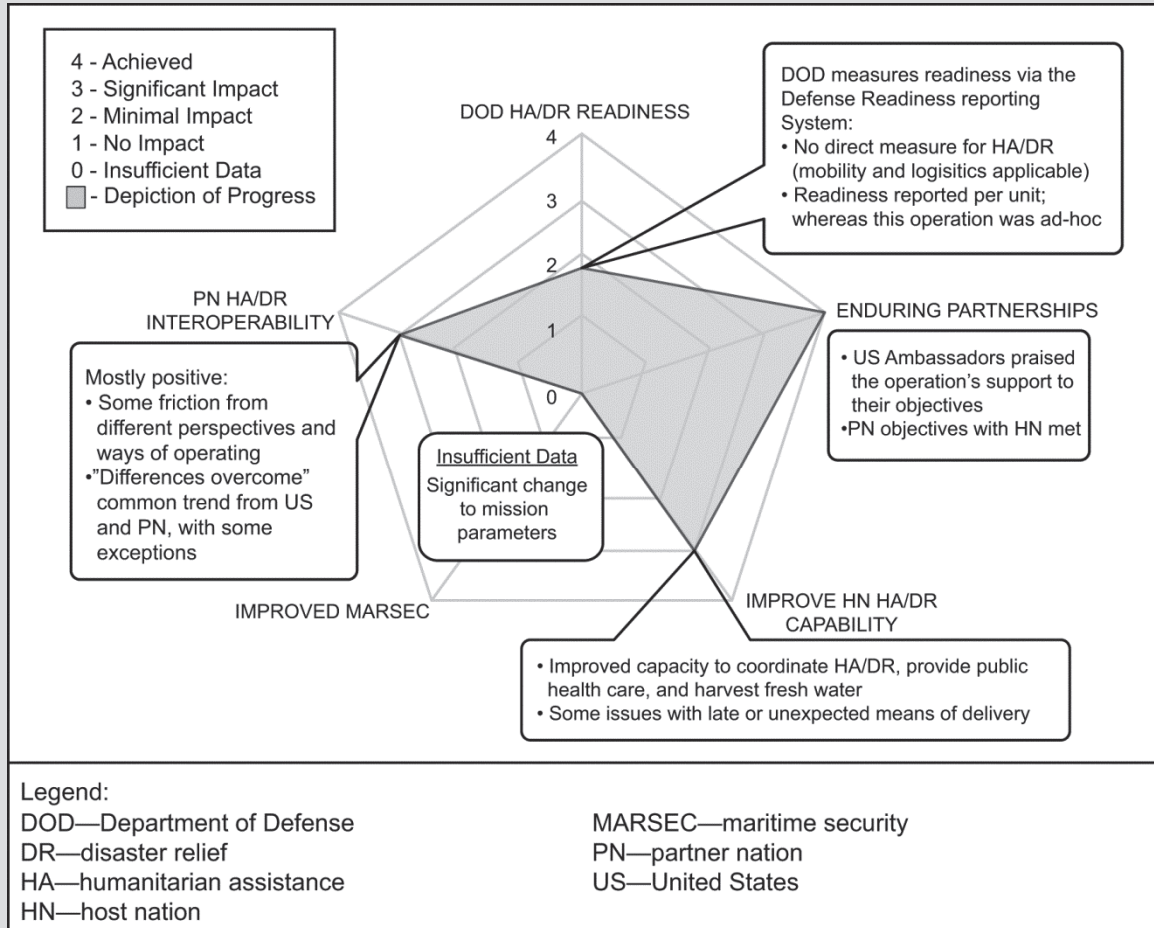
#	OBJ	EFFECT #	EFFECT	MOE #	MOE	MOE-I #	MOE-I
5	<b>ENSURE DEPARTMENT OF DEFENSE (DOD) HA AND DR READINESS</b>						
		5.1	Improvement in DOD capacity to respond to an HA and DR event.				
				5.1.1	Capability gaps identified for any functional area in US-led HA and DR events.		
				5.1.2	Mission staff captures and distributes lessons learned to Navy Component Commander (N55).		
		5.2	Improvement in DOD capacity to operate with partner nation and host nation in the event of HA and DR events.				
				5.2.1	Mission staff effectively executes command and control with partner nation ships.		
						5.2.1.1	Communication connectivity between participating ships is established and maintained throughout mission execution.
				5.2.2	US forces integrate with host nation, non-government organizations, and interagency assets while participating in HA and DR field training exercise events.		
						5.2.2.1	Non-government organizations and the DOD establish communication and command and control plans.
						5.2.2.2	Non-government organizations and interagency assets are included in planning.
						5.2.2.3	Mission events are aligned and coordinated with an ongoing non-government organization effort in the host nation.
Legend: #—number DOD—Department of Defense DR—disaster relief HA—humanitarian assistance MOE—measure of effectiveness MOE-I—measure of effectiveness indicator OBJ—objective							

The data collection and analysis plan identified target audiences to answer questionnaires for each effect (i.e., DOD, PN, visiting nongovernmental organizations (NGOs), HN officials, and HN-based NGOs, and US country teams). Questionnaires and interviews tailored to each target audience solicited feedback for appropriate MOEs and associated indicators. Assessors aggregated and analyzed responses from each target audience assisted by functional area analysts (e.g., operations, medical, security, etc.).

Analysts first characterized responses from the survey questions by a key phrase from within the response that best summarized its contents. Key phrase comparison occurred iteratively for each question in an attempt to bin responses by similar key phrases. Analysts could better relate binned responses, in whole or by survey groupings, to each MOE, indicator, and effect via pivot tables. This helped the Maritime Assessment Group recognize overall trends and sub-trends in the responses, and identify outliers that did not fit any trend. The retention of responses not directly related to a survey question allowed reassignment of those responses to questions where the answers fit better; or might have helped identify unintended effects influencing next desired state achievement. Analysts annotated relevant outliers from the pivot analysis as exceptions to the overall conclusions.

The Maritime Assessment Group used the identified trends to ascertain impacts and scores at the MOE and indicator levels. The Maritime Assessment Group aggregated results to reach conclusions for effects and, subsequently, for objectives. The Maritime Assessment Group and the operational planning team then met to develop specific, actionable recommendations from the assessment conclusions to improve the 2014 operational plan.

The communication of the assessment to the NCC, depicted in figure 16, used a radar chart organized by objectives and annotated with salient points gleaned from the questionnaires and interviews.



**Figure 16. Partner Capability in Building Assessment Communication**

## Chapter IV PLANNING THE ASSESSMENT

### 1. Assessment Prerequisites

Executing operation assessment involves developing an assessment plan derived from several prerequisites, the most important of which follow.

a. Understand the desired end state. End states describe some desired change in the OE and provide clarity of purpose. The first priority for any operation is to identify the desired end state. Frequently, authorities have not provided desired end states to subordinate commanders. Instead, they provide objectives and goals, limitations, and other guidance subordinate commanders must interpret to determine the desired end state. If the higher HQ has not provided an end state, the commander and staff must interpret and develop one that meets the objectives, policy, orders, guidance, and directives issued by higher authorities.

(1) Once determined, desired end states should be coordinated with higher authorities.

(2) Assessment team members should participate throughout the JOPP, iterating with planners so planners and assessment team members can read the end state and have a common understanding of the desired changes to the environment.

b. Understand the current situation (to the extent possible). The current situation is the baseline for the assessment. The initial understanding usually will be imperfect prior to commitment to the JOA; and, therefore, must be a primary focus for collection activity upon arrival in the JOA. As OE and situational understanding are iteratively improved, the quality of operational approach, assessment activity, and breadth and effectiveness of tactical activity can likewise iteratively improve.

c. Develop an operational approach (to the extent possible). The logical concept of the operations plan is the basis for the logical construct of the assessment plan. Through operational design and JOPP, operations planners compartmentalize the OE in purpose, time, and space, which serves as the basis for assessors to identify and develop measures, indicators, and (if meaningful) thresholds of success for each.

d. Understand the feedback mechanism for recommending or directing action. Staffs and subordinate commands must tailor support to the commander. It is of primary importance for staffs to be in tune with the commander's way of processing information, and understand how best to deliver analyses, assessments, and recommendations.

e. Train the staff in assessment activity. Commanders will not always have the luxury of forming and training their staffs prior to operational commitment. Therefore, it is often essential to direct the expenditure of staff energy in the early months of an operational commitment to defining necessary roles and developing necessary assessment processes while the primary focus for operations is the military line of operation (LOO). This investment will pay substantial dividends because operational

commitments tend to evolve over time requiring commanders to make increasingly complex decisions.

## **2. Assessment Plan Development**

a. Navy Warfare Publication 5-01, Navy Planning, and Army Field Manual 6-0, Commander and Staff Organization and Operations, provide procedures for developing an assessment plan. This MTTP adapts those procedures for multi-Service use.

b. During initial JOPP activity, the assessment team develops the assessment plan using three steps. They:

- (1) Gather tools, OE information, and existing assessment data.
- (2) Understand current and desired conditions.
- (3) Adapt and implement the assessment framework.

c. Once the assessment plan is complete, it guides application of the assessment activity to monitor, evaluate, and recommend and direct continuously throughout the operations process. It is important to recognize, as operational plans are iteratively adjusted and improved, the assessment plan must undergo review and revision to ensure alignment with the end state. Assessors record the rationale for assessment plans in the assessment annex of the operations order, as depicted in paragraph 3 of this chapter.

d. Planners must identify assessment constraints early in the planning process. Constraints normally include the following.

(1) The assessment must “conform to the operations plan.” The requirement to assess the operations plan’s tasks or objectives is paramount. To do this, the assessment plan must conform to the operational plan’s general structure.

(2) The assessment must adhere to higher HQ’s reporting and battle rhythm requirements. This does not imply that assessment must conform to directed reporting cycles. Rather, it recognizes that the pace of operations often differs by echelon and results in assessment intervals that may not synchronize with higher HQ reporting and battle rhythm requirements. Therefore, it may be necessary to submit required reports using the most recent formal unit assessment report.

(3) Units must perform assessments within the resources at their disposal. This generally implies conducting assessments via staff-wide internal mechanisms rather than an independent, outside entity.

(4) The ability to collect data to support the assessment suffers limitations. Available collection resources and access to data constrain data collection efforts supporting the assessment. Acknowledging constraints and recognizing that much of the necessary assessment data already may be incorporated in the collection plan as part of operational and intelligence reporting keeps assessment-specific collection requirements to a minimum.

e. A brief explanation of the assessment plan development steps follow.

(1) Step 1. Gather Tools, OE Information, and Existing Assessment Data.

Assessment planning begins with receipt of a mission. This alerts assessors to

participate in mission analysis and COA development activities and begin updating the current assessment plan, if one exists. Assessors gather necessary tools for assessment plan development or revision to include:

- (a) The higher HQ's assessment annex, if available.
  - (b) Own HQ's concept of the operation and associated staff products to include mission, objectives, essential tasks, commander's intent, and JIPOE.
  - (c) Any current or historically relevant assessment products (classified and open-source) produced by civilian and military organizations.
  - (d) The identification of potential data sources, including academic institutions and civilian SMEs.
  - (e) The commander's preferences for communicating the assessment.
  - (f) CCIRs.
  - (g) The identification of current stakeholders and staff sections integral to sourcing and validating information.
- (2) Step 2. Understand Current and Desired Conditions.
- (a) Understanding current and desired conditions begins during mission analysis. JIPOE, operational approach development methodology, and JOPP help commanders and staffs develop an understanding of the current situation. During mission analysis and COA development, the commander and staff refine desired end-state conditions and identify essential tasks to achieve the end state. Fundamentally, this understanding forms the basis for assessment plan development.
  - (b) Assessors monitor and participate in mission analysis to understand the current conditions and desired end state. Assessors participate in COA development to understand how operations planners decomposed the end state by purpose, time, and space. Understanding both allows assessors to adapt the assessment framework to the unit mission. It is important to identify and assign assessment team members early to enable assessor participation in mission analysis.
  - (c) The staff may not understand fully all the conditions within the OE relevant to applying necessary instruments of national power. Therefore, operations and assessment planning are iterative throughout the planning and execution of operations and should include appropriate external expertise.
- (3) Step 3. Adapt and Implement the Assessment Framework. Implementing the assessment framework begins during COA development. How operations planners compartmentalize the OE in purpose, time, and space dictates how assessors organize the assessment plan. For example, decomposing the operation plan follows the establishment of objectives, decisions, phases, conditions, and essential tasks developed by operations planners. Planners derive necessary critical questions, metrics, and indicators from the same. Then, assessors and planners develop standards or thresholds of success to qualify measured indicator movements for each metric or critical question as

appropriate. Chapter 3 of this MTTP discusses the assessment framework in detail.

### 3. Assessment Plan and Annex to the Operations Order Example

The following vignettes from Regional Command-Southwest (RC(SW)) present examples of an assessment plan and assessment annex to an operations order from recent operations.

#### **Marine Air-ground Task Force (MAGTF), Division, and JTF vignette and Tactics, Techniques, and Procedures: Executive Assessment Group (EAG) in Regional Command-Southwest (RC(SW)).**

The RC(SW) headquarters conducted operational and tactical-level operations in the northern portion of the Helmand District. To assess whether a series of operations was having an effect, RC(SW) established a Plans Section (C-5) EAG to conduct an assessment for each 2–3 week operation in the series. Prior to this, the staff sections only completed subjective task performance and centralized quantitative assessments. They communicated these assessments in separate venues, misaligned with each other and the campaign end state.

The chief value of this method was integrating the staff into assessment construction thus achieving buy-in, division of labor, subject matter expertise, and agreement on future action.

RC(SW) EAG adapted the assessment framework to inform decision-making and enhance the RC(SW) commander's understanding of progress toward desired campaign end states. RC(SW) adopted a whole-staff approach to arrive at a coherent assessment report. Key members of the EAG included representatives from the C-5 Planning Section, C-2 Intelligence Section, Fires and Effects Coordination Cell, and C-9 Governance and Development Section. The aim of assessment activity was to identify potential opportunities and risks to achieving desired end states, and to feed reports to higher headquarters (International Security Assistance Force Joint Command) regularly, submitted and sourced from the staff sections.

The approach began with the campaign plan end states. Using end states as the guide, several working groups met over a 30-day period to develop agreed upon measures of performance (MOPs) and measures of effectiveness (MOEs). Assessors decided MOPs would be formed based on progress toward objectives (written into the RC(SW) operations order) via qualitative or quantitative information supplied by the responsible, designated staff section or subordinate commander. Assessors decided to treat MOEs similarly, though using largely quantitative analysis with the EAG operations research and systems analysis personnel's assistance in managing, treating, and preparing this data for communication.

The EAG initially focused on developing the MOEs and MOPs necessary to measure progress. All EAG members read the operations order and, based on their warfighting function or section, identified MOEs and MOPs, possible data sources, collection requirements, and their relation to the end state or task. This

enabled the EAG to compile each member's work and discuss the merits of each proposal. After several iterations, the EAG submitted a final list to the plans and operations section for collection. While executing an operation, the EAG met to discuss collection progress and determine whether MOEs and MOPs required adjustment. At the conclusion of each operation, the EAG monitored the environment for an additional 2–3 weeks; allowing for additional data collection because the effects continued to evolve well past the conclusion of each operation.

The final assessment was constructed over a 21-day cycle throughout which staff sections supplied the data, convened to discuss and provide more context to the data, agreed on the presentation format supplied by EAG, and finalized any staff-assisted briefings that would be presented to the commander. Subordinate units and stakeholders transmitted data inputs via the RC(SW) SharePoint or email. Assessment working group members briefed the final report to staff primaries (J-3 and J-5, the chief of staff, and deputy commander) prior to the commander for additional guidance and support. When briefed to the commander, each objective conveyed an "on track" or "off track" rating, supported by data (quantitative and qualitative). Subsequent compilation of objective ratings gave a rating to each campaign end-state condition. Feedback and discussion among staff primaries and the commander oriented on necessary future action.

The staff communication of the assessment was timed with required periodic reporting to higher headquarters RC(SW) was already producing; saving the staff time when compiling those reports since much of the supporting data was already compiled during assessment activity.

RC(SW) codified their assessment methodology in an assessment annex to the current RC(SW) operations order.

### **Regional Command-Southwest (RC(SW)) Assessment Annex to the Operations Order**

TAB A TO (UNCLASS REVISION)  
APPENDIX 25 TO  
ANNEX C TO  
RC(SW) OPERATIONS ORDER 001-14  
DATED 15 DEC 13

#### **ASSESSMENTS OUTLINE (UNCLASS REVISION)**

- A. Regional Command Southwest (RC(SW)) Campaign Plan, dated 9 Oct 13.
- B. Best Practices Guide to Conducting Assessments in Counterinsurgencies, dated August 2011.
- C. Marine Corps Warfighting Publication 5-1, Marine Corps Planning Process, dated 24 Aug 2010.
- D. FM 5-0, *The Operations Process*, dated 26 Mar 2010 (superseded by

ADRP 5-0 in May 2012).

E. Marine Air-Ground Task Force Staff Training Program, 6-9 Assessments, dated 25 Oct 2007.

**Situation**: Operation assessment informs the commander and staff of progress toward campaign end states. Assessments identify potential risks, gaps, and opportunities and inform reporting to higher headquarters. The J-5 Executive Assessments Group (EAG) leads the operation assessment for RC(SW). Staff sections, acting as subject matter experts (SMEs), provide the data and context support to the assessment. Measures of performance (MOPs) and measures of effectiveness (MOEs) are the primary means for framing staff data. The EAG links all inputs into one coherent assessment product for communication with the commander, supported by the responsible staff sections.

**Mission**: Provide regular and collective assessment of RC(SW) progress toward the desired RC(SW) campaign end states to inform senior leadership, assist and align the staff planning effort, and support assessment reporting to higher headquarters.

**Commander's Intent**: EAG tracks and briefs progress toward campaign end states on a regular interval and identifies risks, gaps, and opportunities. The method for producing the assessment is a combined effort of staff stakeholders and the EAG, with the EAG acting as the key coordinator. The result should be a timely, rigorous, and actionable communication that informs the RC(SW) commander's decision-making process and reports to higher headquarters.

**End States Assessed**: The assessment product shall measure progress toward The RC(SW) campaign end states:

End State 1 (Omitted because of the security classification)

End State 2 (Omitted because of the security classification)

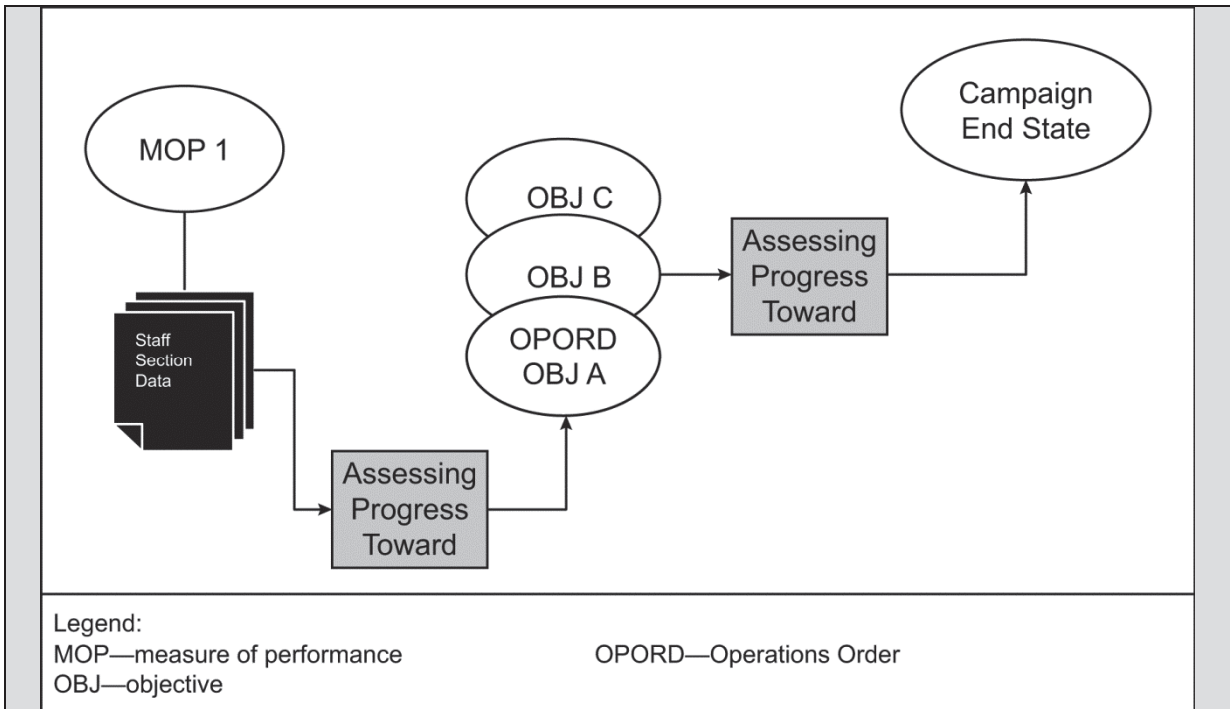
End State 3 (Omitted because of the security classification)

**Concept of Assessment**:

**Required Information**: The responsible staff sections work collectively to develop the MOPs, MOEs, and indicators for the assessment. Assessments must use existing reports to the maximum extent possible to align the staff effort. Assess objectives from this operations order individually; they should collectively reflect the assessment of progress toward campaign end states.

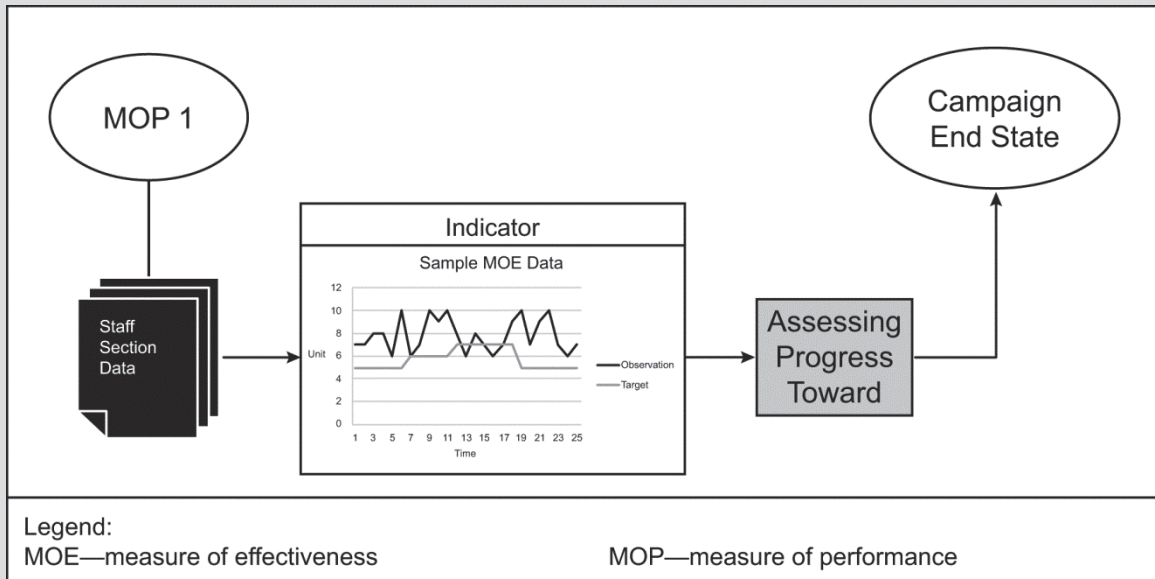
**Assessment Measures**

MOPs will assess task performance. MOPs will answer the question, "Is the RC(SW) doing things right?" Objectives will frame the task with context and performance data supplied by the staff section. Figure 17 illustrates the relationship among objectives, campaign end states, and MOPs.



**Figure 17. Relating MOPS to Objectives and End States**

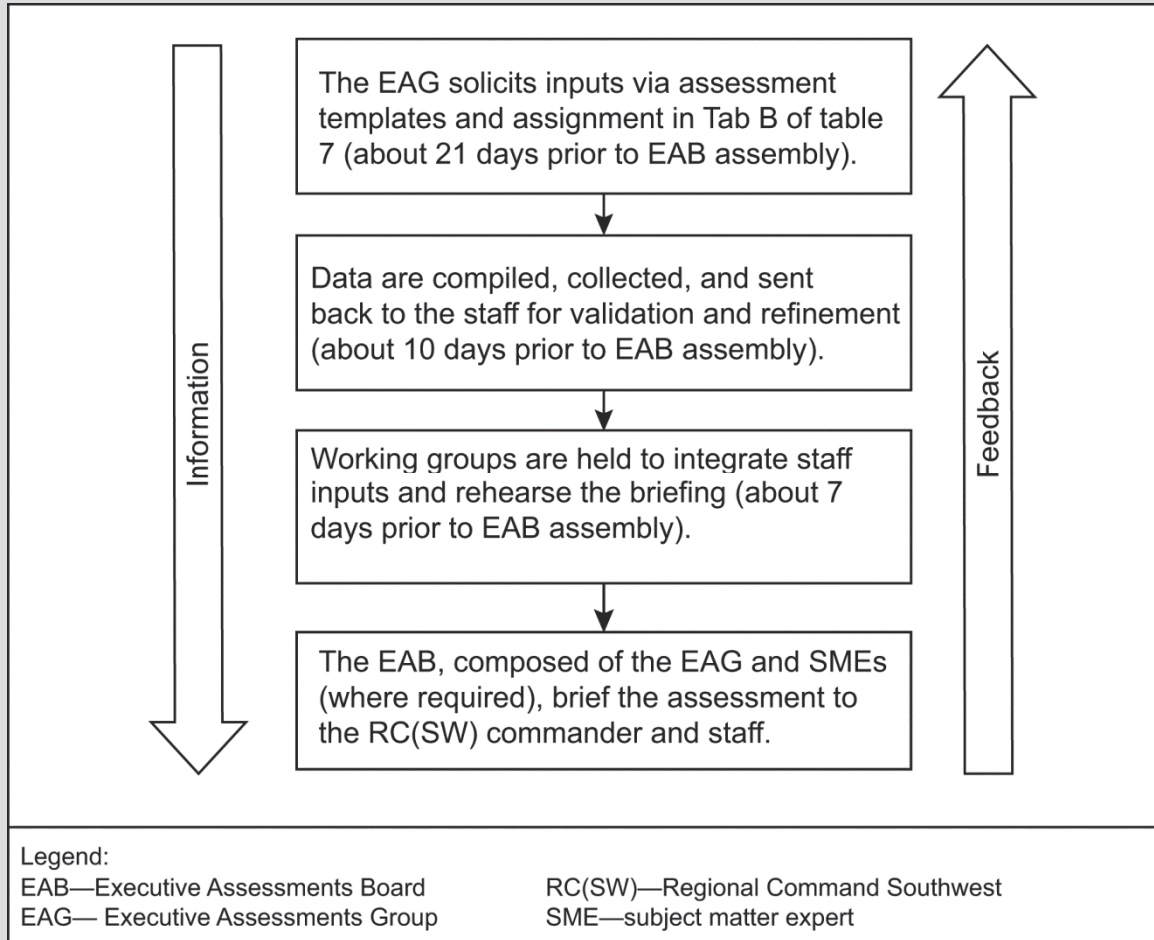
MOEs will assess desired effects. MOEs will answer the question, “Is the RC(SW) doing the right things?” This assessment framework will use largely quantitative indicators to support the assessment of progress toward campaign end states. Figure 18 illustrates the relationship between end states and MOEs.



**Figure 18. Relating MOEs to End States**

**Tasks:** The responsible staff section provides the necessary data for the assessment. The EAG provides the template for staff submission of data. Staff sections must specifically identify risks, gaps, and opportunities when providing

reports on progress and task performance. Collection of assessment data will begin 21 days prior to product delivery to the commander at the Executive Assessments Board (EAB). The EAG assembles inputs and leads working groups to refine the product, identify briefing requirements from the staff sections, and act as the hub for the coordination and communication of the assessment. Figure 19 illustrates this process and the responsible staff section is listed in Tab B of table 7.



**Figure 19. Data Collection and Analysis Process**

**Sources:** Qualitative and quantitative indicator data inform MOE and MOP ratings. The staff and EAG must validate source data prior to their use. Existing reports must serve as data whenever possible and appropriate. In all cases, indicators shall be measurable, collectable, and relevant to determining the end-state assessment.

**Requirements:** Where staff sections provide narrative data:

- (1) Provide a brief SME description of progress in the assigned reporting area with examples of progress.
- (2) Provide quantitative indicator data, as necessary.

(3) Provide risks, gaps, and opportunities associated with the task or objective.

**Products:** The final assessment product will be communicated to the commander (supported by a PowerPoint presentation) and will include an “on track” or “off track” rating of progress toward the campaign end. Where “off track”, the EAG and staff section SMEs must provide recommendations.

**Briefing:** Assessment communication occurs on a regular basis to support RC(SW) decision-making and inform higher headquarters. Staff sections and the EAB communicate the final assessment product to the commander and staff primaries. The EAG leads the communication, supported as necessary by staff section SMEs.

**Table 7. Tab B: Assessment Matrix**

<b>Assessment Matrix Unclassified Revision (Notional Objectives and End States)</b>				
<b>LOE</b>	<b>Assessed Objectives from the Operations Order</b>	<b>Responsible Staff Section</b>	<b>MOP and MOE Input</b>	<b>Reflected Campaign Plan End State</b>
<b>Stability and Governance</b>	1-1) Assist in building Route 101 route clearance.	215 Corps advisors	Comprised of: 1) Brief SME narrative highlighting the key facts and an example of success. 2) Where required, provide statistical information supporting MOEs toward campaign end states. 3) Brief risks, gaps, and opportunities.  SME narratives shall reflect the progress toward campaign plan objectives.  EAG assessments will evaluate how overall progress reflects towards on-track and off-track ratings toward campaign plan end states.	Stable environment with ample infrastructure and functioning governance with the potential for future self-sustained development.
	1-2) Provide materials for sector housing in southern green zone.			
	1-3) Influence increased voter registration.	J9 CEG		
	1-4) Provide key leader engagement to support increased female voter turnout.			
Legend: CEG—commander’s executive group EAG—executive assessment group J9—governance and development staff section LOE—line of effort MOE—measure of effectiveness MOP—measure of performance				

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**Chapter V**  
**ASSESSMENT INTEGRATION INTO THE OPERATIONS PROCESS**

**1. Assessment Linkage to Operations Process Activity**

a. Commanders and staffs may implement assessment plans using the step progression for conducting an assessment derived from JP 3-24, Counterinsurgency Operations, chapter VI, Assessing Counterinsurgency Operations. The assessment tasks have been adapted in table 8 to align assessment activity with associated operations process staff activity to illustrate how an assessment might integrate into the operations and intelligence processes.

**Table 8. Assessment Task Integration with Operations Process Activity**

Assessment Task	Assessment Process Activity	Associated Staff Activity	Personnel	Input	Output
<b>Identify Information and Intelligence Requirements</b>	Evaluate	<ul style="list-style-type: none"> <li>• JIPOE</li> <li>• Staff estimates</li> <li>• Operational approach development</li> <li>• JOPP</li> <li>• Joint targeting</li> <li>• AWG</li> </ul>	<ul style="list-style-type: none"> <li>• Commander</li> <li>• Planners</li> <li>• Primary staff</li> <li>• Special staff</li> <li>• AWG personnel</li> </ul>	<ul style="list-style-type: none"> <li>• Clearly defined end-states objectives and tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Information and intelligence and collection plans</li> </ul>
<b>Develop an Assessment Plan</b>	Evaluate	<ul style="list-style-type: none"> <li>• Develop a framework</li> <li>• Select measures (MOE and MOP)</li> <li>• Identify indicators</li> <li>• Develop a feedback mechanism</li> </ul>	<ul style="list-style-type: none"> <li>• Operations planners</li> <li>• Intelligence planners</li> <li>• AWG personnel</li> </ul>	<ul style="list-style-type: none"> <li>• Operational approach</li> <li>• JIPOE</li> <li>• Desired end state</li> <li>• Feedback mechanism parameters</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment plan</li> </ul>
<b>Collect Information and Intelligence Requirements</b>	Monitor and Evaluate	<ul style="list-style-type: none"> <li>• Joint targeting</li> <li>• JIPOE</li> <li>• Staff estimates</li> <li>• IR management</li> <li>• ISR planning and optimization</li> </ul>	<ul style="list-style-type: none"> <li>• Intelligence analysts</li> <li>• Current operations</li> <li>• AWG personnel</li> <li>• Assessment cell (if established)</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-source intelligence reporting and joint force resource and disposition information</li> <li>• Operational reports</li> </ul>	<ul style="list-style-type: none"> <li>• Estimates of OE conditions, enemy disposition, and friendly disposition</li> </ul>
<b>Conduct and Communicate Event-Based and Periodic Assessments</b>	Evaluate and Recommend	<ul style="list-style-type: none"> <li>• Assessment work group</li> <li>• Staff estimates</li> </ul>	<ul style="list-style-type: none"> <li>• Primary staff</li> <li>• Special staff</li> <li>• AWG personnel</li> <li>• Assessment cell (if established)</li> </ul>	<ul style="list-style-type: none"> <li>• Intelligence assessments</li> <li>• Staff assessments</li> <li>• Analysis methods</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate of joint force effects on OE (draft assessment report)</li> </ul>
<b>Report Results: Feedback and Recommendations</b>	Recommend	<ul style="list-style-type: none"> <li>• Provide a timely recommendation to the appropriate decision maker</li> </ul>	<ul style="list-style-type: none"> <li>• Commander</li> <li>• Subordinate commanders (periodically)</li> <li>• Primary staff</li> <li>• Special staff</li> <li>• AWG personnel</li> <li>• Assessment cell (if established)</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate of joint force effects on OE (draft assessment report)</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment report, decisions, and recommendations to higher headquarters</li> </ul>
<b>Adapt Plans for Operation and Assessment</b>	Recommend	<ul style="list-style-type: none"> <li>• Joint targeting</li> <li>• JOPP</li> </ul>	<ul style="list-style-type: none"> <li>• Commander</li> <li>• Planners</li> <li>• Primary staff</li> <li>• Special staff</li> <li>• AWG personnel</li> <li>• Assessment cell (if established)</li> </ul>	<ul style="list-style-type: none"> <li>• Commander's guidance and feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to the operation plan and assessment plan</li> </ul>

**Table 8. Assessment Task Integration with Operations Process Activity (cont'd)**

Legend:

AWG—assessment working group

IR—intelligence requirement

ISR—intelligence, surveillance, and reconnaissance

JIPOE—joint intelligence preparation of the operational environment

JOPP—joint operations planning process

MOE—measure of effectiveness

MOP—measure of performance

OE—operational environment

b. Using existing staff processes to conduct an operation assessment reaps a number of benefits. First, it achieves staff efficiency by eliminating duplicative effort. Second, it ensures calibration of the assessment to the pace of operations. Third, it ensures a whole-of-staff participation in the assessment. Forth, it enables the staff to provide timely, proactive recommendations to the commander.

c. As table 8 illustrates, not all assessment tasks occur by simply leveraging existing operations and intelligence process activity. However, assessment tasks can occur largely via JIPOE, joint targeting, operational reporting, and collection management processes with the addition of an assessment working group (AWG) encompassing some number of targeting and collection management cycles. Additionally, small functional area working groups (convened by staff primaries) may prepare for each AWG.

d. Conducting the assessment tasks depicted in table 8 is continuous throughout the operations process, but the tasks do not necessarily follow a precisely coordinated progression. Rather, they conform to operations process activity as activity unfolds. The sole exception is the constant, repetitive AWG to construct formal assessment reports and drive structured interaction with the commander to provide information and solicit guidance and decisions.

e. Key points associated with each assessment task from table 8 follow.

(1) Identify Information and Intelligence Requirements. The assessment begins during mission analysis or operational approach development, when the staff begins to identify the operational variables needed to understand what to measure and how to measure it. Each element of the operational plan directs resources against a particular action with an intended effect. Information enables an understanding of planned action execution, and staff analysis enables interpretation of changes to the targeted aspect of the OE. Staffs derive information requirements from mission analysis and operational approach development, JIPOE, JOPP, staff estimates, the assessment plan (once developed), the joint targeting process, and AWG activities.

(2) Develop an Assessment Plan. Effective assessment planning enables more concise and well-defined operational plans by communicating a clear understanding of the actions necessary to achieve the desired end state and the

underlying assumptions linking action to it. Assessment plans link intelligence estimates of the current OE conditions to information about the friendly force's status and actions. The assessment plan must be reviewed when changes are made to the operational approach or end state.

(3) Collect and Analyze Information and Intelligence Requirements. During mission execution, the joint force uses the collection plan and defined reporting procedures to gather information about the OE and joint force actions as part of normal command and control activities. Typically, staffs and subordinate commands provide information about operation execution on a regular cycle. Intelligence staffs also provide intelligence about the OE and operational impact periodically and responsively to decision triggers. In accordance with the assessment plan, assessors assist the planning and intelligence staffs with determining the presence of decision point triggers and coordinating assessment activity across the staff.

(4) Conduct and Communicate an Event Based and Periodic Assessment. Assessment continuously monitors the OE for unexpected enemy or third-party actions that create risks or opportunities for the operational plan. Normally, operation assessment focuses staff analysis on two specific areas: decision point and end-state assessments. Generally, decision-point assessments are event-based and determine whether conditions within the OE meet the triggers specified in the decision support template. End-state assessments compare the evolving OE to the desired end state. End-state assessments are either periodic or event based. They can be executed as standalone assessments or accompany decision-point assessments. Each of these assessments should facilitate discussion among commanders, subordinate commands, key stakeholders, civilian leadership, and policy makers, as appropriate.

(5) Report Results (Feedback and Recommendations). Commanders receive event based and periodic assessment reports and consider both to impart decisions and guidance. Key components of assessment reports include recommendations accompanying staff estimates concerning the effect of force and resource allocation, determinations on key planning assumption validity, determinations on task progress, and the arrival at decision points. Staffs must present existing OE conditions, including conditions that were not anticipated in operational plans, the associated risks and barriers to mission accomplishment, and emerging opportunities to accelerate mission accomplishment.

(6) Adapt Operation and Assessment Plans. Assessments inform iterative improvements to planning and conducting operations, as directed by the commander. All of the conclusions generated by the staff assessment regarding end state accomplishment, force employment, resource allocation, validity of planning assumptions, decision points, etc., lead to adjusting and implementing decisions for continuation, branches, sequels, reframing and redesign, or concluding the current order or plan.

## **2. Implications of Complex OEs**

- a. As the complexity of problems faced by the joint force increase and the structure of those problems become less certain, leaders at tactical echelons increase the use

of operational art. These aspects also serve to amplify the iterative nature of assessment.

b. It is common to see operational approaches developed down to the battalion level as OE complexity moves beyond the traditional military environment. Typically, this occurs during stability operations. At times, an imperfect understanding of the OE, particularly those characterized by hybrid threats, precludes adequate initial operational approach development across required LOOs. Additionally, limited scope missions historically suffer mission creep, or late clarification of a poorly defined end state, which also expands the operational scope beyond a purely military LOO.

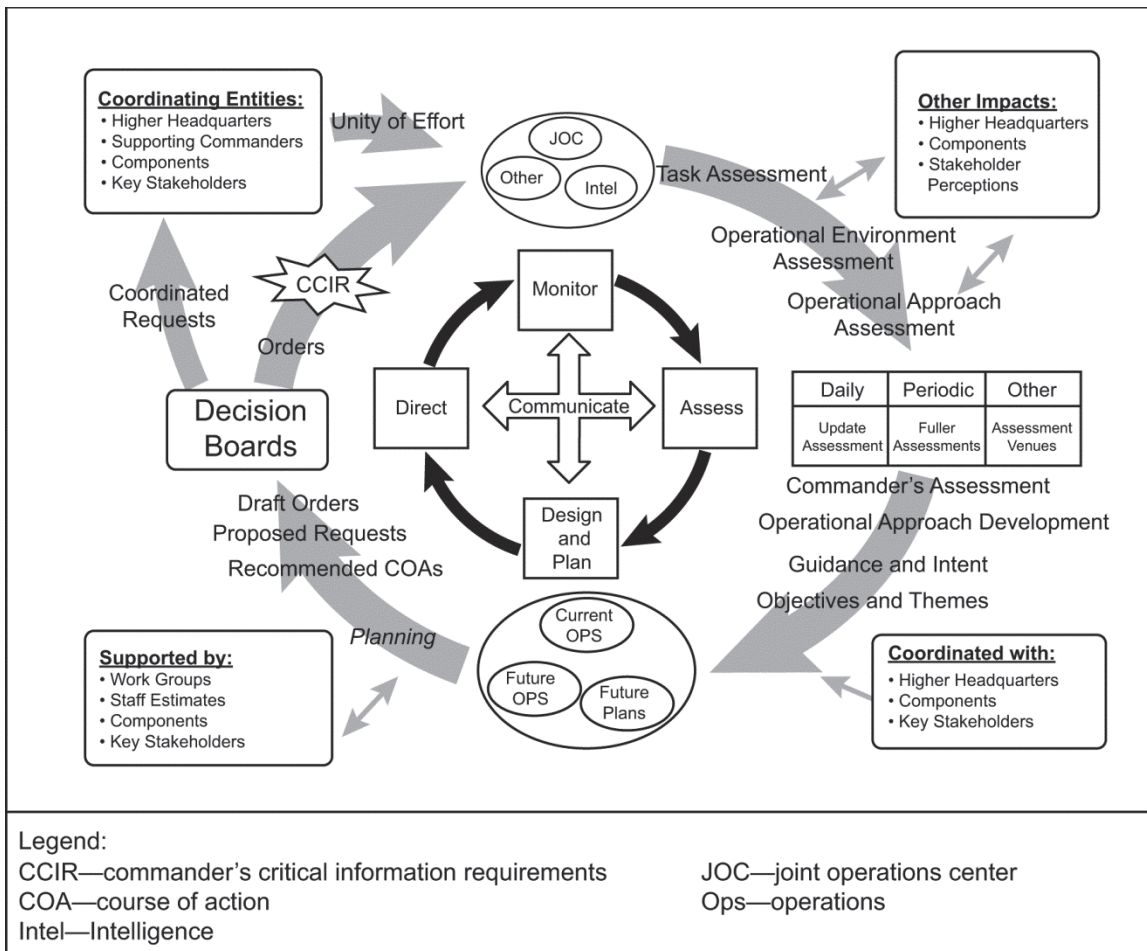
c. In OEs rife with complex adaptive and ill-structured systems, initially limiting tactical activity to targeting enemy capabilities and conventional formations while focusing collection activity to validate planning assumptions and deepen OE understanding is prudent. It is important to remember, unnecessary and uninformed actions taken in any LOO often prove detrimental to mission accomplishment. While the operations plan outlines what must be done, assessment identifies what is not to be done (yet), which is often more important than knowing what to do. Merely being successful is often not as important as how success is achieved.

d. Appendix B of this MTTP further discusses the implications of complex, adaptive, and ill-structured systems for assessment.

### **3. Integrating the Assessment**

a. Commanders continuously orient, observe, decide, and direct action based upon their personal assessment. Operation assessment can solely comprise the commander's personal assessment, or it may include the staff assessment, as time and circumstances permit. Figure 20 depicts the commander's decision cycle integrated with the assessment and operations processes.

b. Staffs most practically deliver assessment by drawing on extant staff estimates and key operations process activity, most notably the joint targeting process, JIPOE, and JOPP. Co-opting existing operations process activity for assessment becomes increasingly important as one moves downward through each echelon of command, due to increasingly constrained staff manning authorizations. The rate at which operation assessment encompasses JIPOE and joint targeting cycles is determined by the pace of operations and the decision type and rapidity with which commander decision-making is required. Generally, the lower the echelon of command, the tighter the joint targeting and decision cycles become, and the more frequently commanders convene AWGs. Since assessment execution is continual, it also must be supportable and sustainable, and it must allow time for action and thoughtful analysis rather than simply requiring rote attendance at meeting after meeting. The following vignette is one example of successful integration of assessment into operations.



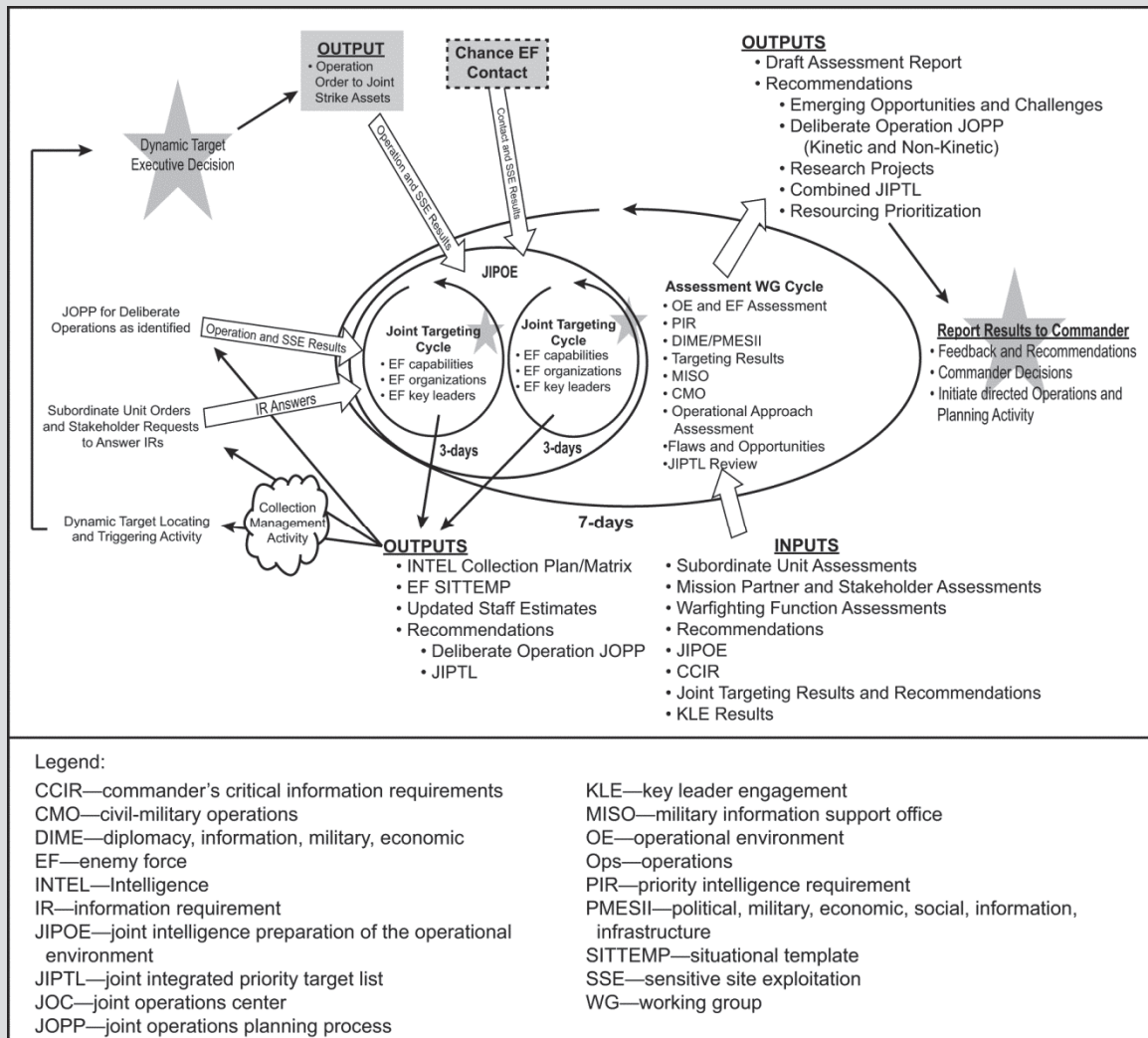
**Figure 20. Commander Decision Cycle Integration with the Operations Process and Assessment**

**1-325 Airborne Infantry Regiment (AIR) Assessment Integration into Operations**

Figure 21 depicts operation assessment integrated into the battalion operations process during Operation IRAQI FREEDOM (OIF) in 2007. It highlights the linkages between assessment, decision-making, and subsequent tactical and staff activity in the form of inputs and outputs. While the illustration is an example of successful assessment integration into the operations process from OIF, it represents a viable course of action for integrating assessment at any point along the range of military operations. It features staff-wide assessment using existing staff planning and operations processes with an assessment working group (AWG) within the organizational battle rhythm. This allows the assessment team to gain metrics and data from the execution phase, provide analysis, and inform commanders and planners on necessary adjustments that will positively influence progress towards the desired end state.

Figure 21 depicts the AWG cycle encompassing two joint targeting cycles, two collection cycles, and a continuously updated JIPOE. The frequency of AWG meetings and calibration to existing staff processes depend upon the pace of

operations, seeking to shorten the decision cycle by ensuring maximum situational awareness. The 1-325 AIR executed their AWG cycle over a seven-day period. In traditional operations, assessment is a natural part of the existing tactical operations center's activities, often manifested in the joint targeting process. In irregular environments, such as stability operations, status and progress toward the purpose may change slower and assessment definitely requires an AWG. In both instances, the chief of staff (COS) and assessment team must ensure data collection is flexible enough to capture incremental operational environment (OE) changes, feed information into the assessment, and enable commander decision-making.



**Figure 21. Assessment Integration into the Operations Process**

JIOE serves as the primary mechanism for evaluating enemy forces and operational effects on the OE, and is the basis of all targeting and tactical activity; seeking either to act on information or fight for information.

Information requirements routinely emerge from JIOE, the joint targeting process, and the formal assessment plan. Effective collection management involves co-opting all available means to answer intelligence requirements (IRs) including, intelligence,

surveillance, and reconnaissance (ISR) assets, orders to subordinate units, and coordinated requests to outside stakeholders. Collection plans must articulate, clearly, the task and purpose to the actual IR collectors. Detailed information on the joint targeting process and JIPOE is available in Joint Publication (JP) 3-60, *Joint Targeting*, and JP 2-01.3, *Joint Intelligence Preparation of the Operational Environment*, respectively.

Presenting targeting priorities for a decision may occur during targeting decision boards or when communicating the assessment, depending on commander availability. However, a daily or as needed dynamic targeting execution decision board is necessary to capitalize on emerging and fleeting high-payoff target opportunities. Additionally, the JIPTL is included in assessment activity to ensure it is holistic.

Results of all coordinated IRs and directives, tactical operations, chance enemy contact, and site exploitation information is reported in accordance with unit reporting standards for inclusion in JIPOE analyses, staff estimates, and assessment activity.

Personnel attend AWGs as outlined in table 8 of this multi-Service tactics, techniques, and procedures publication. Periodically, subordinate commanders attend in person. Generally, the lower the echelon of command, the more frequently subordinate commanders should attend. In this instance, subordinate commanders attend monthly, or every fourth AWG cycle. Subordinate commander attendance facilitates discussion, ensures accurate staff interpretation of subordinate unit assessments, and enables a “reverse battlefield circulation” by allowing the staff to hear subordinate commanders brief their assessments in detail, which better enables the staff to keep abreast of the commander’s personal assessment.

AWGs can be event based, but are primarily periodic. AWGs take a holistic view of the current degree of OE understanding, the effect of operations, progress towards achieving the end state, future opportunities and risks, and prioritization of resources. Staffs draft the formal assessment report along with specific actionable recommendations for communication to the commander.

The staff communicates assessment results and recommendations to the commander for consideration and decision. Subsequently, the commander directs the initiation of appropriate JOPP and operations process activity. The commander communicates the formal assessment, guidance, and decisions to higher headquarters, subordinate units, and appropriate outside stakeholders via formal orders and messages. It is important to note that a unit’s formal assessment must be congruent with the commander’s personal assessment. Frequent, effective communication between the commander and COS is necessary.

**Appendix A**  
**MEASURES OF EFFECTIVENESS (MOES), MEASURES OF PERFORMANCE (MOPS), STANDARDS, AND INDICATORS**

**1. Introduction**

Operation assessment requires sufficient guidance to enable achieving valid and reliable measurements for operations. This appendix provides measurement options for use within the assessment framework outlined in chapter 3 of this publication.

**2. Measurements**

- a. Regardless of the specific measures chosen, the value of measurement is providing evidence-based recommendations that can inform decisions to modify and improve the operational plan and shift organizational priorities and focus.

**Why Metrics Matter**

*Organizations manage what they measure, and they measure what their leaders tell them to report on. Thus, one key way for a leadership team to shift an organization's focus is to change reporting requirements and the associated measures of performance and effectiveness.*

**General Stanley McChrystal**  
**Kabul, December 2009**

- b. Measuring is an iterative process that depends on accessible data sources and professional military judgment. Judging the degree of progress often depends upon establishing a trend line for a particular metric, in context with other indicators. Best practice offers the following considerations for measures.

- (1) Metrics must be collectable, relevant, measurable, timely, and complementary.
- (2) Metrics sometimes have an associated threshold of success to qualify observed movement of indicators and effectively rate progress in achieving MOPs, MOEs, and standards. Generally, thresholds of success for MOPs are the defined standards associated with the tactical task. For example, we consider an objective seized when forces physically occupy the objective and eliminate or capture all enemy forces. Assessors derive thresholds of success, when useful, for MOEs and standards from desired end-state conditions with operations planners.
- (3) Assessors should make note of metrics that are required and relevant but not collectable, and report them to the commander. Collection shortfalls can often put the assessment quality at risk. The commander must decide whether to accept this risk, reallocate resources to make metrics and data collectable, or modify the assessment plan.
- (4) Data collection plans must clearly articulate the task and purpose for each indicator to the actual data collectors.
- (5) Assessment metrics and data collection inputs may draw on subordinate unit operations, key leader engagements, warfighting functions and functional

assessments, battle damage assessments, etc. Assessors need to understand the fidelity of the available data, choose appropriate data, and prioritize use of scarce collection resources.

(6) Metrics and data collection requirements are intelligence requirements competing for prioritization and collection assets. Metrics and data collection must be coordinated and synchronized via inclusion in the collection plan.

(7) Not every indicator is included in the collection plan. Many metrics, typically MOPs, are integral to operations reporting procedures. Subordinate commanders analyze, judge, and communicate the indicator for these (e.g., Battalion X seized Objective A). Effective monitoring of the operations process is required to satisfy data collection in these instances.

(8) It is imperative the staff explicitly records the logic they used to create the assessment framework regardless of the specific measures chosen and their use in the formal assessment plan. Assessors record the reasoning for every measure for continuity and future reevaluation of selected measures. Additionally, assessors record specific combinations of measures (or conscious lack of them) explicitly. Lessons learned reveal a loss of assessment rationale guiding formal assessment plans often occurs during force transitions. Recording the logic in the assessment plan mitigates this risk.

(9) Professional military judgment is integral to an assessment. Rigor offsets the inevitable bias, while professional military judgment focuses rigor and processes the intangibles that are often keys to success.

c. Since an estimation of operational progress towards the end state is inexact, the best practice offers some cautionary notes with respect to measures. They include the following.

(1) The battlefield is not a controlled and observable experiment. Quantitative data, alone, cannot explain or capture the complexity of the operational environment (OE).

(2) Since military operations are nonlinear and the smallest input can have a disproportional effect, the numerical weighing of factors generally offers little insight into the merits of one recommendation or course of action (COA) over another.

(3) Commanders and staffs should guard against relying solely on numerical “rankings” or other simplistic methods that can fail to underscore the complexity involved in the decision-making process.

(4) Commanders and staffs must guard against overburdening subordinate units with collection requirements that purely support assessment activity. Units measure only what “must” be measured to enable effective operations vice measuring everything that “can” be measured.

d. This appendix presents the following items for consideration during assessment plan development.

(1) MOEs.

(2) MOPs.

(3) Standards.

(4) Indicators.

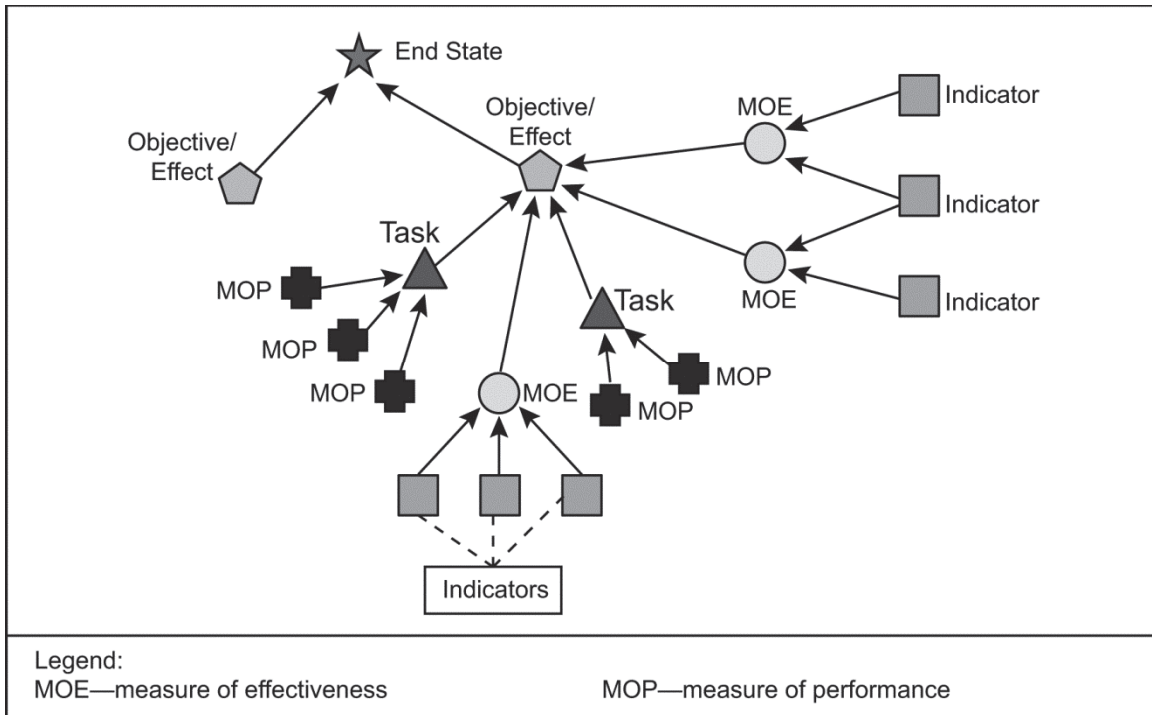
e. The measurement options presented in this multi-Service tactics, techniques, and procedures (MTTP) publication are not the only available ways to organize collecting assessment data. However, they provide sufficient options for appropriate measurement within the methods of organizing OE data described in chapter 3 of this MTTP.

### 3. MOPs and MOEs

a. MOPs and MOEs are well suited to hierarchical organization methods with aspects of quantitative measures and mathematical models. MOPs and MOEs are particularly well suited to measuring high-intensity conflicts in the traditional military environment and possibly some lines of operation in complex adaptive and ill-structured environments typical of irregular warfare.

b. Based on an understanding of the plan, staffs develop specific MOEs and MOPs, with associated indicators, to evaluate the operations process (as described in table 9 and illustrated in figure 22).

<b>Table 9. MOEs, MOPs, and Indicators</b>		
<b>MOE</b>	<b>MOP</b>	<b>Indicator</b>
<ul style="list-style-type: none"><li>• Answers: “Are we doing the right things?”</li><li>• Measures purpose accomplishment.</li><li>• Has no hierarchical relationship to MOPs.</li><li>• Often, is formally tracked in assessment plans.</li></ul>	<ul style="list-style-type: none"><li>• Answers: “Are we doing things right?”</li><li>• Measures task completion.</li><li>• Has no hierarchical relationship to MOEs.</li><li>• Often, is formally tracked in operation execution matrices.</li></ul>	<ul style="list-style-type: none"><li>• Answers: “What is the status of this MOE, MOP, critical question, etc.?”</li><li>• Are the data inputs to inform MOEs, MOPs, critical questions, etc.</li><li>• Often, is formally tracked in assessment plans.</li></ul>



**Figure 22. MOEs, MOPs, and Indicators**

Note: MOP indicators often are accepted tactical task doctrinal completion standards and, therefore, not normally stated explicitly.

- (1) MOEs are tools used to help gauge the attainment of end state conditions, achievement of objectives, or creation of effects. MOEs assess changes in system behavior, capability, or operational environment (OE).
- (2) MOPs are criteria used to assess friendly actions tied to measuring task accomplishment.
- (3) To prevent confusion with the term indicator, this MTTP distinguishes between the intelligence and assessment definitions as follows.
  - (a) An indicator, in intelligence usage, is an item of information that reflects the intention or capability of an adversary to adopt or reject a COA (per Joint Publication 2-0, Joint Intelligence).
  - (b) In the context of assessment and for the purpose of this MTTP, an indicator is an item of information (i.e., fact, observed data, or judgment) that provides insight into a MOE or MOP.
- c. When organizing OE data in the assessment framework, MOEs and MOPs apply to the plan's logic in different ways. Regardless of how they apply, the overall approach is always qualitative, with reference to quantitative data (as appropriate). Professional military judgment applied to empirical facts (whether they can be counted or not) produces the assessment product.
  - (1) Selecting and Writing MOEs.

- (a) Select only MOEs that measure the degree of achievement of the desired outcome. There must be an expectation that an indicator will change as the conditions being measured change.
- (b) Choose distinct MOEs. Using similar MOEs can skew the assessment by containing virtually the same MOE twice.
- (c) Include MOEs from different causal chains. When MOEs have a direct or indirect cause and effect relationship with each other, it decreases their value in measuring a particular condition. Measuring progress towards a desired condition by multiple means adds rigor to the assessment.
- (d) Use the same MOE to measure more than one condition, when appropriate. This sort of duplication in organizing OE data does not introduce significant bias unless carried to an extreme.
- (e) Structure MOEs so measurable, collectable, and relevant indicators exist for them. A MOE is of no use if the staff cannot identify and measure an associated indicator for it.
- (f) Avoid or minimize additional reporting requirements for subordinate units. In many cases, commanders may use information requirements generated by other staff elements as MOEs and indicators in the assessment plan. Units collect many assessment indicators as part of routine operational and intelligence reporting. With careful consideration, commanders and staffs often can find viable alternative MOEs without creating new reporting requirements. Excessive reporting requirements can render an otherwise valid assessment plan untenable.
- (g) Maximize clarity. A MOE describes the sought after information, including specifics on time, data, geography, or unit, as necessary. Any staff member should be able to read the MOE and understand exactly the information it describes.
- (h) Assessors can use the following procedure to develop MOEs.
- Start with a desired outcome (i.e., end state, objective, or effect). Ask, “how will we know we are achieving it?” If a collected information requirement cannot answer this question, ask more specific questions until the answers can be collected.
  - Use the answers to define the MOEs and indicators.
  - Identify and examine existing measurement indicators.
  - Implement the new indicators, as required.
  - Develop thresholds of success for the MOE, if useful, to qualify observed movement of associated indicators.
  - Determine collection requirements.
  - Select measurement tools.
  - Begin recording the trend, which also establishes a baseline.
  - Collect, analyze, and judge data over time.
  - Determine an appropriate MOE communication method.

(i) Table 10 depicts an example of an end-state condition notionally developed for a defensive scenario. In the example, MOE 1 and MOE 3 have no apparent cause and effect relationship although both are valid measures of condition 1. This adds rigor and validity to the measurement of that condition. MOE 2 does have a cause and effect relationship with MOEs 1 and 3, but it is a worthwhile addition because of the direct relevancy and mathematical rigor of the data source.

<b>Table 10. An Example of an End-State Conditions for a Defense</b>		
End-State Condition 1: Friendly forces prevent enemy division X forces from interfering with a corps' decisive operation.		
<p>MOE 1: Enemy division X forces west of phase line blue are defeated.</p> <ul style="list-style-type: none"> <li>Indicator 1: Friendly forces occupy objective SLAM (yes or no).</li> <li>Indicator 2: The number of reports of squad-sized, or larger, enemy forces in the division area of operations in the past 24 hours.</li> <li>Indicator 3: Current G-2 assessment of the number of enemy division X battalions west of phase line blue.</li> </ul>	<p>MOE 2: Air superiority achieved within the corps' area of operation.</p> <ul style="list-style-type: none"> <li>Indicator 1: The number of air engagements in a 24-hour period.</li> <li>Indicator 2: The current JFACC assessment of the number of operational surface-to-air missile batteries.</li> </ul>	<p>MOE 3: Enemy division X communications systems are disrupted.</p> <ul style="list-style-type: none"> <li>Indicator 1: The number of electronic transmissions from enemy division X detected in the past 24 hours.</li> <li>Indicator 2: The number of enemy division X battalion, and higher, command posts destroyed.</li> </ul>
<p>Legend:</p> <p>G-2—intelligence section            JFACC—joint force air component commander            MOE—measure of effectiveness</p>		

(2) Selecting and Writing MOPs.

(3) MOPs are criteria used to assess the friendly actions tied to measuring task accomplishment. MOPs commonly reside in execution matrices and confirm or deny proper task performance. MOPs help answer questions such as, “Was the action taken?” or “Were the tasks completed to standard?”

(a) In general, operations consist of a series of collective tasks sequenced in time, space, and purpose to accomplish missions. MOPs often are excluded from the assessment plan because they are developed and tracked through the operation planning and execution processes. Current operations cells use MOPs in execution matrices and running estimates to track completed tasks. Evaluating task accomplishment using MOPs is relatively straightforward and

often results in a “yes” or “no” answer provided by a subordinate commander. Examples of MOPs include:

- Route X was cleared.
- Generators were delivered, are operational and secured at villages A, B, and C.
- Fifteen thousand dollars were spent for schoolhouse completion.
- Aerial dissemination of 60,000 leaflets over village D was completed.

#### **4. Selecting and Writing Indicators**

a. Staffs develop indicators to provide insight into MOEs and MOPs. Staffs can gauge a measurable indicator either quantitatively or qualitatively.

(1) Imprecisely defined indicators often pose problems. For example, staffs cannot measure the indicator “number of local nationals shopping”. The information lacks clear parameters in time or geography. Staffs can measure the revised indicator “average daily number of local nationals visiting main street market in city X”.

(2) Staffs should design the indicator to minimize bias. This particularly applies when staffs only have qualitative indicators available for a MOE.

(3) Many qualitative measures are easily biased. Employing safeguards reduces subjectivity in the assessment.

b. Attributes of a good indicator follow.

(1) It is accepted as meaningful to support the mission objectives.

(2) It provides information about how well operational activities are meeting objectives and goals.

(3) It is simple, understandable, logical, and repeatable.

(4) It shows a trend.

(5) It is defined unambiguously.

(6) Its data are economical to collect (considering all resources committed to its collection, and the impact the lack of those resources committed to collection has on other operations).

(7) It is timely.

(8) It drives appropriate action for progress towards the desired end state.

c. A high-quality indicator can be collected at reasonable cost. In poorly specified indicators, the required data may not exist or the data may be difficult to collect. For example, if condition 2, MOE 2 in table 11 had the indicator “Host-nation medical care availability in city X this month”, that indicator probably is not collectable. These data exist; but, unless a trusted source tracks and reports them, they are not available to United States’ forces. The revised indicator “Battalion commander’s monthly estimate of host-nation medical care availability in city X on a scale of 1 to 5” is collectable. In this case, the staff did not have an empirical, objective indicator available, so it substituted one that was subjective.

**Table 11. An Example of an End-State Condition for a Stability Operation**

Condition 2: Role 1 medical care available to the population in city X.	
<p>MOE 1: Public perception of medical care availability improved in city X.</p> <ul style="list-style-type: none"> <li>Indicator 1: Monthly poll question #42: “Are you and your family able to visit a doctor or health clinic when one is needed?” (Results are for provinces ABC only.)</li> <li>Indicator 2: Monthly poll question #8: “Do you and your family have important health needs that are not being met?” (Results are for provinces ABC only.)</li> <li>Indicator 3: The number of requests for medical care received from local nationals by the brigade.</li> </ul>	<p>MOE 2: Reported battalion commander’s estimates (scale of 1 to 5) of host-nation medical care availability in the battalion area of operation.</p> <ul style="list-style-type: none"> <li>Indicator 1: The number of clinic staff at work during the battalion surgeon’s weekly visit.</li> <li>Indicator 2: The number of patients receiving treatment per day, according to the clinic’s sign-in sheet.</li> </ul>
Legend:	
MOE—measure of effectiveness	

d. An indicator is relevant if it provides insight into a supported MOE or MOP. Commanders must ask pertinent questions, such as:

- (1) Does a change in this indicator indicate a change in the OE?
- (2) What factors unrelated to the MOE or MOP could cause a change in this indicator?
- (3) How reliable is the correlation between the indicator and the MOE or MOP?

e. The indicator, “number of weapons shipment interdictions in area x”, for example, is not relevant to the MOE “amount of enemy activity in the maritime area of operations”. Plausibly, the indicator could increase or decrease with a decrease in enemy activity. An increase in friendly patrols in littoral areas could result in a decrease of maritime weapons shipment interdictions. Staffs also may have difficulty determining how the enemy has adapted its operations to avoid the new patrols. These factors could artificially inflate the indicator thereby creating a false impression of decreased enemy activity within the assessment framework. In this example, staffs cannot reliably measure enemy activity levels by considering maritime weapons shipment interdictions as an indicator for this MOE.

f. Assessors must be cognizant of any disparity between assessed progress and the perception of actors within adaptive and ill-structured systems when rating MOEs and standards in complex OEs. Such a disparity is an important distinction, possibly signaling that observed movement of a selected indicator might actually be inadequate or irrelevant to the MOE. When this occurs, the staff must reevaluate and, often, select new indicators.

## 5. Standards Development

a. Standards (i.e., rating scales) are simple, declarative statements about the most important aspects of each domain and task. They clarify the levels of an ordinal scale, and reduce (but do not eliminate) error that is associated with different observers. Standards design does not necessarily attempt to capture the nuances or details of the command's viewpoint, but often standards are useful in gauging progress for some variables in stability operations and other complex adaptive and ill-structured OEs.

b. To be effective, standards must be clear, concise, and contain as few central ideas as possible; ideally, no more than one or two. Too many ideas result in standards that are confusing to units providing inputs.

c. Assessment teams develop standards using a deliberate and inclusive process to ensure staffs and commands understand and accept the standards being set.

(1) There should be enough range across a particular standard (i.e., a rating scale) so progress or regress is evident on timescales relevant to the operation, but not so much as to consume valuable discussion time on minutia. A 5-point scale is common as depicted in the Rating Definition Level scales in tables 12 and 13.

<b>Table 12. A Rating Definition Level Scale (Example)</b>				
<b>Vehicle Maintenance</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
There is no evidence to attempt first echelon or above maintenance. The majority of vehicles are not operational or submitted for corrective maintenance.	There is evidence of routine first-echelon maintenance on the majority of vehicles; the minimum of vehicles required for operations are operational.	First-echelon maintenance is conducted routinely. There is evidence of higher echelon maintenance submissions and the minimum of vehicles required for operations are operational.	All echelons of maintenance are conducted routinely. A minimum number of vehicles are required for operations and there is at least a 10% reserve on hand that is operational.	All echelons of maintenance are conducted routinely. There is a minimum number of vehicles required for operations, and at least a 50% reserve are operational and on hand.

<b>Table 13. A Notional Example of Objective or Effect Assessment Standards</b>					
<b>Campaign Essential Task</b>					
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
<b>Security</b>	Stated areas are not secured.	Stated areas are partially secured but have a significant risk of reversion.	Stated areas are partially secured but have a moderate risk of reversion.	Stated areas are partially secured but have a minimal risk of reversion.	Stated areas are fully secured with minimal risk of reversion.
<b>Governance</b>	Key government actors are not present in the stated areas.	Some key government actors are present in the stated areas or their actions are significantly undermining security.	The majority of key government actors is present in the stated areas or their actions are moderately undermining security.	All key government actors are present in the stated areas or their actions are minimally undermining security.	All key government actors are present in the stated areas and they are actively working to enhance security.
<b>Socioeconomic</b>	Security conditions in and around the stated areas are significantly hindering legitimate socioeconomic activity.	Security conditions in and around the stated areas are moderately hindering legitimate socioeconomic activity.	Security conditions in and around the stated areas are having minimal impact on legitimate socioeconomic activity.	Security conditions in and around stated areas are having no impact on legitimate socioeconomic activity.	Security conditions in and around the stated areas are enhancing legitimate socioeconomic activity.
<b>Regional Relations</b>	Other countries are playing an overall significantly negative role with respect to security in the stated areas.	Other countries are playing an overall moderately negative role with respect to security in the stated areas.	Other countries are playing an overall minimally negative to minimally positive role with respect to security in the stated areas.	Other countries are playing an overall moderately positive role with respect to security in the stated areas.	Other countries are playing an overall significantly positive role with respect to security in the stated areas.

(2) Staff and command ratings against standards should be defensible and based on cited quantifiable or qualitative evidence.

(3) There should be an understanding that the draft standards generally describe observed conditions and do not attempt to capture every nuance of every area of operations. Contextual input as described in figure 23 must augment standards depictions to capture necessary details.

(4) Decision makers must be extremely wary of claims that ordinal rating scales, such as a Likert scale or Rating Definition Level scale, are cardinal numbers suitable for arithmetic calculations. Assessors must not perform arithmetic (i.e., adding or averaging) on ordinal rating scales. Such calculations break the most fundamental rules of arithmetic. They are equivalent to claiming the assessor has a scientifically validated, mathematical model of the OE, and produce nonsense.



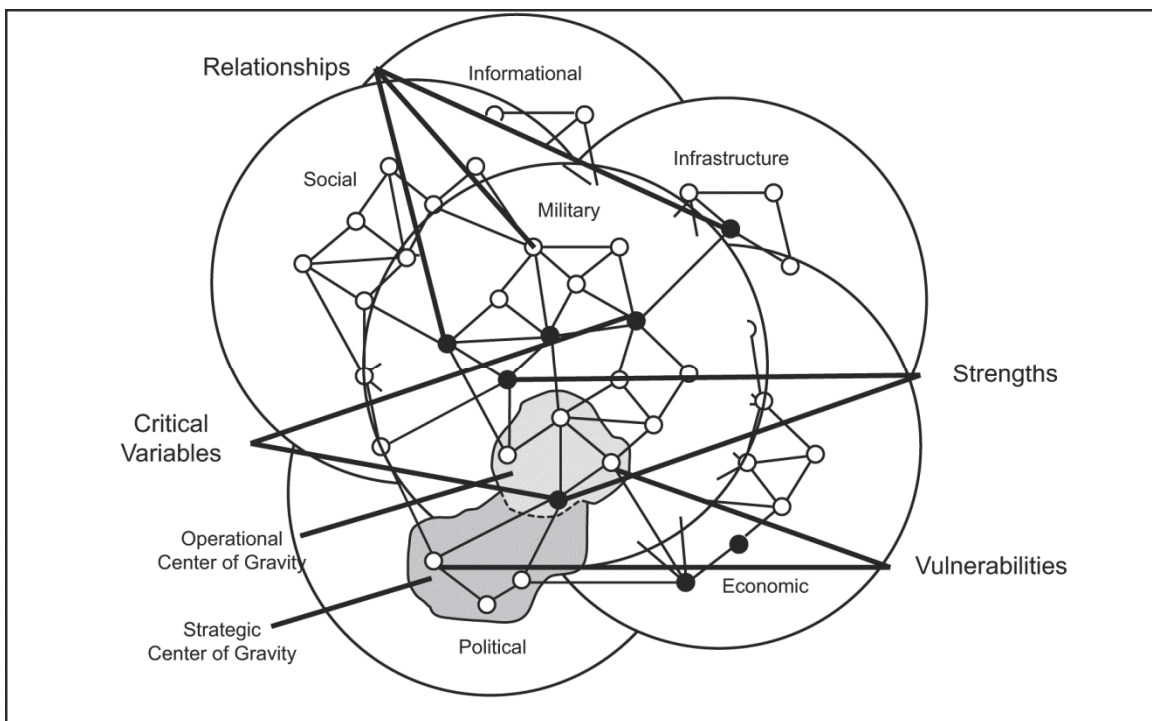
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## Appendix B CONSIDERATIONS FOR THE COMPLEX OPERATIONAL ENVIRONMENT (OE)

### 1. Contemporary OE

a. Complex geopolitical environments, difficult causal associations, and difficulty with quantitative and qualitative analyses to support decision-making have all complicated assessment. Due to the interrelationship of systems and networks, commanders must assess variables normally outside their control and expertise to ascertain progress within complex OEs. (These may include governance, development, diplomacy, and strategic communication.) Many systems encountered in complex OEs are adaptive and ill structured. As such, their components and behaviors are not easily described and understood, which is the primary problem encountered in assessing most complex OEs. Assessments that attempt to conduct effects-based analyses of these systems generally fail. This appendix provides best practices and possible approaches to address these issues.

b. Figure 24 depicts the contemporary OE. It conveys how commanders and staffs must be prepared to view and develop OE understanding as operational scope apertures widen beyond the traditional military environment.



**Figure 24. OE**

### 2. Systems Perspective

a. An understanding of whether or not a system's structure can be decomposed is fundamental to assessing the system. System structure, not complexity, often determines whether it can be decomposed. For example, an F-18 is a complex

system that can be decomposed, sub-elements analyzed, and recomposed with no characteristics lost. However, analysts cannot successfully decompose complex systems such as a flock of birds, a school of fish, or a human network. The F-18 is a well-structured problem and lends itself to analysis and synthesis. The other examples are ill structured in that they are composed of so many independent variables and relationships, the systems cannot be decomposed and analysts must deal with them as a whole.

b. Complex adaptive systems comprise independent elements that continuously learn and adapt to other elements within the system. These systems consist of many components, where the components themselves can be simple. However, in many complex and adaptive systems, the components often are complex and adaptive themselves. Component elements interact by exchanging information and energy thereby establishing many direct and indirect feedback loops within the system.

(1) Complex and adaptive systems are open systems. They operate in a condition far from equilibrium and display important elements of non-linear behavior, driven by the feedback loops. These properties create uncertainty for an observer trying to understand current conditions and possible future conditions.

(2) Complex and adaptive systems are composed of interrelated networks that tend to co-evolve with their environment. Order is emergent rather than predetermined. A force taking part in a conflict becomes part of the complex and adaptive system, which means the force cannot be completely aware of the behavior of the system as a whole.

c. A systems perspective facilitates operational design, joint operation planning, and operation assessment. It provides commanders and staff a common frame of reference for collaboration to determine and coordinate actions beyond an immediate commander's authority.

d. Table 14 depicts typical characteristics of a complex and adaptive system.

**Table 14. Complexity Attributes, Impacts, and Manifestations**

Complex System Attribute	Impact or Manifestation
<ul style="list-style-type: none"> <li>• Multiple competing stakeholders and interest groups; there is a presence of many-on-many interactions.</li> <li>• The mutual relationships between subsystems (allegiances) are unclear and often changing.</li> <li>• The decision-making within and across subsystems tends to be decentralized.</li> <li>• Spatial and temporal scope of subsystems, as well as their objectives, may be unclear or shifting.</li> <li>• Different subsystems function on different temporal and spatial scales.</li> <li>• The system is often an open system.</li> <li>• Characteristics will have significant impact on the overall dynamics of a complex system.</li> <li>• There exists a memory in the system.</li> <li>• Critical behavior may occur for systems far from equilibrium.</li> </ul>	<ul style="list-style-type: none"> <li>• The system is composed of many different subsystems that compete with other subsystems for space and resources.</li> <li>• The subsystems interact with many other systems.</li> <li>• A conflict population may start supporting one side, then shift allegiance.</li> <li>• Central governance may be weak when responding to local decisions or stimulus (e.g., coercion).</li> <li>• Boundaries are often unclear and shifting.</li> <li>• Different forces may work on different scales in time and space.</li> <li>• Do not assume there will be no flow of information, resources, or influence across boundaries of the analyzed system.</li> <li>• There is non-linearity (i.e., the whole is NOT the sum of its parts).</li> <li>• Can lead to disproportional responses.</li> <li>• A small incident can lead to a major shift in a conflict.</li> <li>• History, across many scales, becomes very important.</li> <li>• There are cross-scale dynamics, repeated global redistributions of system parameters (e.g., resources), and catastrophic changes with no warning.</li> <li>• The control mechanism for a complex system must have complexity (at each scale) corresponding to the complexity of the system itself.</li> </ul>

e. Assessors can never achieve a full understanding of complex adaptive and ill structured systems, but continually increasing understanding enable them to operate more effectively. The assessment framework in chapter 3 is a means to that end.

f. When organizing the assessment framework, it is helpful to consider the systems in terms of structures and functions when attempting to identify the critical variables. Identifying critical variables is important because they affect centers of gravity for key components and actors within the systems. Critical variables often serve to focus MOE and indicator development. They become the focus for shaping and measuring, within the OE, to ascertain progress towards the next desired state or the overall end state.

g. Assessors must define MOEs and identify indicators that provide information about the movement of critical variables to ascertain progress in complex adaptive and ill-structured systems. Table 15 depicts structure and function possibilities to consider when identifying critical variables.

<b>Table 15. Structure and Function Considerations</b>	
<b>Structure</b>	<b>Function</b>
<ul style="list-style-type: none"> <li>• Nodes.               <ul style="list-style-type: none"> <li>• Function within network.</li> <li>• Links to other nodes.</li> <li>• Have a level of influence within the network.</li> <li>• Depict the pattern of life.</li> </ul> </li> <li>• Composition.               <ul style="list-style-type: none"> <li>• Nodes: people, places, things.</li> <li>• Resources: money, equipment, etc.</li> </ul> </li> <li>• Links.               <ul style="list-style-type: none"> <li>• Type: family, societal, cultural, etc.</li> <li>• Strength: strong, weak.</li> <li>• Internal: between nodes.</li> <li>• External: associated with other networks.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Capability.               <ul style="list-style-type: none"> <li>• Adaptability.</li> <li>• Regeneration.</li> <li>• Recruitment.</li> <li>• Resource.</li> <li>• Train.</li> <li>• Conduct operations.</li> <li>• Communication.</li> </ul> </li> <li>• Intent.               <ul style="list-style-type: none"> <li>• Catalyst for formation.                   <ul style="list-style-type: none"> <li>• Objectives.</li> <li>• Ideology.</li> </ul> </li> <li>• Likely courses of action and tactics, techniques, and procedures.</li> </ul> </li> <li>• Influence.               <ul style="list-style-type: none"> <li>• On other networks.</li> <li>• By other networks.</li> </ul> </li> </ul>

h. As assessors increasingly gain information, they develop hypotheses about opportunities and risks. Testing and adjusting hypotheses is required to select and refine critical variables. Successful identification of and acting on a critical variable causes a noticeable change in the system towards the next desired state. (This is observed via indicators.) Assessment verifies the identification of the critical variables. Note, assessors must periodically readjust the assessment plan to avoid assessments becoming obsolete as understanding of adaptive and ill-structured systems increases.

i. When developing hypotheses for identifying critical variables, the following approaches may be useful.

- (1) Take a crude look at the whole rather than expect details of the system to provide the answers.

- (2) Look for information that indicates the previous understanding requires revision.
- (3) Look for potential tipping points and factors that can be game-changers.
- (4) Look for new patterns of behavior, within the system, that may emerge.
- (5) Capture the perspectives of important actors in the system.
- (6) Be aware of the history of the system. History often explains important aspects of complex adaptive and ill structured systems.
- (7) Define system boundaries. This is necessary to study complex adaptive and ill structured systems, but boundaries also may create barriers to thinking.
- (8) Identify and acknowledge sources of uncertainty.

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## GLOSSARY

### PART I – ABBREVIATIONS AND ACRONYMS

#### A, B

<b>ADRP</b>	Army doctrine reference publication
<b>AFB</b>	Air Force Base
<b>AFDD</b>	Air Force doctrine document
<b>AFH</b>	Air Force handbook
<b>AFI</b>	Air Force instruction
<b>AFTTP</b>	Air Force tactics, techniques, and procedures
<b>AIR</b>	Airborne Infantry Regiment
<b>ALSA</b>	Air Land Sea Application Center
<b>ANSF</b>	Afghan National Security Forces
<b>ATP</b>	Army techniques publication
<b>AWG</b>	assessment working group

#### C

<b>CADD</b>	Combined Arms Doctrine Directorate
<b>CEG</b>	commander's executive group
<b>CMO</b>	civil-military operations
<b>COA</b>	course of action
<b>COMISAF</b>	Commander, International Security Assistance Force
<b>COS</b>	chief of staff

#### D

<b>DOD</b>	Department of Defense
<b>DOS</b>	Department of State
<b>DOTMLPF</b>	doctrine, organization, training, materiel, leadership and education, personnel, and facilities
<b>DR</b>	disaster relief

#### E

<b>EAB</b>	Executive Assessments Board
<b>EAG</b>	Executive Assessment Group

#### F

<b>FM</b>	field manual
<b>FY</b>	fiscal year

## G

<b>G-2</b>	Intelligence
<b>G-3</b>	Operations
<b>G-5</b>	Policy and Planning
<b>G-6</b>	Communications
<b>G-7</b>	Force Structure, Training, and Doctrine

## H

<b>HA</b>	humanitarian assistance
<b>HN</b>	host nation
<b>HQ</b>	headquarters

## I

<b>IR</b>	intelligence requirement
<b>ISAF</b>	International Security Assistance Force
<b>ISR</b>	intelligence, surveillance, and reconnaissance

## J, K

<b>J-2</b>	intelligence staff section
<b>J-3</b>	operations staff section
<b>J-5</b>	plans staff section
<b>JIOC</b>	joint intelligence operations center
<b>JIPOE</b>	joint intelligence preparation of the operational environment
<b>JIPTL</b>	joint integrated prioritized target list
<b>JISE</b>	joint intelligence support element
<b>JOA</b>	joint operations area
<b>JOPP</b>	joint operation planning process
<b>JP</b>	joint publication
<b>JSOTF-P</b>	Joint Special Operations Task Force-Philippines
<b>JTF</b>	joint task force

## L

<b>LeMay Center</b>	Curtis E. LeMay Center for Doctrine Development and Education
<b>LOE</b>	line of effort
<b>LOO</b>	line of operation

**M**

<b>MAGTF</b>	Marine air-ground task force
<b>MARSEC</b>	maritime security
<b>MCRP</b>	Marine Corps reference publication
<b>MEA</b>	munitions effect assessment
<b>MEF</b>	Marine expeditionary force
<b>MISO</b>	military information support operations
<b>MOE</b>	measure of effectiveness
<b>MOP</b>	measure of performance
<b>MTTP</b>	multi-Service tactics, techniques, and procedures

**N**

<b>NATO</b>	North American Treaty Organization
<b>NCC</b>	Navy component commander
<b>NGO</b>	nongovernmental organization
<b>NTTP</b>	Navy tactics, techniques, and procedures
<b>NWDC</b>	Navy Warfare Development Command
<b>NWP</b>	Navy warfare publication

**O**

<b>OBJ</b>	objective
<b>OE</b>	operational environment
<b>OEF</b>	Operation ENDURING FREEDOM
<b>OIC</b>	officer in charge
<b>OIF</b>	Operation IRAQI FREEDOM
<b>ORSA</b>	operations research and systems analysis

**P, Q**

<b>PIR</b>	priority intelligence requirement
<b>PN</b>	partner nation

**R**

<b>RC(SW)</b>	Regional Command Southwest
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**S**

<b>SITTEMP</b>	situational template
<b>SME</b>	subject matter expert
<b>SOF</b>	special operations forces

**T**

**TACMEMO** tactical memoranda  
**TRADOC** United States Army Training and Doctrine Command  
**TTP** tactics, techniques, and procedures

**U, V, W, X, Y, Z**

**USCENTCOM** United States Central Command

**PART II – TERMS AND DEFINITIONS**

**assessment**— The continuous cycle of observing and empirically evaluating the ever-changing operational environment to inform decisions about the future and make operations effective.

**assessment framework**—The mission-specific application created and validated within the joint operation planning process that incorporates the logic of the operational plan and uses indicators to determine progress towards attaining desired end state conditions.

**assumption**—A supposition on the current situation or a presupposition on the future course of events, either or both assumed to be true in the absence of positive proof, necessary to enable the commander in the process of planning to complete an estimate of the situation and make a decision on the course of action. (Source: JP 5-0)

**commander's intent**—A clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the commander's desired results without further orders, even when the operation does not progress as planned. (Source: JP 3-0)

**complex adaptive system**—A system in which its elements independently and continuously learn and adapt to other elements within the system.

**conditions**—1. Those variables of an operational environment or situation in which a unit, system, or individual is expected to operate and may affect performance. See also joint mission-essential tasks. 2. A physical or behavioral state of a system that is required for the achievement of an objective. (Source: JP 3-0)

**critical variable**—A key resource or condition present within the operational environment that has a direct impact on the commander's objectives and may affect the formation and sustainment of networks. A critical variable is the focus for shaping, within the operational environment, to achieve the commander's desired end state.

**deliberate planning**—The Adaptive Planning and Execution System planning activities that routinely occur in non-crisis situations. (Source: JP 5-0)

**effect**—1. The physical or behavioral state of a system that results from an action, a set of actions, or another effect. 2. The result, outcome, or consequence of an action. 3. A change to a condition, behavior, or degree of freedom. (Source: JP 3-0)

**end state**—The set of required conditions that defines achievement of the commander's objectives. (Source: JP 3-0)

**evaluate**—Use criteria to judge progress toward desired conditions and determine why the current degree of progress exists. (Source: JP 5-0)

**ill structured system**—A system composed of many independent variables and relationships that cannot be decomposed and; therefore, must be dealt with as a whole.

**indicator**—An item of information that provides insight into a measure of effectiveness or measure of performance. (Source: ADRP 5-0)

**key tasks**—Those activities the force must perform, as a whole, to achieve the desired end state. (Source: ADRP 5-0)

**measure of effectiveness**—A criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect. Also called MOE. (Source: JP 3-0)

**measure of performance**—A criterion tied to measuring task accomplishment used to assess a friendly action. Also called MOP. (Source: JP 3-0)

**mission**—The task, together with the purpose, that clearly indicates the action to be taken and the reason [for it]. (Source: JP 3-0)

**monitoring**—A continuous observation of those conditions relevant to the current operation. (Source: JP 5-0)

**objective**—The clearly defined, decisive, and attainable goal toward which every operation is directed. (Source: JP 5-0)

**operation**—A military action or the carrying out of a strategic, operational, tactical, service, training, or administrative military mission. (Source: JP 3-0)

**operation assessment**—A continuous process to determine the overall effectiveness of employing joint force capabilities during military operations by measuring the progress toward accomplishing a task, creating a condition or effect, or achieving an objective that supports decision making to make operations effective.

**operational approach**—A description of the broad actions the force must take to transform current conditions into those desired at end state. (Source: JP 5-0)

**operational environment**—A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. Also called OE. (Source: JP 3-0)

**operational design**—The conception and construction of the framework that underpins a campaign or major operation plan and its subsequent execution. (Source: JP 5-0)

**operational level of war**—The level of war at which campaigns and major operations are planned, conducted, and sustained to achieve strategic objectives within theaters or other operational areas. (Source: JP 3-0)

**staff estimate**—An evaluation of how factors in a staff section’s functional area support and impact the mission. Estimates should be comprehensive and continuous and must visualize the future, but at the same time, they must optimize the limited time available. (Source: JP 5-0)

**strategic level of war**—The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, then develops and uses national resources to achieve those objectives. (Source: JP 3-0)

**system**—A functionally, physically, and/or behaviorally related group of regularly interacting or interdependent elements. (Source: JP 3-0)

**tactical level of war**—The level of war at which battles and engagements are planned and executed to achieve military objectives assigned to tactical units or task forces. (JP 3-0)

**task**—A clearly defined action or activity specifically assigned to an individual or organization that must be done as it is imposed by an appropriate authority. (Source: JP 1-02)

**threshold of success**—A level, point, or target desired for an indicator. Attainment of the target indicates success for the associated task, objective, or end state and signals the opportunity to reallocate resources.

**variances**—The difference between the desired situation and actual situation at a specified time. Based on the impact of the variance on the mission, the staff makes recommendations to the commander on how to adjust operations to accomplish the mission more effectively. (Source: Assessment Handbook)

ATP 5-0.3  
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