CAPABILITIES-BASED PLANNING

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Capabilities-Based Planning Experiential Activity Book

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Preface

This workbook emerged out of a request for assistance that the United States Army War College received following bi-lateral staff talks between an Army service component command and a partner nation's Army. The request was for a subject matter expert to conduct a workshop for the partner Army's staff planners on capabilities-based planning in support of that Army's on-going transformation efforts. The transformation was a long-term project that involved three "lines of effort" – one on updating the Army's operational capabilities, one on its institutional practices, and the third on its culture. The request was in direct support of the first while other activities were earmarked to support the other lines of effort.

I became involved because the workshop was very much aligned with my prior work in *Leading Change in Military Organizations: Primer for Senior Leaders*. As I pored through the partner Army's transformation plans and the hidden meanings behind the request, it became apparent that this was more than just about training on capabilities-based planning as an isolated activity, but that there had to be an outcome that would drive the sorts of changes that the Army leaders said they wanted. What I feared was that the workshop would teach the leaders to follow a process and generate a series of requirements for investment, but if the staff officers could not communicate their analysis in strategic terms, Army leaders might not put the requirements to action.

Thus, my approach was to do more than simply replicate what others have done about capabilities-based planning. It was to ensure that the aims of transformation were better understood and that the planners could develop communication campaigns from their findings that would be reasonably convincing to Army leaders.

Over the course of four days, I conducted a set of six "activities" that walked the participants through the process of translating strategies to requirements to communications. Participants were divided into groups according to their dominant warfighting functions, drawn from their Army's transformation documents. Four of the six groups were focused on tactical capabilities while two were more enterprise or strategic in nature – communications and sustainment. Each group outbriefed the day's efforts to all the participants, and partner Army leaders attended some of the outbriefs. The workshop was successful, but I took note of those activities that were less successful than others and why and incorporated these findings for future use. I also generalized the activities to remove elements specific to the partner Army I supported and did some additional piloting with Army War College resident students, both US and international fellows to see how well the ideas held up.

The result is this workbook, which is more focused on how capabilities-based planning is a tool to be used in support of an overall transformation effort and not just an algorithm to follow. I wanted these activities to be flexible so users can adapt them to a unit's particular context as there is no one best way to do capabilities-based planning. The core activities that make up the middle of this workbook are closer to a pure capabilities-based planning effort and therefore one could cut the rest if they wish, at the risk of developing plans that appear disconnected from the overall aims of the service or defense enterprise.

INTRODUCTION – TRANSFORMATIONS & THE CAPABILITIES-BASED PLANNING APPROACH

WHAT ARE TRANSFORMATIONS?

Transformations are more than just changing an organization; they are redefining it. One can think of it as what Levy & Merry (1986) refer to as *second-order change*. First-order changes are the typical iterative improvements that are made that do not fundamentally change the organization's core mission and identity. Such changes can be readily reversed or weakened. Second-order change is much deeper; altering the core mission and identity.[1] When undergoing a transformation, the organization creates and fields new capabilities while divesting old or obsolete ones, and the meaning of membership in the organization changes in kind. It is an irreversible type of change, in that one may attempt to restore the original core mission and identity, but the acts of changing the organization's core leaves marks or residuals.[2] The organization will never be the same.

Consider the U.S. Army Transformation Campaign of the late 1990s, in which then-Army Chief of Staff General Eric Shinseki promoted the need for lighter, more rapidly deployable forces that enhanced global strategic responsiveness. It led to the pursuit of new major weapons systems featuring advanced technologies that would supersede the heavy armored forces of the past. It also included a mindset change, in that the new Army would be more expeditionary, symbolized by the introduction of a black beret as a standard part of the uniform.[3] That this transformation effort did not ultimately succeed due in part to the aftermath of the 9/11 terrorist attacks does not diminish what the effort was trying to accomplish. It merely shows how difficult and potentially complex transformation efforts can be.

In a famous article on transformation in the business context, Andrew Pettigrew characterized transformations as including mixes of structural, strategy, and cultural changes.[4] An analog for military transformations is that they should involve changes along three areas. The first is the *operational capabilities* of the force that include but are not limited to the following: (a) materiel systems and associated sustainment, (b) personnel and talent management requirements to provide needed skills and competencies to the fight, and (c) organizational designs that assemble capabilities into a fighting force. The aim is for the capabilities to be trained and ready for mobilization, deployment, employment, and sustainment.

The second is the *institutional business practices* that set strategic direction for the force and develop the needed capabilities. Military leaders bear the responsibility to organize and maintain staff functions that allow for the reliable and consistent oversight of the fighting force to ensure it has adequate resources to train and be ready. They also must ensure the institution maintains the professional domain of knowledge on military operations, maintains relevant and updated concepts and doctrine, and establishes information networks to ensure consistent and productive communication across the enterprise.

Finally, there is the *human dimension*, perhaps the most overlooked aspect of transformations. As operational and institutional changes are made, they may raise new questions in the minds of service members. *What does it mean to serve or to fight? Who am I as part of a fighting force? How am I assured that my leaders will support me and have my back as I put my life on the line for my country?* Consider the advent of drone technologies and how it changed the meaning of piloting in combat. Many capabilities alter the meaning of

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[1] Amir Levy and Uri Merry, *Organizational Transformation: Approaches, Strategies, Theories* (Praeger, 1986), Chapter 1.

[2] Saku Mantere, Henri A. Schildt, and John A. A. Sillince. "Reversal of strategic change," *Academy of Management Journal* 55, no. 1 (2012): 172-196.

[3] Con Crane and Michael Lynch, *A History of the Army's Future, 1990-2018*, v2.0 (Carlisle, PA: Army Heritage and Education Center, 2020).

[4] Andrew Pettigrew, "Context and Action in the Transformation of the Firm," *Journal of Management Studies* 24, no. 6 (November 1987): 649-670.

service, honor, courage, and other deeply held military values. These concerns can never be dismissed when considering transformation plans.

Capabilities-based planning addresses the first pillar primarily. Future works in this series will look at the other dimensions, but planners using this Activity Book should consider institutional and individual impacts of the capability requirements discussions herein.

What is Capabilities-Based Planning?

One definition of defense management encapsulates the continuous efforts nations undertake to turn national resources and defense policies and strategies into trained and ready military capabilities.[5] The goal is for these capabilities to fully satisfy the strategy, such that the nation's people, resources, and interests are secure against known or anticipated threats. During the Cold War, the threats were better known and understood in the context of global competition between NATO and the Warsaw Pact. At the time, it was feasible to compare one's own capabilities against those of the opposing side on some future battlefield. If the adversary had better equipment and training or held greater numbers, then the friendly strategy was at risk. It was therefore necessary to take steps and improve one's own capabilities to close the gap that favored the adversary.

That was threat-based planning, which in today's complex and dynamic security environment is no longer feasible. While the types of threat capabilities are knowable, it is less certain who the potential adversaries are and how they would use their capabilities against friendly forces. The range of adversaries and the capabilities they might exploit are also far greater; therefore, the range of capabilities needed by friendly forces is wider than in times past. The development of drone technologies and robotics, along with the establishment of new

warfighting domains of cyber and space, demonstrate this broad range.

The threat-based approach tended to be bottom-up, with subordinate commands or agencies identifying requirements and presenting them upward for approval. While efficient, it did not encourage collaboration with other groups. In the post-Cold War environment, this led to the pursuit of many overlapping or incompatible capabilities and resulted in a larger military force than the defense enterprise could afford and sustain.[6]

Capabilities-based planning (CBP) is an alternative method that develops capabilities based on the tasks required of the force:

> It represents an attempt to break down traditional stovepipes and provide for transparency and coherence. CBP provides a more rational basis for making decisions on future acquisitions, and makes planning more responsive to uncertainty, economic constraints, and risk. CBP provides a framework to support analysis and facilitate risk management. It focuses on goals and end-states and encourages innovation. It starts by asking questions regarding what we need to do rather than what equipment are we replacing.[7]

Note the inclusion of "economic constraints" above, as CBP is both operationally focused and resource informed.[8][9] The key is to simultaneously develop capabilities that meet the strategy while also being affordable. Thus, a key for successful CBP is collaboration among stakeholders from both the operational and resource management sides.

CBP is also concept-led. It considers the way in which the force will fight using a common set of operational concepts. Operational concepts address all levels of warfare from the strategic to the tactical level and address the wide range of missions that a force must prepare against. This

[5] Hari Bucur-Marcu, "Introduction," in Hari Bucur-Marcu, Philipp Fluri, Todor Tagarev, eds., *Defence Management: An Introduction* (Geneva: Geneva Centre for the Democratic Control of Armed Forces, 2009), 4.

[6] Stephen K. Walker, *Capabilities-Based Planning: How it is Intended to Work and Challenges to Its Successful Implementation* (strategy research paper, Carlisle, PA: U.S. Army War College, 2005).

[7] Joint Systems Analysis Group (JSAG), *Guide to Capability-Based Planning*, Report #TR-JSA-TP3-2-2004 (Alexandra, VA: The Technical Cooperation Program, 2004), 1-2. Hereafter "JSAG, *Guide to CBP*."

[8] JSAG, *Guide to CBP*.

[9] Paul K. Davis, *Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis, and Transformation* (Santa Monica, CA: RAND Corporation, 2002), https://www.rand.org/pubs/monograph_reports/MR1513.html

allows the enterprise to consider capabilities that may be suitable for multiple missions, thereby reducing possible redundancy.[10]

The task to be performed means that CBP does not view capabilities as single weapon systems platforms or discrete units studied in isolation. Rather, capabilities are often composed of multiple platforms or systems working together (this is called a *capability partition*) to perform the task. Strategically, this encourages planners to examine capabilities holistically and makes the CBP process much more manageable.[11]

Finally, CBP is scenario-driven. By presenting realistic and relevant situations, planners can test the existing or planned capabilities in realistic situations that stress the force and identify potential gaps and requirements.[12] The testing should be robust, perhaps involving multiple scenarios. Planners can generate a slate of requirements from which leaders can prioritize and consider alternatives. Does the force need more of some capabilities? Does it need to upgrade other capabilities? Do entirely new capabilities need to be developed? Or are some capabilities no longer needed?[13]

IMPLEMENTING CAPABILITIES-BASED PLANNING

There are several published frameworks for implementing CBP, but they share many things in common. They begin with the defense strategies, followed by the development of operational concepts, scenario testing, requirements identification, capability development plans, and a feedback loop to respond as the environment changes. The approach used in this workbook draws from both U.S. and international sources to make CBP accessible to all military organizations while avoiding certain nation-specific details.[14]

This workbook goes beyond the traditional scope of CBP, however. In general terms, CBP processes often generate requirements but do comparatively little to address how leaders should communicate them.[15] This workbook integrates communication into both the input and the output of CBP. Participants will be required to develop a clear story about why CBP is needed and set the parameters for a communication campaign at the end to convince stakeholders and members of the unit that the results of CBP are valid and justified.

This workbook will follow the above process in general terms, as exercising CBP in full is both complex and time consuming. Figure 1 shows the general process. Some questions to consider include how leaders measure the effectiveness of the force or compare the force against a potential adversary. What constitutes a sufficient concept? What scenarios should one consider to thoroughly test the concept? Many nations perform CBP under resource constraints, meaning that the nation may not be able to afford to fill all the identified capability gaps. How does one design a force structure that satisfies both the mission requirements and the resource constraints? Finally, how do we communicate the results of our analysis to our stakeholders?

Of these questions, communicating the results of CBP is often overlooked. Defense management is a study of persistent tensions. This means that for any decision or plan that emerges from CBP, there is an alternate perspective that stakeholders may prefer, and these stakeholders may use that perspective to generate arguments against the plan and block its implementation. The collaboration built into CBP will help with exposing and considering these

[10] JSAG, *Guide to CBP,* 2-3.

[11] JSAG, *Guide to CBP,* 2-3.

[12] Todor Tagarev, "Defence Planning – Core Processes in Defence Management," in Hari Bucur-Marcu, Philipp Fluri, Todor Tagarev, eds., *Defence Management: An Introduction* (Geneva: Geneva Centre for the Democratic Control of Armed Forces, 2009), 62.

[13] Walker, *Capabilities-Based Planning.*

[14] U.S. methods surveyed include Defense Acquisition University (DAU), *Capabilities-Based Assessment (CBA) Tool*, June 2, 2022, https://dau.edu/tools/t/CBA-tool, hereafter *DAU CBA Tool*; and Office of Aerospace Studies, *Capabilities-Based Assessment (CBA)*

Handbook (Kirtland AFB, NM: Department of Air Force A5R-OAS, 2017), 58, https://daytonaero.com/wp-content/uploads/AFMC-A5_USAF_Capabilities-Based_Assessment_Handbook_12-Dec-2017.pdf

[15] *DAU CBA Tool* focuses on the middle activities of this workbook but is more detailed in its process. Meanwhile, *USAF CBA Handbook* includes some critical questions that communications from the CBP analysts should answer but does not address the broader campaign that leaders would initiate when implementing CBP recommendations. See Activity VII.

Activity #

I Describe Current Situation	***How is the military postured?*** *Assess the military's competitive disadvantage given the current environment and the future risks of maintaining the status quo*
II Develop Operating Concepts	***How should the military fight?*** *Envision the future battlefield and how the military will accomplish missions*
III Develop Scenarios to Test the Concepts	***How might operations unfold?*** *Develop a range of plausible scenarios that may trigger military operations*
IV Test the Concepts	***Is the operational concept valid?*** *Use the scenarios to assess existing military's capabilities and identify gaps*
V Determine Requirements	***What does the military need?*** *Identify gaps that present unacceptable risk to military forces*
VI Build the Force Development Plan	***How to correct the gaps?*** *Identify adjustments to force structure to include new capabilities*
VII Develop Communications Campaign	***How to proceed?*** *Explain and justify to stakeholders the resources needed to achieve the new structure and the urgency of taking action*

Figure 1. General Capabilities-Based Planning Process

alternate perspectives to the plan and developing possible responses to stakeholder counterarguments. For this reason, it is not only important to develop the plan but also the associated communication campaign that will allow defense leaders to justify the plan and advocate for its resourcing from stakeholders.

This workbook presents seven activities I conducted at a workshop for a partner Army staff in 2022. The activities are modified from what I did at the workshop based on lessons learned:

I. *Describe Current Situation*. This warm-up activity set the stage for how CBP is as much a campaign as it is a process. The current situation is described using the military's competitive advantages and disadvantages, following by the risk should no action be taken to address shortcomings.

II. *Develop Operational Concepts*. This is a hasty version of what could be a months-long process of deciding how a force should fight. Often, planners only have a short time to devote to this, so I crafted a shortened version for use in one day.

III. *Develop Scenarios to Test the Concept.* This activity walks participants through a process of identifying a suitable range of scenarios to test the concept enough to show whether it is suitable and feasible.

IV. *Test the Concepts.* Testing involves determining the measures of merit on how well the force operating under the given concept fares against each scenario, and how to aggregate the results to produce a set of critical capability gaps.

V. *Determine Requirements*. The identified capability gaps are then prioritized and sorted using criteria of the participants' choices. Which ones are vital and which ones are merely important or nice-to-have? Do they call for materiel or non-materiel solutions?

VI. *Build the Force Development Plan*. Assuming the priority requirements are satisfied, what will the future force look like? How will the force be organized? What are the roles and missions? What will be the force mix – active and reserve?

VII. *Develop the Communications Campaign*. What is the messaging that will go to the leadership in support of this plan? How is the risk articulated and mitigated?

The intent is that these Activities help inform your chosen process, not serve as a fixed algorithm that you must follow as it may not fit every situation. Some planning efforts have the luxury of going for months in requisite detail while others must be done hastily, in a manner of days or even a single day. For that reason, I include some suggestions on how to shortcut the process. Each Activity has both a "long" and "short" form, where the short form is typically a subset of the long. In the short form, some steps may be omitted or reduced in scope. For

example, if the process asked for ten of something, the short form might only ask for three. These are merely suggestions based on my experience which may not match yours. So long as the Activities are properly scoped to ensure their completion in the allotted time, feel free to modify or skip as desired. The Appendix contains additional options to consider.

As you use this activity book, you can send feedback. This workbook is intended to be a living document that helps users conduct CBP. Anything we as professionals can do to improve these tools and others like it will be appreciated by future planners!

ACTIVITY I: DESCRIBE THE CURRENT SITUATION

A challenge for Transformation efforts is establishing a common language that encourages shared understanding by all stakeholders, internal and external to the service or joint community. It is inevitable that bringing people together in collaboration means there are different perspectives present, which may in turn lead to different meanings of common terms. It is important that the planning group forms, storms, and norms – but in a way that leads to productive work later. In my experience, the best way to do this is to have the initial icebreaking activities focus on important areas of difference such as the threat and perceptions of capability gaps to meet the threat. This allows for clarity and shared understanding over why capabilities-based planning is needed and what the planners hope to accomplish. Thus, I use the language of military comparative advantage as the start point.

COMPETITIVE AND COMPARATIVE ADVANTAGE

Competitive advantage is a common term in many contexts but carries particularly important meaning for militaries.[16] Claims of competitive advantage signal a military's readiness to fight, while claims of competitive disadvantage signal the urgent need for action – whether the need to develop new capabilities or fully transform the force. In practice, however, competitive advantage means little on its own and becomes meaningful only when compared to someone or something else. Thus, when one discusses competitive advantage, one is probably referring more to *comparative advantage*, which is a relative measure of both the likelihood and expected magnitude of mission success.[17] There are two ways of expressing comparative advantage – threat-based and expectations-based.

Threat-based comparative advantage is the simpler of the two. It measures the advantage through direct comparison with a threat (e.g., adversary, opponent, competitor).[18] In theory, it measures the likelihood and extent to which a force would achieve mission success through combat or other military operation against that threat. Such comparisons are often quantitative and straightforward to measure given accurate information about the threat. Do "we" have better equipment or technology than "they" do?

Do "we" have more of it than "they" do? Are "we" more flexible and versatile than they are?

Expectations-based comparative advantage measures the force's ability to respond to a pre-determined range of crises of which there is uncertainty over which might occur first, or where and when it might occur. Stakeholders set expectations as to which crises the force should be prepared to face and should be able to resolve with its organic assets. The comparative advantage reflects that extent to which the force is prepared to meet those expectations before the crisis and then resolve them. Failures or shortcomings suggest a critical disadvantage to resolve.[19]

In times of great uncertainty, where the crises are not knowable, expectations may stem from comparisons between the current force and the same force of another time, such as a past that is glorified (e.g., the US "Greatest Generation" of World War II) or inglorious (e.g., the US experience in Vietnam). It can also serve as a promise, comparing the current force with a bright future (e.g., the advantages that a future force will have, following a change effort or transformation).

Either threat-based or expectations-based approaches can work with CBP, as it focuses on the gaps or areas of competitive disadvantage identified. One danger that planners face is the

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[16] Robert M. Grant, "The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation," *California Management Review* 33, no. 3 (Spring 1991): 114-135.

[17] J. Peter Neary, "Competitive Versus Comparative Advantage," *World Economy* 26, no. 4 (2003): 457-470. He also comments how competitive advantage is the preferred view of business schools while economists prefer comparative advantage.

[18] Neary, "Competitive Versus Comparative."

[19] Neary, "Competitive Versus Comparative." Also see Constantine Samara and Henry H. Willis, *Capabilities-Based Planning for Energy Security at Department of Defense Installations* (Santa Monica, CA: RAND Corporation, 2013).

introduction of bias. It is easy and tempting to promote a preferred solution and bias all CBP activities in favor of that solution. Consider a hypothetical situation where there is a bias toward an advanced technological capability, such as unmanned aerial vehicles (UAV). Planners may develop criteria to measure military effectiveness and the costs of fielding the force that are biased in favor of UAVs while ignoring criteria that may be relevant but disfavor UAVs. This could result in a biased set of requirements and a future force that does not satisfy the strategy in the most effective or efficient way.

Principles of Preparedness

A way to overcome this challenge of bias is to establish a common language that will drive the metrics used throughout the CBP process. This will not only ensure the comprehensiveness of the measures used during scenario testing, but it will also facilitate the development of message for the communication campaign to justify the resulting force structure. The language of readiness is founded on the work of John Collins (1994) during the years following the Cold War. This was the time that the United States shifted away from threat-based assessments against the Warsaw Pact and toward CBP. He proposed nine so-called *principles of preparedness* that governed how to assess the quality of a force in a comprehensive and unbiased way.[20]

Below is my adaptation of the principles based on extensive experience in using them as tools for management of organizational change, strategic communication, and defense management decisions. These will be used here to identify and quantify capability gaps.

Aligned with Assigned Roles and Missions

The first principle, *alignment*, is that the force's design satisfies the roles and missions assigned to it, and that the roles and missions themselves are correct.[21] For example, a force designed for conventional operations may be at a disadvantage against a force expected to operate unconventionally. Or a force designed for surface warfare may face difficulties against a force that relies on submarines. A gap is therefore the lack of a capability sufficient to counter a threat capability or necessary to provide an expected response to a crisis.

CBP will allow us to consider two questions: How well or poorly does the military's mission and structure match what is presently needed to fight and win? How is the enemy evolving in its strategies and doctrines to create a competitive disadvantage for our forces?

Overmatch (or Qualitative Superiority[22])

This principle applies best for capabilities that provide a comparable response to a threat. *Overmatch* is when the force with the superior capability overwhelms the opponent. From a materiel perspective, overmatch is a matter of comparing "our" equipment against "theirs" on the future battlefield such that "ours" would ordinarily prevail. It is typically an aim of modernization to provide such overmatch.

Overmatch is more than just a materiel difference. One should also consider the human dimension. Leader development, education, resiliency, and fitness also provide overmatch. "We" may have superior planning capabilities that permit "our" force to perform better on the battlefield, for example. Or, "we" could have better knowledge of the environment, better connections with local populations, and so on.

Sufficiency (or Quantitative Sufficiency[23])

Should the capabilities be qualitatively similar, then a capability gap may appear as a quantitative difference—in other words, a difference in capacity. Is our capacity *sufficient*? If

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[20] This section is loosely derived from John M. Collins, *Military Preparedness: Principles Compared to U.S. Practices*, Report #94-48S (Washington, DC: Congressional Research Service, 1994). I will refer to explanatory footnotes to explain the differences from Collins' original nine principles.

[21] Collins' term was *purview*, "Armed forces perform best when organized, equipped, and trained to fulfill particular responsibilities." (Collins, 41). *Alignment* expands on purview to account for the routine need for military organizations to function outside of their presumed core mission sets such as National Guard

unit's capabilities in supporting natural disaster response or riot control. However, Collins's second principle was *regional peculiarity*, defined as "Armed forces perform best when organized, equipped, and trained to accomplish missions in particular geographic regions." This is subsumed under the principle of *alignment* defined here that avoids the biased views of the 1990s that assumed regional expertise was essential, whereas today it is considered helpful but not critical.

[22] Collins, 45, called this *qualitative superiority*.

[23] Collins, 44, called this *quantitative sufficiency*.

"we" and "they" have similarly capable tanks, the advantage may be in who has more of them in fighting condition. However, claims of this sort can be rather weak, given how frequently other advantages can overcome deficiencies in numbers, or how some quantitative advantages can be meaningless—is there an important difference between a swarm of 50,000 mini-drones and a swarm of 40,000?

Claims of sufficiency are probably best applied to logistics and other support functions where the advantage is in the capacity to generate capability. The ability to bring 30 days of supply into theater is quantitatively advantageous over a force that can bring only 10.

Adaptable

Adaptability is the capacity of the force to alter its response from the fight that it expected to the fight it actually faces.[24] This differs from alignment in that the difference between expected and actual wars impacts the ability to respond at the start of the war. An aligned force has a comparative advantage going into the first battle. An adaptable force can make corrections as the situation unfolds, possibly before the first battle but not necessarily.

Adaptability is a measure of both line and staff functions to modify force structures, command and control, and campaign plans in response to changing conditions. It emphasizes the human dimension of the force, that the force not only has intellectual overmatch to direct changes in the fight but that the soldiers have the capacity to implement the changes directed and to deliver feedback that informs further change.

Adaptability is a difficult principle to apply, and it is measurable mainly through learning activities—especially experiential activities such as exercises and wargames. The essential question is this: to what extent are units prepared to identify, address, and effectively respond to changes in the fight, at echelon, better than a threat force and/or sufficient to address stakeholder expectations? The challenge is that

gathering empirical evidence of such advantage will be difficult, and the advantage is not durable –leaders must reinforce this advantage.

Interoperable

Interoperability is often misunderstood as applying to multinational partnerships such as alliances and coalitions. As a principle of preparedness, it applies at all echelons. *Interoperability* constitutes the capacity of all elements of the force to assemble and interact in any configuration required. One can analogize it as "plug-and-play," where capabilities can be assembled seamlessly from any source.[25]

Interoperability differs from adaptability in that the focus is between capabilities rather than within them. Service capabilities must interoperate to become joint, just as governmental capabilities must interoperate to become whole-of-government solutions to a crisis. However, this also includes the capacity within a service for its own units to work together particularly in cases where the force must deploy in a non-doctrinal configuration. An example is when the force must be "flattened," with units ordinarily in direct support of a brigade reporting directly to a theater army instead.

Students in the U.S. Army War College developed a simple 4-question paradigm that is useful for considering how interoperable the capabilities are, and perhaps how to aggregate them to an overall force assessment: (1) *Can you hear me?* This refers to the ability of one unit to transmit information or capability to another, (2) *Are you listening to me?* This refers to the capacity of the receiver to receive the information or capability and prioritize a response to it, (3) *Do you understand me?* This refers to the ability of the recipient to interpret the meaning of the information or capability provided and employ it, and (4) *Are you allowed to tell me?* This refers to the existence of the necessary underlying

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[24] This was not one of Collins' principles, presumably because it contrasts with his principle of regional peculiarity (see Note 21). However, adaptability has long been considered important, especially in operations in Iraq and Afghanistan. IDA Paper P-5069 covers this well.

[25] This combines two of Collins' principles—*complementarity* (p. 46) regarding interoperability between components and *compatibility* (p. 48) between the services—and expands them to include interagency and multinational operations.

authorities and protocols to enable this communication or sharing of capabilities.[26]

Interoperability is a part of the force design, but identifying gaps comes through practical exercise. Is there a gap indicative of an inability to plug-and-play with others, internally or externally? Are some capabilities not reconfigurable or scalable such that smaller units or partial capabilities cannot interoperate with others? Can the force package interoperate with external entities, such as other government agencies or allies and coalition partners? Interoperable force maximize the strengths and minimize the weaknesses of its constituent parts.

Mobilizable and Sustainable

These two words often reflect two sides of the same coin – the capacity to maintain the fight over the long haul – and so I address them together. In other words, they are measures of the capacity to regenerate capabilities. *Mobilizability* refers to the capacity to surge or generate more capabilities than is available or organic to the force structure. A synonym for this is expansibility when applied to the national level, such as growing the force rapidly through a draft or nationalizing industries to produce war stocks. *Sustainability* specifically refers to the capacity to produce, transport, and distribute capabilities over time. Mobilizability and sustainability apply to personnel, materiel, and all classes of supply, including major weapon systems.[27] The United States during World War II provides a notable example of these principles in practice between the extraordinarily rapid growth of the force and the exploitation of the nation's immense industrial capacity at the time.

This principle has two levels: (1) organic and (2) national. At the organic level, the principles refer to the capacity of the force to realize its full force structure's potential. For example, if a force contains ten brigades but half are ordinarily kept at moderate readiness and the other half are at low readiness, "we" would measure the capacity to bring all ten to full readiness and then keep them at full readiness, regenerating capability as needed in response to casualties and normal battlefield wear and tear. The organic level would also refer to the capacity to fully mobilize any reserve components, auxiliary forces, militias, and other capabilities that are part of the defense enterprise as organic assets or available through pre-existing contractual agreements.

The national level engages when the organic capacities are insufficient. This may be because the actual fight is more intense or of much longer duration than the war plans account for. Consequently, mobilizability refers to the capacity to acquire these additional capabilities from the nation, and sustainability refers to the capacity to continuously tap into national assets for the production, transport, or distribution of capabilities.

With Foresight

The final two principles apply mainly to the enterprise level. *Foresight* is the capacity to balance short-term or immediate operational needs with that of long-term or broader needs.[28] It is in essence the capacity to withstand the current fight and prepare for a second, concurrent fight or a future fight. This is separate from *mobilizability and sustainability* that measures the force's readiness to surge for the current fight.

Foresight requires the ability to focus the enterprise on multiple crises or multiple concerns simultaneously and address the paradoxical tensions that may derive from them. For example, *current versus future readiness* presents a natural tension between resourcing for staffing, training, and equipping the existing force against modernizing for the future. It is rare for a force to have sufficient access to resources to fulfill both requirements equally. Similarly, forces will rarely have the capacity to *open a second front* under conditions where a significant operational activity is underway, requiring the dedication of staffs and forces to two simultaneous operations (e.g., the United States during World War II).

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[26] Carlisle Scholars Program, "Mobilization and Long-Term Sustainment Readiness" (class presentation, U.S. Army War College, Carlisle, PA, October 28, 2022).

[27] Collins' principle of *infrastructure* (p. 47) said that "Armed forces perform best when diversified installations facilitate essential training and furnish essential support" and focused primarily on the argument that the rapid closure and consolidation of real property and facilities in the 1990s would have significant consequences for readiness.

[28] This is the same as Collins' principle of *foresight* (p. 48).

With Will to be Ready

Will to be Ready is the most important principle but is the least straightforward to measure, and it is the type of principle that no leader wishes to admit is in short supply. Will to be Ready is the capacity of leaders to commit needed resources for the fulfillment of the mission. Put another way, the force is not ready if the leaders do not demonstrate the will to employ it.

Financial sufficiency is one aspect of will, whereby the military gains an advantage by having the funding and access to resources needed to complete its staffing, equipping, and training.[29] The lack of resources impacts the military's ability to uphold the other principles. For example, the qualitative advantage of advanced weapons systems atrophies when insufficient resources are provided to maintain those systems.

Another aspect is *resolve*, such that the rhetoric of leaders matches the activities undertaken by the force to demonstrate readiness for action. A way to express this is that "the video matches the audio," or that the actions match the words. However, resolve goes beyond the symbolism of such activities to exhibit the aura of readiness as a bluff. Being ready includes the full willingness to carry out any required actions.

The third aspect of Will to be Ready is *solidarity*. Note that this is different from unity in which the leaders of the force speak with one voice. Solidarity is a lower standard in which leaders and members may remain at odds or ambivalent about some aspects of readiness but are willing to put those differences aside when necessary.

A fourth, and for present purposes final, is *responsible command*. The perspective given here is that morale and command climate are important aspects of a force's readiness, but higher morale is insufficient. Will to be Ready constitutes the application of high morale and a proper command climate establishing readiness to apply military force consistently and in accordance with the laws of armed conflict. Responsible command is essential to both mission accomplishment and the establishment of a better peace following the end of combat operations.

Implications

Leaders should avoid tendencies to favor some principles over others. For example, a potential bias in favor of technological solutions can appear if one emphasizes overmatch over other principles. This could lead to searching for innovative capabilities when existing capabilities are already sufficient. On the other hand, some principles may be ignored. Interoperability is an example, as it is hard to measure and can complicate capability development. After all, a capability that must be interoperable with other capabilities requires added components to its design to provide the interface. The difficulties this adds to the design could delay development or add costs, but not doing so may impede the force's unity of effort.

DEVELOPING A CHANGE STORY

Humans are natural storytellers. We love a good story, and all good stories are about *change*—ordinarily in the protagonist. Successful storytelling involves resolving conflict and tension.[30] If there is no conflict, there is no story. We empathize with characters who overcome conflict, change, and grow.

Army transformations are complex and difficult to explain in the ordinary way. One can try to explain why the Army must change, what it must change to, and how it will be done, but if the explanation is not inspiring, people may become skeptical. Questions may arise like, *why now? Why this way and not some other way?* Those questions may be asked by both external stakeholders and by the soldiers who would be most affected.

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[29] The principle of *will to be ready* is an expansion of Collins' principle of *financial sufficiency*, "Armed forces perform best when funds are sufficient to acquire, operate, maintain, and otherwise support the military establishment that foreign policies, military strategies, roles, functions, and missions require." The factors of *resolve*, *solidarity*, and *responsible command* are added to reflect intangible expressions of will that reflect more broadly a civil-military environment that fosters military readiness and willingness to employ it appropriately to defend the nation when the situation requires.

[30] Thomas P. Galvin, *Leading Change in Military Organizations*, 2nd ed. (Carlisle, PA: Department of Command, Leadership, Management, 2023), 59-60.

Transformation is both a change and a communication problem—in practice, the communication problem comes first. John Kotter, in his famous book *Leading Change*, stressed the importance of expressing the urgency to change as the initial step.[31]

The approach used will be the *change story* shown in Figure 2.[32] The *current state* describes the problem the organization currently faces. It is characterized as moderate risk since the problem has yet to be addressed, indicating that the risk is not perceived to be great enough to warrant action. From the current state, one projects two possible future states—one where the organization stays on its current path and one where it changes direction and fixes the problem. The assumption is that maintaining the current path means the problem gets worse and leads to an *undesired future state* that is higher risk, potentially representing the erosion of comparative advantage. The *desired future state* projects the opposite future whereby corrective action leads to sustained or improved comparative advantage. The aim of the story is to situate the leader at the decision point, with the goal of convincing the leader to initiate change.

Planners will use the principles of preparedness to explain the three states. This is detailed in Table 1 and shown in Figure 3.[33] The
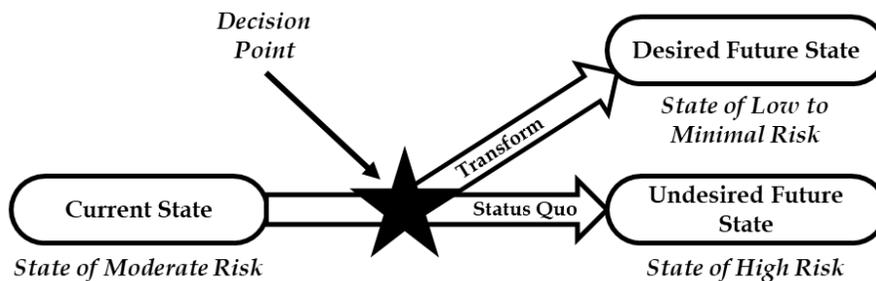
Figure 2. The Change Story

approach is to derive the current state as the sum of the organization's adherence to the nine principles of preparedness. How does each principle help describe the characteristics of the problem? Figure 3 shows how this is done for two of the principles, and I will concentrate on the principle of alignment to describe the process.

A problem of misalignment often includes the incorrect assignment of roles and missions such as an unassigned task or an old mission that is losing relevance in the contemporary environment. Projecting forward to the future is a simple exercise of taking those characteristics and first asking *how could it get worse?* An unaddressed alignment problem leads to an undesired future state where the organization's capabilities have become obsolete or irrelevant. That description is part of the undesired future
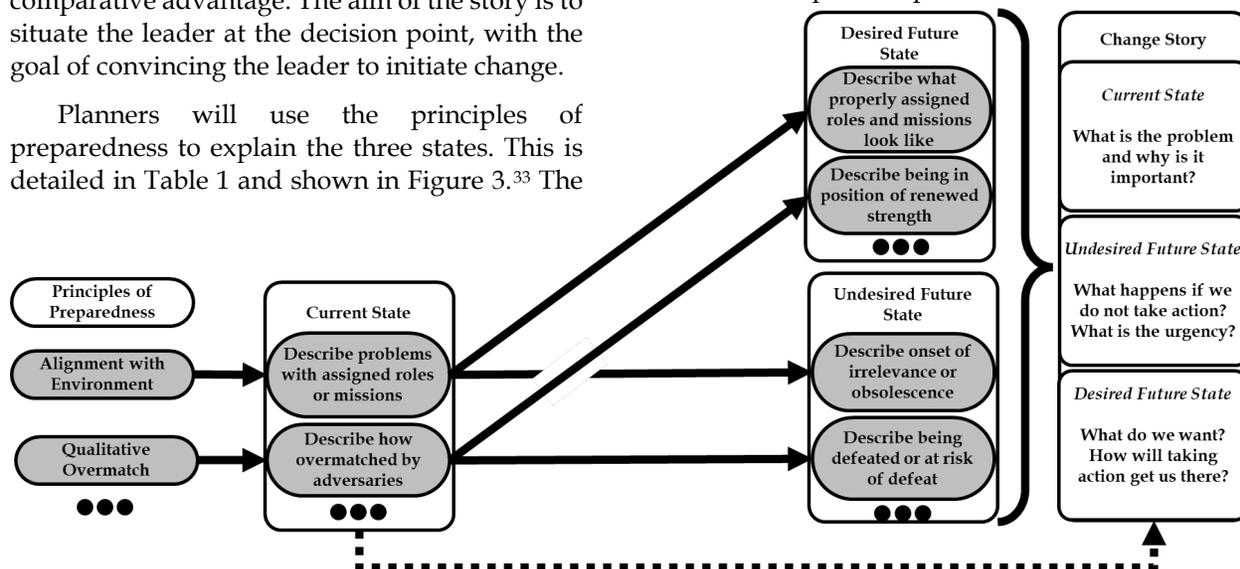
Figure 3. Using the Principles of Preparedness to Tell the Change Story

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[31] John Kotter, *Leading Change* (Cambridge, MA: Harvard University Press, 2012), 35.

[32] Galvin, *Leading Change in Military Organizations*, 60.
[33] Original graphic by author.

state. In contrast, a successful change should lead the organization to a position where the roles and missions are corrected so that the comparative advantage is maintained or restored. That is a characteristic of the desired future state. Once all the principles are addressed, one gathers all the characteristics in the three states and summarizes them in the change story as depicted in the right-hand column of Figure 3.

Table 1[34] gives a complete description of the nine principles and the ways to characterize the current and future states. The "Basic Question" column gives a way of thinking about the importance and meaning of each principle, so that one can address problems whose characteristics in the current and future states are unclear.

An important point is that the characteristics should be qualitative, not so much quantitative. It may not be possible to give a firm fixed number as the answer. The uncertainty in the situation is why we are using CBP, and that uncertainty prevents us from being confident in any fixed number that we may use as a measure. Therefore, it is more efficient to describe the meanings of the principles in words.

Structure of the Activity

This first Activity helps with getting accustomed to the language of readiness by using *change stories*. The idea is to forecast how today's Army will become dangerously unready in the future unless transformation occurs; and to express how transformation would lead the Army to a better posture.

Using the principles of preparedness, we will construct the story by placing leaders at the decision point between maintaining the status quo or transforming. The *current state* describes the Army's present situation, where there is some risk but perhaps not enough to have driven the need to transform. We then describe what happens if we do nothing. The Army would fall behind and risk would increase – this is the *undesired future state*. The goals of transformation, in which the Army changes its present direction, is a *desired future state* where those risks are addressed. The decision is thus an easy and logical one to make. But it is important to present this analysis as a story and not as a bullet list of points. As communication scholar John Baldoni suggests, leaders not only want the story to inform people, they want it to inspire them.[35]

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[34] Original table by author.

[35] John Baldoni, *Great Communication Secrets of Great Leaders* (New York: McGraw-Hill, 2003), 32-34.

Table 1. Describing Competitive Advantage and Levels of Risk

Principle	Basic Question	Current State: State of Moderate Risk	Undesired Future State: State of High Risk	Desired Future State: State of Low to Minimal Risk
Alignment with the Environment	How to determine that the force can accomplish its assigned roles & missions?	Misalignment? Incorrect roles or missions?	Irrelevance; Obsolescence	Clarified roles and missions; ready for next mission
Qualitative Overmatch	How to determine that the capability is superior to other alternatives?	Overmatched against enemy; lack of capability to perform mission	Defeat; Being Deterred or Dissuaded; Forced to Retreat	Sustained/re-established advantage; position of strength
Quantitative Sufficiency	How to determine that the quantity (capacity) makes a difference?	Insufficient quantity or capacity to satisfy operational demand	Running out; over expenditure; lost quality; breakdown of capability	Robust; versatile; responsive
Interoperability	How to determine that the whole measurably exceeds the sum of the parts?	Not interoperable; cannot connect to or work with others	Conflict; disunity; tension; disagreement; barriers to unity	Plug and play capability; connected; unified effort / action
Adaptability	How to determine that the advantage is not inherently lost as the situation changes?	Stuck; stove-piped; rigid; inflexible;	Forfeited competitive advantage; unable to respond or keep up	Versatile; agile; responsive; forward-thinking
Mobilizability and Sustainability	How to determine to what extent the force can generate and regenerate capabilities?	Unable to generate capability or capacity when needed or sustain it	Fragile; slow; vulnerable	Capacity for growth and transformation; responsive
Foresight	How to determine to what extent the force can balance the demands of the current and future fights?	Unable to balance current and future needs; excessive short-term focus	Loss of vision; short-sighted; reactive; a step behind others	Forward-leaning; innovative; strategic; leading organization
Will	How to determine to what extent the will to fight can be sustained?	Lack of initiative; ability to devote energy, resources, etc. to mission	Stagnant; overworked; underfunded; low morale; broken culture and climate	Proactive; anticipating; energetic; exciting; inspiring; motivating

CONDUCT OF ACTIVITY I: DESCRIBE THE CURRENT SITUATION USING A CHANGE STORY

For the short form of this activity, complete items marked with a star (★) – steps 1-5 (all), skip 6.

For steps 1-5, use Table 2 below:

★1. IDENTIFY A CURRENT PROBLEM.

In one sentence, identify a problem with the Army related to one of its capabilities related to your group that you consider to be deficient and requiring change.

★2. CHOOSE THE PRINCIPLES MOST AT RISK.

With Table 1 as a guide, identify three principles that are related to the deficiencies you perceive with this capability. List those in the column marked "2. Principle," one principle per row, in Table 2.

★3. DESCRIBE THE CURRENT STATE.

In Table 2, write down under column "3. Current State" the current situation relating to each principle using the text in the "moderate" and "high risk" columns in Table 1 as appropriate. You can express this as full sentences or bullets.

       Example: If the problem is that a capability may become inferior to that of an enemy, you can use the principle of Qualitative Overmatch and describe a state of moderate risk – such as "*our capability is expected in ___ years to be ineffective against our enemy, who is developing _____*" where you fill in the blanks appropriately.

★4. DESCRIBE THE UNDESIRED FUTURE STATE.

In Table 2, write down under column "4. Undesired Future State" your forecast for each and explain how the situation gets worse. Use the text in the "high risk" column in Table 1 as appropriate. You can express this as full sentences or bullets. Ensure logical connections with the entries in Column 3.

★5. DESCRIBE THE DESIRED FUTURE STATE.

In Table 2, write down under column "5. Desired Future State" your forecast for each and explain how the situation would get better if corrective action was taken through Transformation. Use the text in the "low risk" column in Table 1 as appropriate. You can express this as full sentences or bullets. Ensure logical connections with the entries in Columns 3 & 4.

Table 2. Change Story Matrix

1. Problem.			
2. Principle	**3. Current State**	**4. Undesired Future State**	**5. Desired Future State**

6. Prepare Your Version of the Change Story in Prose:

Next is to convert the change story to true story form as prepared *in your own words*. Take the current state and the two forecasts and rewrite as a simple narrative, situating the leader at the decision point, represented by the decision point star in Table 1. Explain in the narrative that the current state places the leader at the decision point, because doing nothing or making the wrong decision will make things worse, as described by the undesired future state. Then explain what urgency of change, showing how a right decision (again, the details of which are not yet known) would lead the organization to a desired future state.

6.a. Prepare below a series of bullet points (3-7 recommended) as the outline for the change story.

6.b. <u>Prepare the change story in narrative form</u>.

6.b. <u>Prepare the change story in narrative form</u> (continued).

Activity II: Develop Operating Concepts

Transformations include the development of new operational concepts that help translate strategy documents into action. The operational concepts must be new, otherwise the resulting effort is not transformative. Strategic direction, in the form of a national strategy or other high-level guidance, should be available. With that, capabilities-based planners can now forecast how a future battle would ensue based on that strategic direction. Precision and perfection are neither required nor expected. This is a "hasty" version of the process based on the construct of a simple "commander's intent" that answers several basic questions. What do we want the force to do? Why? How must the force do it? And how does the operation end?

However, concepts can take several forms and transformations must consider each form. For present purposes, the focus is on two types. Operating concepts describe in broad terms how military force will be applied for a particular mission and/or in a particular environment. Functional concepts describe the performance of a specific warfighting function across all theaters. This activity will help you distinguish among these types and develop each of them.

Concepts are a type of vision, a "mental image" of a future organization. One typically thinks of visions as statements describing the desired end states, and indeed the Desired Future State from the previous Activity is a vision.

Military officers are accustomed to concepts, whether it is the concept of operations for a battle or a concept for a large-scale transformation. However, concepts do more than express an end state. They are *visions of the ways* – descriptions of how the end state will be achieved.

In the context of a Transformation, the *concept* describes the vision of the ways for the force to conduct military operations to fulfill the broader strategy. However, while concepts do not normally specify the means in detail, they are means-informed. To fulfill a concept requires that a force has capabilities on hand to conduct operations.

This chapter begins with a description of the components of any concept and then details different classes of concept that may be used, such as operating and functional. This is followed by a tailorable activity that can be used for developing any concept.

Types of Concepts

There are normally multiple types of concepts that apply in a military Transformation. Schmitt (2002) addresses a four-level hierarchy of concepts: (1) institutional, (2) operating, (3) functional, and (4) enabling. Each concept should represent the accepted approach to a specific type of military activity and avoid pursuing concepts that try to cover everything at once. Leaders should take more of a portfolio approach. This would produce a small number of capstone institutional and operating concepts that present the big picture, supported by operating, functional, and enabling concepts focused narrowly on specific activities that the military must perform. The concepts within the portfolio should complement each other without contradiction or unnecessary overlap.

Institutional Concept

Institutional concepts describe how the defense or service enterprise is supposed to run. They include matters such the operating policies of the institution and how the institution interfaces with society such as how it acquires, distributes, and utilizes personnel, materiel, funding, and other resources. Institutional concepts also may provide context and guidance for all other concepts.

Schmitt (2002) cites two examples of institutional concepts in the US Army. Army Doctrine Publication 1, *The Army*, is an institutional concept presented as doctrine, in that it explains the identity of the Army and its guiding principles and ethos.[36] The *Joint Vision*

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[36] Department of the Army, *The Army*, Army Doctrine Publication 1 (Washington, DC: Department of the Army, July 2019).

2020 was another example whereby the Chairman of the Joint Chiefs of Staff issued a vision of the future force in a specified time horizon.[37]

As will be shown later, some so-called "functional concepts" are institutional concepts. For example, a concept for conducting sustainment of the force that harmonizes support to operational forces and other forces in garrison simultaneously is an institutional concept.

This workbook does not include exercises dedicated to constructing institutional concepts. However, the exercise for a functional concept can be easily expanded for institutional use. The inclusion of institutional concepts may be added in a later edition. However, elements of an institutional concept will likely include:

- Statements affirming the identity of the institution (e.g., service as a whole or one of its major functions) and identity of all its members

- Key policies regarding that institution

- Key decisions that senior leaders must make and how those decisions are shaped—such as key metrics or conditions necessitating decisions

- Integrative links with the operational force—how the institution supports the operators and vice versa

Operating Concept

Operating concepts are "the articulation in board terms of the application of military arts and science within some defined set of parameters."[38] They can be developed for all types of military operations -- major combat operations, homeland defense & security missions, peace support operations, support to other governmental institutions, and so on. For combat forces, the approaches used in each type of operations will likely differ, and therefore may require a wide array of concepts to provide the foundations for training and doctrine. Schmitt (2002)

differentiates four factors that may necessitate separate concepts:

- *By mission type* – as listed above. One concept generally cannot support the different mission requirements of combat, homeland defense, etc. simultaneously.

- *By operating environment* – when the conditions clearly impact the conduct of operations, such as between jungle and desert environments, or littoral and riverine, or by domain (e.g., cyber, air, sea, land, space).

- *By force type* – where the type of force impacts the conduct of operations, with examples being concepts for mechanized operations, light operations, special operations, and so on.

- *By level of war* – strategic, operational, or tactical.

Although the above factors can cause planners to develop dozens of operating concepts, there is utility in developing concepts that are general purpose to help harmonize this planning effort. A common tool is the development of a *capstone operating concept* which is a concept designed to cover the fullest range of military operations. Naturally, such concepts will change over time. For example, the U.S. Army has had four major operational concepts since the 1980s: (1) AirLand Battle (1986), (2) Full Spectrum Operations (2008), (3) Win in a Complex World (2014), and (4) Multi-Domain Operations (2022).[39] Like institutional concepts, these capstone documents provided overarching guidance for the development of other concepts.

The challenge for planners is to keep the numbers of concepts manageable as needed for CBP purposes. Defense forces are generally assigned missions along a spectrum from full combat to security cooperation, but it may be possible to categorize them into broad mission areas—the question to ask is whether these broad

[37] Chairman of the Joint Chiefs of Staff, *Joint Vision 2020 – America's Military: Preparing for Tomorrow* (Washington, DC: The Joint Staff, 2000), https://apps.dtic.mil/sti/pdfs/ADA526044.pdf

[38] John F. Schmitt, *A Practical Guide to Writing Operational Concepts*, DART Working Paper #02-4 (McLean, VA: Hicks & Associates, December 2002), 3-11.

[39] Randi Stenson, "US Army Training and Doctrine Command updates Army capstone doctrine, codifying shift to multidomain operations," *Army.mil*, October 10, 2022, https://www.army.mil/article/260943/us_army_training_and_doctrine_command_updates_army_capstone_doctrine_codifying_shift_to_multidomain_operations

mission areas require one concept or more. If similar capabilities and similar approaches to operations sufficiently apply to all likely missions within a mission area, then there need only be one operational concept developed. On the other hand, broad mission areas might be divisible if the capabilities required can be separate and distinct without overlap.

This workbook in its present form focuses on strategic-level operating concepts as this is the initial focus of defense and service transformations. It will also eschew the capstone concept because they are generally insufficient for determining specific force requirements.

Functional Concept

A functional concept describes the performance of specialized units within a broader operating context. In other words, functional concepts are subordinate to operating concepts. These often align with functions specified in doctrine. For example, Army functional concepts may align with its warfighting functions of command and control (C2), movement and maneuver, intelligence, fires sustainment, and protection.[40]

As stated earlier, some concepts labeled as "functional" may instead be institutional concepts if they address how the function is performed across the entirety of the enterprise and not confined to support within a specific type of operation. For example, US Army Training and Doctrine Command developed functional concepts in the early 2010s in support of the capstone Army Operating Concept, and subsequently updated them in the late 2010s to align with the Multi-Domain Battle concept. These functional concepts not only address the warfighting functions' support to the operation environment expressed in the capstone but also included institutional tasks that were not operation-specific.[41] For example, the 2017 Functional Concept for Sustainment included

institutional-level sustainment key tasks.[42] The corresponding Functional Concept for Mission Command went further and described the concept as "intrinsic to the Army Profession" applicable to "both the operational and institutional Army."[43] In the present workbook, participants can develop functional concepts either as subordinate to operating concepts or expanded to cover institutional support related to that function.

Enabling Concept

Enabling concepts are subordinate to functional concepts and describe how a specific task or procedure is performed. These are used in the capability development process and will be described later in this workbook, but not included in the present activity.

COMPONENTS OF A CONCEPT

The concept's structure enables a clear and concise expression of the purpose of the operation and the desired military end state. It 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. The concept should also be flexible as any military operation may not unfold as planned.

Operational concept development should contain the following five components: (1) a purpose statement, including a description of the anticipated security environment that the concept will cover, (2) a description of the intended actions by friendly forces, (3) the required capabilities to undertake those actions, (4) a set of key tasks necessary for mission accomplishment, and (5) termination conditions of the mission. These need not be fully detailed, but adequate to allow for scenario testing.[44]

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[40] FM 3-0, November 2022, chapter 2.

[41] U.S. Army Training and Doctrine Command (TRADOC), "The U.S. Army Functional Concepts for 2016-2028," U.S. Army homepage, October 26, 2010, https://www.army.mil/article/47196/the_u_s_army_functional_concepts_for_2016_2028

[42] TRADOC, *The U.S. Army Functional Concept for Sustainment 2020-2040*, TRADOC Pamphlet 525-4-1 (Fort Eustis, VA: TRADOC, February 2017), 19-22.

[43] TRADOC, *The U.S. Army Functional Concept for Mission Command 2020-2040*, TRADOC Pamphlet 525-3-3 (Fort Eustis, VA: TRADOC, February 2017), 11. Changes in FM 3-0 in 2022 means that updates to this concept would relate to the warfighting function of command and control.

[44] Loosely based on the 2020 version of Joint Chiefs of Staff, *Joint Planning*, Joint Publication 5-0 (Washington, DC: Joint Chiefs of Staff, December 2020).

Purpose Statement

The purpose statement describes how the concept contributes to the overall satisfaction of the strategy—however that strategy is conveyed. It re-states the relevant part of the strategy, possibly using ideas drawn from the change story in the previous Activity: what deficiency will this concept address and what will Transformation accomplish? The purpose statement should also explain why the concept is feasible, acceptable, suitable, and incurs only reasonable amounts of risk. However, the purpose statement should not be too prescriptive, thus constraining decision makers.

It is important that the concept clearly states which operations and environments it applies to. A service may decide to develop separate concepts for ground and riverine operations or develop a single concept if the same friendly response applies equally well to any combination of ground and riverine operations.

Intended Actions by Friendly Forces

This should be a clear and concise expression of how the operation unfolds. *How does the battle begin and what are the initial enemy and friendly actions? What are the results of those actions? What comes next?*

This should be broadly descriptive rather than detailed. Narrative form is usually best as the concept must apply across any operation within the confines of the purpose statement. If, for example, the concept is about jungle operations, then the intended actions section should be general enough to cover any reasonable jungle combat scenario.

Required Capabilities

The list of required capabilities is based on what the scenario would clearly demand, not necessarily what the force has on hand. The required capabilities will be matched against actual on-hand capabilities during scenario testing which is included in Activity III. The required capabilities list need not be detailed. Rather it should represent broad capabilities to

drive enterprise-level decisions, rather than specific capabilities that are known only to specific communities within the service.

Key Tasks for Mission Accomplishment

The concept should then divide the work and responsibilities of friendly forces into measurable and discrete tasks. The tasks should be expressed at force level—what must the force in question accomplish—and limit details. A rule of thumb is that the list of key tasks should not number more than ten lest it become too detailed. However, this must be left to the judgment of the planners.

There are also rules of thumb for dividing or combining tasks. If two tasks must be accomplished together, they can be treated as a single key task. If the key tasks of different parts of the force differ only in context and not in substance, then combine to one key task.

Termination Conditions

The end state is an expression of the conditions under which the operation concludes, whether successful or not. The concept may also address the emergence of conditions that render further operations untenable or violate feasibility, suitability, acceptability, or risks.

The publication of an operational concept can be a lengthy process, but in a time-constrained environment there may be a need to streamline the process to its essential elements so CBP can proceed. The concept captures how the force will fight or otherwise complete its mission. It is a vision document in that it expresses the leader's mental image of operations.[45]

STRUCTURE OF THE ACTIVITY

This workbook employs a "hasty" approach to concept development to help participants craft a basic working solution in a short amount of time. Participants will conceptualize operating or functional concepts using the above five components as the concept's structure. This will be sufficient for generating and testing scenarios to identify critical capability requirements.

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[45] Mitar Kovac, et al., "Capability-Based Defence Development Planning – Optimal Option Selection for Capability Development," *XI Balkan Conference on Operational Research* (Belgrade, 2013): 551-558.

CONDUCT OF ACTIVITY II: DEVELOP CONCEPTS USING A "HASTY" APPROACH

There is no short form of this activity, all steps should be completed. If time is a concern, the quantity of bullets required in each step can be reduced or specific answers provided in advance to focus the participants.

1. DEVELOP A CONSOLIDATED VISION.

After sharing your change stories with the group, develop a consolidated description of the desired future force. What does the transformed Army (in relation to your group's assigned functions) look like? A list of 5-7 bullets should be sufficient. <u>Note</u>: You are likely to change these as you go through the rest of the activity.

The remaining steps will help build the concept based off the vision. You can choose to construct a general concept that describes how the forces would operate or a functional concept that describes how a particular function (e.g., sustainment, intelligence) would provide support to the fighting force.

2. IDENTIFY THE CONCEPT.

Name the concept and circle one: OPERATING   FUNCTIONAL.

3. Identify the context.

In 3-5 bullets, describe the factors that render this concept unique from others that may be developed. Factors could include: (a) type of mission, (b) conditions in the environment driving the need for this concept, and (c) type of force being employed. For present purposes, prioritize the strategic level of war

4. IDENTIFY KEY TASKS THAT THE FORCE MUST COMPLETE TO ACCOMPLISH THE MISSION.

Use bullets or sentences to describe what the force *must* accomplish, with particular emphasis on areas where the force must act differently than today.

5. Identify needed capabilities.

Using bullets or sentences, <u>not technologies,</u> describe capabilities that are needed for the force to operate as described above. It should be in the form of "the ability to do _____" or "the ability to _____."

Note: The below list will be used in Activity IV for the scenario testing exercise.

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ACTIVITY III: DEVELOP SCENARIOS TO TEST THE CONCEPTS

The next step will be to test these concepts using a range of scenarios. A scenario is essentially a set of assumptions about the operating environment that are plausible and helpful for assessing approaches or comparing options. For present purposes, the use of scenarios allows for examining the relevance and effectiveness of an operational concept – to what extent would a force employing this concept reasonably expect to accomplish its mission?

There is more than one way to identify and develop scenarios, and this depends on the nature and character of the concepts to test. Key is that the portfolio of scenarios should not overlap and should each provide an adequate test of the force's capabilities to complete the mission when applying the tested concept.

We will now take the concept, identify test scenarios for it, and run the tests. For present purposes, this process will be "hasty" just as done for the concepts as real-world scenario testing is data- and time-intensive.

Choosing scenarios is tricky as the nature and character of the concept determines what types of scenarios are most appropriate. This workbook will provide a brief overview of what a scenario is and then present two different approaches for generating them based on the concept.

WHAT ARE SCENARIOS?

A *scenario* is a plausible story, supported by data or evidence, and how a future might unfold from current conditions.[46] The purpose is to allow leaders to think through the implications of different assumptions regarding changes in the environment and actions perpetrated by regional or global actors.[47] Most scenarios are derived from predictable or plausible changes in the future environment. Some, called *wild cards*, are scenarios that are possible, though unlikely, and would significantly alter the environment.[48] I will

discuss ordinary scenarios first and then talk briefly about wild cards.

A scenario should cover a general range of possible futures and not be too specific about how a situation can unfold. For example, if testing a concept about riverine operations in a jungle environment, one would not want to develop separate scenarios about the adversary moving down different rivers to attack friendly forces. Rather, a single scenario that describes enemy instigating through movement by river is sufficient. The framework presented below is primarily drawn on Ogilvy and Schwartz's scenario-based forecasting method, but it is not the only method available.[49]

The first part is the *What If?* question. To develop useful sets of scenarios, planners should identify *key drivers of change* that will present options to the adversary or constraints to friendly forces. In the riverine example, there are different conditions that would represent very different problems to a military force such as: (a) what if the adversary controls both banks of the river, or (b) what if the adversary does not control either bank but uses other means to deny friendly access to the river such as booby traps?[50] If both

[46] Polasky, S., Carpenter, S., Folke, C., et al. (2011): Decision-making under great uncertainty: environmental management in an era of global change. Trends in Ecology & Evolution 26: 398-404

[47] Peter deLeon, *Scenario Designs: An Overview* (Santa Monica, CA: RAND Corporation, June 2013), https://apps.dtic.mil/sti/pdfs/AD0770605.pdf

[48] Jay Ogilvy and Peter Schwartz, *Plotting Your Scenarios* (Emeryville, CA: Global Business Network, 1998), 13, http://adaptknowledge.com/wp-content/uploads/rapidintake/PI_CL/media/gbn_Plotting_Scenarios.pdf; Brooke Mitchell, "Scenario Planning for the Twenty-first-Century Military Strategist," *Wild Blue Yonder* (blog), Air University,

April 27, 2020, https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/2161592/scenario-planning-for-the-twenty-first-century-military-strategist/

[49] Ogilvy and Schwartz, *Plotting Your Scenarios*; for other methods, see Alex Fergnani, "4 Archetypes, Shell, 2x2: Top Three Scenario Planning Methods Explained and Compared," *Predict* (blog), June 26, 2020, https://medium.com/predict/4-archetypes-shell-2x2-three-scenario-planning-methods-explained-and-compared-d2e41c474a37

[50] Lester W. Grau and Leroy W. Denniston, "Riverine Operations in Contemporary Conflict," *Infantry* (July-September 2014): 30-35,

or other cases are plausible, these could constitute scenarios worthy of testing. Planners should brainstorm the key drivers of change and use them to build an initial list of potential scenarios.

The second part is the *So What?* question. Not every enemy action or change in the environment matters for capabilities-based planning. Instead, the list of scenarios brainstormed during the What If phase is measured against questions of a scenario's impact and degree of uncertainty. The greater the impact and the more unpredictable that a scenario may be, the more relevant that the scenario becomes for testing the concept.

The final part is the *What Now?* question. In essence, the scenario must lead to action by friendly forces, otherwise why consider it? If the scenario is best addressed by not employing the concept, the scenario should not be further considered. Planners should be careful not to bias the scenario to make force employment the only reasonable option when other options are available. This might come across as trying to prove a pre-determined solution instead of conducting a true test. Rather, such biases inevitably cause the scenario to result in outcomes that likely cannot be replicated in a real-world setting.

Wild card scenarios differ only in that they are scenarios that leaders plan against, rather than for. A good wild card scenario represents "a dramatic yet relevant surprise that doesn't fit neatly" with the other scenarios: (a) discontinuous events such as a natural disaster, (b) an event with significant and unexpected second-order consequences, or (c) possible developments that could spread rapidly.[51] Ordinarily, leaders should only consider one wild card scenario due to their low probability.

Scenarios present the initial conditions for testing a concept, not the results. The results will emerge through testing. Again, any attempt to assume friendly force success or failure during scenario development risks biasing the analysis,

potentially resulting in the pursuit of the wrong capabilities.

Concept-Specific Approaches

Two methods are introduced here, and both are included in the activity. One is generally applicable to operating concepts as it generates scenarios according to the various options available to the enemy to initiate hostile actions. The second is more applicable to institutional/functional concepts as it focuses on various ways that a networked strategic capability can become stressed.

Operating Concepts -- Based on Enemy Options

The first approach uses forecasting to identify how driving forces of change today could present friendly forces with novel or more sophisticated threats.[52] The scenario-based forecasting model provides a framework for identifying a range of scenarios based on an operating concept where the enemy has a discrete set of options – each of which present different challenges to the concept in question.

- Identify the focal issue or situation to be analyzed

- List all the driving forces that affect the focal issue

- Choose the most important or uncertain driving forces - the critical uncertainties – and designate them as the axes of a two-dimensional graph

- Develop narratives describing the four resulting scenarios expressed in this two-dimensional graph

- Assess how each scenario may influence the stated mission of the fighting force and assess to what extent the fighting force would accomplish that mission.

- For each scenario, identify early warning signals[53]

https://www.benning.army.mil/infantry/magazine/issues/2014/Jul-Sep/Grau.html
  [51] Ogilvy and Schwartz, *Plotting Your Scenarios*, 13.
  [52] Deon Canyon, *Simplifying Complexity with Strategic Foresight and Scenario Planning* (occasional paper, Honolulu, HI: Daniel K.

Inouye Asia-Pacific Center for Strategic Studies, October 2018), https://apps.dtic.mil/sti/pdfs/AD1060865.pdf
  [53] Canyon, *Simplifying Complexity*; Ogilvy and Schwartz, *Plotting Your Scenarios*.

A simplified example is given in Table 3[54] for a situation regarding the need to establish a large-scale peace support operation. By "large-scale," the operation would be one that exceeds the capacity of a single nation and therefore requires collaboration with partners. Two axes are shown based on notional uncertainties in the environment – one being the extent to which the international community supports the peace operations and the potential for any peace agreement or cease-fire to break down and result in a return to conflict.

This is an example of a scenario-based forecasting technique that works for most any situation. For operating concepts, using the technique is straightforward. Planners would take the two most important key drivers of change and convert those to four possible adversarial options that counteract the friendly forces' initial posture. For example, if one were to

fight conventionally one might anticipate the adversaries to try something unconventional. The enemy's choices, therefore, are whether to attack using conventional means or unconventional means. Then, back to the riverine example, one can imagine situations where the river is under different levels of control at the onset of hostilities.

Designating these as the options for consideration, planners then prepare a 2x2 matrix that produces four possible scenarios as shown in Table 3. Planners then develop narrative descriptions of each of the four scenarios that explains what the onset of hostilities looks like.

Institutional and Functional Concepts -- Based on Strategic Roles

For institutional or functional concepts, the process is a little different because these are tied to an operating concept under which scenario development has already occurred. However, these capabilities face different driving forces that are more closely aligned with strategic roles. A general list of strategic roles follow other than traditional warfare – however note that their inclusion does not necessitate their inclusion in the scenarios to be tested. Planners must consider the appropriateness of such scenarios for testing the relevant concepts.

The first is *peacekeeping or a peace support operation* which appears stable. Scenarios should

Table 3. Sample Scenario-Based Analysis (Riverine)

Situation: Potential Riverine Operations in a Difficult Jungle Environment Against an Adaptive Adversary		Axis: Level of Control over the River	
		Enemy Controls Neither Bank	*Enemy Controls Both Banks*
Axis: Enemy Choice of Tactics	*Guerrilla*	Enemy initiates hostilities through harassment and small raids, aimed at terrorizing local populations and dissuading friendly responses. Actions are clandestine, conducted in night or limited visibility.	Enemy initiates hostilities through ambushes against friendly forces using jungle cover and concealment. Enemy takes advantage of cowered populaces and small craft to move with impunity.
	Conventional	Enemy initiates hostilities through the effective denial of the river's use through booby traps or other hazards aimed directly at friendly forces.	High-risk situation. Enemy crafts are highly capable and supplemented with shore-based elements. Friendly riverine operations are highly risky.

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[54] Original table by author, inspired by the author's experiences in Bosnia-Herzegovina in 2000-2001 as discussed in Thomas P. Galvin, *Two Case Studies in Successful Strategic Communication* *Campaigns* (Carlisle, PA: Strategic Studies Institute, 2019), 25-74, https://apps.dtic.mil/sti/pdfs/AD1070626.pdf

not include those where the threat of returning to hostilities is low (fails the *So What?* test). Instead, planners should consider possible scenarios at two levels of commitment – (1) ones in which the organic peacekeeping forces (i.e., what the nation has already agreed to and plans to send) constitute the available response, and (2) ones in which an operational or strategic reserve must be mobilized and employed.

The second is *an attack involving weapons of mass destruction (WMD) or similar strategic assets.* Such scenarios are high-impact but typically low-probability and therefore should not be included solely based on being naturally "worst case." Scenarios should be based on different types of WMD event rather than different locations – such as one being nuclear and one being biological.

Next is the *high-intensity humanitarian assistance or disaster relief operation*. Each class of crisis probably warrants its own scenario. Floods, earthquakes, hurricanes, tsunami, large-scale wildfires, and others generally require different capabilities and therefore should be tested separately. Scenarios with the potential for impacting friendly force capacity for core military operations are those probably worth testing.

A fourth category is *homeland defense and security*[55] which can include foreign and domestic terrorism, civil unrest, and other requirements to support civil authorities.

The final category is the scenario of the *complex catastrophe* in which multiples of the above crises occur simultaneously. These should be considered when the likelihood of correlated crises is high, such as trends where a natural disaster is followed by significant civil unrest. It may also be sufficient to consider multiple crises simply happening at the same time by coincidence.

Structure of the Activity

The approach is one of brainstorming scenario ideas and then refining them for testing. However, the nature and characters of the scenarios needed will depend on the type of concept to test. Thus, Step 1 is a box check of the type of concept, operating or functional.

Participants exploring an operational concept will complete Step 2. It employs the scenario-based forecasting framework to generate possible ways than a conventional war or unconventional operations could unfold. Participants exploring an institutional or a functional concept will complete Step 3. A list of potential scenarios based on strategic roles are provided to allow brainstorming and refinement. The aim in both methods is to generate four scenarios that are substantially different from each other. This is important to mitigate the potential of generating capabilities that only satisfy a small range of potential requirements and leave other gaps unaddressed that enemies could exploit.

Step 4 is optional and allows participants to develop a wild-card scenario that is high-risk yet low-probability. The wild-card must not overlap with the scenarios developed in the previous steps. This fifth scenario will be analyzed in future Activities separately from the others.

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[55] Togorev, "Defence Planning," 63.

Conduct of Activity III: Develop Scenarios using Scenario-based Forecasting or Identifying Strategic Roles

For the short form of this activity, complete items marked with a star (★) – steps 1-3 (all), skip 4.

★1. Identify the situation to be analyzed.

You want to choose from one of the following. In general terms, it is better to choose a situation that is higher in intensity (e.g., major combat operations) rather than lower. Select one of the following and follow the designated step to generate no more than four scenarios for testing. Check the appropriate box and enter the situation in box A on the matrix.

- ☐ IF an operating concept, or a functional concept supporting a conventional or unconventional warfare in the defense of strategic interests, proceed to **STEP 2**.

- ☐ IF an institutional or functional concept supporting any of the following, proceed to **STEP 3**:
    - o Response to attack of weapons of mass destruction (WMD) or other strategic assets
    - o Participation in a large-scale peace support operation
    - o Participation in a high-intensity humanitarian operation
    - o Homeland defense and security

★2. Develop Scenarios Based on Enemy Actions (Operational Concepts only).

Complete Table 4 at the end of this step. The goal is to generate four scenarios.

★2a. *List and select the driving forces*. A driving force is a condition or decision that could significantly alter the situation. For example, an adversarial nation is becoming more aggressive or belligerent, or a terrorist organization has recently become active, or the effects of climate change are becoming apparent. Identify as many driving forces as you can, relevant to the situation in step 1 and list them below.

★2b. *Select the top two driving forces*. From the driving forces, you must select two that represent the most important critical uncertainties about what the adversary may do. For example, an adversary's growing belligerence can be overt (visible movement of capabilities to the border) or covert (hidden by using deception or focusing on economic competition vice military). Highlight those factors and ensure that they are *independent of each other*.

★2c. *Choose one of the top two as the X-axis*. In box "X-Axis" on the matrix, write down the driving factor, and in boxes X1 and X2 – enter the range of possibilities that would result in discrete, separate scenarios.

★2d. *Choose the other as the Y-axis*. Do the same in the spaces marked "Y-Axis," Y1, and Y2 below.

Table 4. Operating Concept Development Matrix

Situation:		**X-Axis:**	
		X1.	*X2.*
Y-Axis:	*Y1.*	*Scenario A (X1&Y1).* Name:_____	*Scenario B (X2&Y1).* Name:_____
	Y2.	*Scenario C (X1&Y2).* Name:_____	*Scenario D (X2&Y2).* Name:_____

★*2e. Forecast the situation for each combination of the two factors.* Name each scenario and prepare 1-3 sentences that describes how it unfolds. For example, Scenario A (X1&Y1) represents the situation where X1 and Y1 becomes true. What happens? Do this for all four scenarios in the table.

Proceed to Step 4.

★3. DEVELOP SCENARIOS BASED ON STRATEGIC ROLES (INSTITUTIONAL/FUNCTIONAL CONCEPTS ONLY)

Complete the listing at the end of this step. The goal is to generate no more than four scenarios.

★3a. _List the potential scenarios of greatest concern for the concept._ (What If?) These would be the driving forces that significantly alter the situation and present a military problem such that the concept provides the expected or designated solution. As appropriate, list candidate scenarios for each category.

- Response to attack of weapons of mass destruction (WMD) or other strategic assets
    - What plausible kinds of WMD or other strategic attacks would necessitate a friendly response?
- Participation in a large-scale peace support operation
    - What conditions would be most disruptive to the continued success of the peace support operation that represent a military problem?
- Participation in a high-intensity humanitarian operation or disaster relief
    - What types of humanitarian or disaster relief missions would the force reasonably have to address?
- Homeland defense and security
    - What types of homeland threats would the force have to address – terrorism, civil unrest, organized crime, etc.?

★3b. _Narrow the list down to the most significant scenarios of concern._ (So What?) Consider the range of military responses against the candidate scenarios above. Which ones (no more than four) would cause friendly forces to respond by applying the concept in question, and which would not? Strike out those above that fail this test.

★ *3c. Forecast the situation for each combination of the two factors.* Name the four scenarios and prepare 1-3 sentences that describe how the scenario unfolds and how friendly forces engage.

- Scenario A: Name _____
  Description:

- Scenario B: Name _____
  Description:

- Scenario C: Name _____
  Description:

- Scenario D: Name _____
  Description:

Proceed to Step 4.

4. DEVELOP A WILD-CARD SCENARIO

Skip this step if doing the short-form of the activity. Otherwise, only one wild-card scenario is required. If additional wild-cards are desired, simply complete all steps for each wild-card.

4a. List possible wild-cards. Use the following criteria to list possible wild-card scenarios.[56]

- An event or phenomenon that would be unexpected and differs substantially from the four scenarios derived in the previous steps, AND
- Would be high-risk and low-probably, AND
- One of the following
  - A discontinuous event that would significantly shift the environment such as a major natural disaster or significant crisis of leadership such as an assassination
  - A discontinuous event that would have significant greater unanticipated or unintended consequences such as a surprise invasion or a collapse of government in a volatile location
  - A catalytic event that could spread rapidly and avoid the ordinary controls of societies and governments, such as the Arab Spring of 2010 or onset of the COVID-19 pandemic.

4b. Identify one wild-card scenario for further consideration. Choose one of the above and describe.

- Wild Card: Name _____
  Description:

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[56] Derived from Ogilvy and Schwartz, *Plotting Your Scenarios*, 13.

4c. <u>List factors that characterize this scenario.</u> These will be used to identify capabilities that could mitigate the onset or effects of such a scenario, including:

- What makes the scenario high-risk
- What makes the scenario low-probability
- How it may influence the current state of the organization
- How it may deny the desired future state, steer the organization to the undesired future state, or bring about an unanticipated other future state
- What could disrupt or prevent the possibility of this scenario happening

ACTIVITY IV: TEST THE CONCEPTS

Now we are ready to assess the concept using the scenarios. For this activity, planners will array the critical capabilities for mission accomplishment derived in Activity II against the scenarios developed in Activity III. The resulting matrix will be filled in as planners analyze how well the current capabilities satisfy the given scenario.

Constructing the future is as simple as building a mental image, but this is not enough to spur a change effort. The mental image must be expressible in terms that stakeholders, organizational members, and others can understand. You must therefore update the change story to reflect any additional information gathered in Activity II while also bounding the future states according to what leaders legitimize as the 'official' change effort. A way to go about this is to turn the causal chains around and think forward. Based on the identified root causes that the change effort is going to target, what do we expect (or hope) the change effort will accomplish?

The previous two activities laid out the groundwork for assessing the force. The results were two-fold, envisioning how the future force would fight and developing some plausible scenarios for testing that concept. All that is left to do is conduct the tests.

SCENARIO-TESTING MATRIX

The first step is to construct a matrix that will capture all the results of the test. The matrix will be constructed using the results of the previous two Activities. Table 4 shows an example of a blank matrix arranged this way.[57] The column at left should contain the critical capabilities identified at the end of Activity II. Meanwhile the four Scenarios derived in Activity III will populate the top row. Due to time constraints, some capabilities may have to be dropped from analysis or combined (e.g., assessing sustainment as a holistic capability rather than its component elements of fuel, transportation, and so on).

The next requirement is to reach consensus on the measures and scales used. If using statistical models, the outcomes could be calculated with a high-degree of fidelity and rigor; however, under time constraints, it may be more practical to conduct the tests subjectively. One technique is to create a modified 'stoplight' scale where green represents a good status and red a poor status or area of significant concern. The following is one such approach that specifically aligns with the principles of preparedness discussed in Activity I:

- **Green** = the capability is adequate to support the mission and it is available in sufficient quantities (risk is low to none)

Table 5. Sample Scenario-Based Assessment Table

Capability	Scenario 1	Scenario 2	Scenario 3	Scenario 4	... Scenario X
Maneuver units					
Fires capabilities					
Communications & Intelligence					
… etc.					

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[57] JSAG, *Guide to CBP*, 11.

- **Amber** = the capability is either inadequate to support the mission or there is not enough of it available, but that the mission could still be completed (risk is moderate)
- **Red** = the capability is clearly inadequate in quantity and in quality, placing the mission at grave risk (risk is high)
- **Blue** = the capability is available in excess or not used, *despite the capability being intended for use in such a scenario*. This is in contrast with N/A, see below.
- **N/A =** the capability is neither relevant nor intended for use in the scenario.

Testing Individual Scenarios

Next is to work through the scenarios and conduct the test. The ordinary approach should be highly rigorous and data driven, using a detailed wargame or simulation to develop accurate profiles of how the fight would take place and clarity on the range of possible outcomes. Friendly, adversarial, and other forces are modeled, and the output is a detailed description of the conditions of each force at the end of the simulation. The outputs are then examined and certified by senior decision makers to ensure the results are plausible and useful.[58]

When time or data are not available, one can take a hasty approach where the scenario is played out through discussion among the participants on the most likely or plausible outcomes at each stage of the fight. Participants could exercise role-playing to reduce bias. Participants should select a facilitator to manage the dialogue and capture the critical outcomes as they emerge. Below is a brief description of the hasty approach.

The wild-card scenario need not be examined as formally as the others because it is unique and low probability. One should expect that the force would be ill-prepared. However, wild-card scenarios should not drive capability decisions to the same extent as the other, more likely, scenarios. It is sufficient to identify where the wild-card scenario will induce stresses on the force not identified in the other scenarios or could severely exploit existing inadequacies.

Step One – Set Starting Conditions

Planners specify the conditions at the beginning of the scenario. What are the dispositions of friendly and adversary capabilities? Neutral capabilities? What about societies or civilians?

Step Two – Trigger Scenario

Planners now establish the stimulus or trigger for the scenario to begin. The trigger could be malicious, i.e., a deliberately harmful action perpetrated by an adversarial actor (state or non-state), or the trigger could be non-malicious or circumstantial, such as the onset of a natural disaster, health disaster, or unintended / innocent action that has the effect of upsetting the status quo.

Step Three – Play Out Scenario

Planners repeat the following until the scenario is complete. First, examine the likely responses by friendly and all other actors. According to the concept, how would each capability be utilized? Then assess the expected outcomes of that utilization and how each actor in the simulation would perceive those outcomes.

If the scenario is completed, in that there is no further expected changes as the result of another loop, then go to Step Four. Otherwise repeat Step Three.

Step Four – Final Assessment[59]

The assessment in Step Four is conducted per capability against the scenario. Using the principles of readiness as a guide, each capability

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[58] Based on the U.S. Army's force management process as described in Fred Gellert, "Force Management," in Lou Yuengert (ed.), *How the Army Runs 2021-2022: A Senior Leader Reference Handbook* (Carlisle, PA: U.S. Army War College, 2022); efforts to streamline the process at the joint level are explained in Leo Spaeder, John K. Adams, C. Travis Reese, and John T. Quinn II, "Joint Force Operating Scenarios: Improving Analysis and Oversight of Force Development," *War on the Rocks*, March 19, 2021, https://warontherocks.com/2021/03/joint-force-operating-scenarios-improving-analysis-and-oversight-of-force-development/

[59] Based on the U.S. Air Force's capability-based analysis process that is less data-driven (but still data-informed) and exercises more expert elicitation than computer wargame or simulation. Office of Aerospace Studies, *Capabilities-Based Assessment (CBA) Handbook: A Practical Guide to the Capabilities-Based Assessment* (Kirtland AFB, NM: Office of Aerospace Studies, 2017), 26-29, https://daytonaero.com/wp-content/uploads/AFMC-A5_USAF_Capabilities-Based_Assessment_Handbook_12-Dec-2017.pdf

Table 6. Assessment Table with Four Scenarios Completed

Capability	Scenario 1	Scenario 2	Scenario 3	Scenario 4	... Scenario X
Maneuver units	GREEN	AMBER	GREEN	BLUE	
Fires capabilities	RED	AMBER	GREEN	AMBER	
Communications & Intelligence	GREEN	AMBER	AMBER	GREEN	
... etc.					

should be assessed on the chosen scale in relation to only the scenario just played. The following are questions that could be asked of each capability. The answers would be collected and analyzed to determine the levels of risk – whether low, moderate, high, or otherwise:

- *Alignment* – are the capabilities the right ones for the mission? If not, what are the gaps identified for this scenario?

- *Overmatch* – are the capabilities sufficiently robust or effective to accomplish the mission?

- *Sufficiency* – is there enough capacity to accomplish the mission?

- *Interoperability* – are the capabilities sufficiently interoperable to ensure a unified effort to accomplishing the mission?

- *Adaptability* – are there circumstances within the scenario that friendly capabilities would have to adapt to, and could those capabilities adapt if needed?

- *Mobilizability and Sustainability* – do friendly forces have the ability to generate and re-generate capacity should the operation be prolonged?

- *Foresight* – would friendly forces be able to sustain preparedness for other potential operations?

- *Will* – to what extent would national or military leaders tolerate risk or be willing to continue funding or supporting the effort, regardless of what happen?

The process is then repeated for each scenario and the results tallied. Table 5 shows the assessment having been completed for the four scenarios. It is conceivable that later scenario-based assessments would result in the need to re-assess earlier scenarios. This should be encouraged, as the hasty approach is the most subject to biases and it is important to get the assessments as close to correct as possible.

ASSESSING EACH CAPABILITY

The final column includes the overall assessment based on the judgments of the planners. Note the evaluation might not be a calculated average of assessments by scenario, rather it is a subjective evaluation based on the overall risk of the capability not satisfying the requirements of the concept. See Table 6, showing that the planning team determined that communications & intelligence represents overall low risks despite being amber in multiple scenarios because the scenarios uncovered ways and means of satisfying the missions. Fires was deemed overall red despite only being red in one of the four scenarios.

STRUCTURE OF THE ACTIVITY

Participants will now conduct a hasty scenario-based assessment. Again, the ordinary practice will be time- and data-intensive and the purpose is to illustrate the process. Participants

Table 7. Assessment Table with Overall Assessments Added

Capability	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Overall
Maneuver units	GREEN	AMBER	GREEN	BLUE	AMBER
Fires capabilities	RED	AMBER	GREEN	AMBER	RED
Communications & Intelligence	GREEN	AMBER	AMBER	GREEN	GREEN
… etc.					

- o Maneuver units = **Amber – Maneuver capabilities are good for today but are rapidly going obsolete. As enemy capabilities advance, existing maneuver may not be able to keep up.**

- o Fires capabilities = **Red – Fires capabilities are extremely limited and are consistently negated by advancements in drone technologies available to non-state actors.**

- o Communications & Intelligence = **Green – The network is sufficiently robust to handle most contingencies. There is potential to rely on commercial services to cover shortcomings.**

will evaluate how effectively the capabilities will fight in accordance with the concept from Activity II given the scenarios derived in Activity III. Depending on time available and expertise, groups can address each scenario as a whole group or divide the assessments among smaller teams.

The assessments should not solely consider the new capabilities required but all capabilities relevant to the force. It is conceivable that current capabilities may be deemed deficient, or that an expected new capability may not actually be needed. The next activity will provide opportunities to refine the capabilities needed and formalize the requirements.

Planners may use the Green, Amber, Red, Blue, and **N/A** system described in the above example or devise alternatives (this option is not included in the worksheet). Of paramount importance is common understanding of the measures and their application.

An additional step is included for the wild-card scenario. The assessment is the same, but its interpretation in the next Activity will be different as the wild-card will not drive requirements determination to the same extent as the primary four scenarios.

CONDUCT OF ACTIVITY IV: TEST THE CONCEPTS USING A SCENARIO TESTING MATRIX

The short form of this activity is to complete Steps 1, 2, and 6 marked with a star (★), which includes testing for only one scenario. See the Appendix for more options.

★1. SET UP THE ASSESSMENT MATRIX.

In the table below, do the following:

★1a. *Copy the list of critical capabilities from Activity II, Step 5 into the left-hand column.*

★1b. *Provide the names of the scenarios to test and list them in the top row.*

Table 8. Scenario Assessment Matrix

Critical Capabilities (Activity II, Step 5)	Scenarios (Activity III, Steps 2 or 3)				E. Overall
	A:	B:	C:	D:	

If the workshop includes only running one scenario, do so as a group (complete step 2, then STOP). If the workshop includes running all four scenarios, divide the group into teams, pairs, or individuals and assign scenarios to work out. STOP when done.

★2. Test Scenario A.

Answer the following questions about Scenario A. Place the assessment results as appropriate in the above matrix under column marked "A:"

- What are the conditions at the beginning of the scenario? Consider friendly and adversary dispositions, neutral forces, civilians, etc.

- What would trigger the scenario? In other words, what would start the fight?

- Conduct the scenario by alternating friendly and enemy responses. What do you expect to see happen? Ensure that friendly actions closely adhere to the operational concept in question. Make note if the scenario renders the concept invalid or unsuitable.

- When the scenario is resolved, assess how suitable each capability was for accomplishing the mission. Mark those assessments in the matrix and describe significant findings below.

3. TEST SCENARIO B.

Answer the following questions about Scenario B. Place the assessment results as appropriate in the above matrix under column marked "B:"

- What are the conditions at the beginning of the scenario? Consider friendly and adversary dispositions, neutral forces, civilians, etc.

- What would trigger the scenario? In other words, what would start the fight?

- Conduct the scenario by alternating friendly and enemy responses. What do you expect to see happen? Ensure that friendly actions closely adhere to the operational concept in question. Make note if the scenario renders the concept invalid or unsuitable.

- When the scenario is resolved, assess how suitable each capability was for accomplishing the mission. Mark those assessments in the matrix and describe significant findings below.

4. Test Scenario C.

Answer the following questions about Scenario C. Place the assessment results as appropriate in the above matrix under column marked "C:"

- What are the conditions at the beginning of the scenario? Consider friendly and adversary dispositions, neutral forces, civilians, etc.

- What would trigger the scenario? In other words, what would start the fight?

- Conduct the scenario by alternating friendly and enemy responses. What do you expect to see happen? Ensure that friendly actions closely adhere to the operational concept in question. Make note if the scenario renders the concept invalid or unsuitable.

- When the scenario is resolved, assess how suitable each capability was for accomplishing the mission. Mark those assessments in the matrix and describe significant findings below.

5. TEST SCENARIO D.

Answer the following questions about Scenario D. Place the assessment results as appropriate in the above matrix under column marked "D:"

- What are the conditions at the beginning of the scenario? Consider friendly and adversary dispositions, neutral forces, civilians, etc.

- What would trigger the scenario? In other words, what would start the fight?

- Conduct the scenario by alternating friendly and enemy responses. What do you expect to see happen? Ensure that friendly actions closely adhere to the operational concept in question. Make note if the scenario renders the concept invalid or unsuitable.

- When the scenario is resolved, assess how suitable each capability was for accomplishing the mission. Mark those assessments in the matrix and describe significant findings below.

★6. Conduct overall assessments by capability.

For each capability, do the following:

- As a group, examine the results of the scenarios and derive an overall assessment for each capability. **Enter these in the rightmost column of the Table at the beginning of this Activity**.
- Below, provide a brief narrative assessment of each capability (1-2 sentences per). If time-constrained, you can focus on priority capabilities or overall assessments that may not be self-evident (such as the "Fires" example in Table 7).

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

Capability - _____ / Overall - _____

Justification:

7. TEST THE WILD-CARD SCENARIO.

7a. Set up the assessment matrix. Copy the list of critical capabilities from Activity II, Step 5 into the first and third columns below.

Table 9. Wild-card scenario assessment matrix

Critical Capabilities (Activity II, Step 5)	Wild-Card Assessment	Critical Capabilities (Activity II, Step 5)	Wild-Card Assessment

7b. Test the wild-card scenario.

Answer the following questions about the wild-card scenario. Place the assessment results as appropriate in the above matrix under the second and fourth columns.

- What are the conditions at the beginning of the scenario? Consider friendly and adversary dispositions, neutral forces, civilians, etc.

- What would trigger the scenario? In other words, what would start the fight?

- Conduct the scenario by alternating friendly and enemy responses. What do you expect to see happen? Ensure that friendly actions closely adhere to the operational concept in question. Make note if the scenario renders the concept invalid or unsuitable.

- When the scenario is resolved, assess how suitable each capability was for accomplishing the mission. Mark those assessments in the matrix and describe significant findings below.

7c. Analyze the wild-card scenario. By exception, select only those findings where the wild-card scenario produces unacceptable risk—the risks are too great despite the low probability of occurrence. If the answer is none, then risk is deemed acceptable and analysis proceeds with only Scenarios A-D. Otherwise, the below must be incorporated into the identification of critical capability gaps in Activity V.

Activity V: Determine Requirements

With the scenario-based testing of the concepts completed, planners can now move to requirements identification. The important point here is that not all shortcomings, including those assessed as "RED" in the previous illustration, will become a requirement. It is quite possible that many will not. The scenario-based assessments identify risk, but they do not determine whether or not the risk is acceptable or that the corrections are affordable. Leaders may decide to accept risk in cases where inadequate on-hand capabilities can be compensated for or overcome via other capabilities. Those that leaders determine to present unacceptable risk should be converted into requirements for the force developers.

The next Activity will help planners figure out what to do about the capabilities that are unsatisfactory – these are *capability gaps* because they often describe something that is lacking or absent in the force that could lead to mission failure.[60] But planners may not necessarily address all capability gaps. Whether due to resource constraints or low probability of a gap manifesting in future conflict, leaders may decide to accept risk rather than develop a capability. Rather, leaders may prioritize the gaps and identify only certain ones that need mitigation. These prioritized gaps become *requirements*.[61]

Deciding which capability gaps constitute requirements is challenging and requires sound judgment. The guiding question is, therefore, *what are the specific risks that a gap presents and what criteria should leaders use to determine if those risks are unacceptable, and therefore constitute a requirement?* Leaders and planners must share a common understanding on the answers to this question, as they will determine prioritization on where the force must invest in new or improved capabilities.

The United States uses a detailed process for transitioning the capabilities-based assessment to a set of requirements documents. In Activity IV, the key capabilities needed to satisfy the concept led to a hasty assessment and justification, but these alone do not provide sufficient information

to turn them into actionable requirements. Activity V will complete this part of the process: (1) gap prioritization and (2) proposed solutions or recommendations.[62] These steps will use what is known as the DOTMLPF-P framework[63] that guides service solutions to capability gaps and the output of this activity will lead to the development of a simplified version of an Initial Capabilities Document in Activity VI.[64]

The DOTMLPF-P Framework

The DOTMLPF-P framework serves as both analytical tool for articulating capability gaps and as an organizing construct for requirements development. As an analytical tool, it aids in identifying the types of risks that capability gaps pose to the force. As an organizing construct, DOTMLPF-P establishes clear authorities and responsibilities that divide the efforts necessary to take corrective action. Activity V will exercise the analytical tool while the organizing construct will be exercised in Activity VI.

DOTMLPF-P stands for: (D) doctrine, (O) organization, (T) training, (M) materiel, (L) leadership and education, (P) personnel, (F) facilities, and (P) policy. During requirements development, each of these represent a perspective in which a capability gap manifests as a shortcoming in institutional knowledge or action.

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[60] Adapted from Jack Treddenick, "Transparency and Efficiency in Defence Planning and Spending" (paper presented at the PfP Consortium Security Sector Reform Conference, Garmisch-Partenkirchen, George C. Marshall Center, 13 December 2005).

[61] Defense Acquisition Glossary, s.v., "capability requirement," https://www.dau.edu/glossary/Pages/GlossaryContent.aspx?itemid=26993

[62] George Polovchik and Fred Gellert, "Force Development," in Lou Yuengert (ed.), *How the Army Runs: A Senior Leader Reference*

Guide 2021-2022 (Carlisle, PA: Department of Command, Leadership, and Management, 2022), 3-14 to 3-19.

[63] Darren W. Rhyne, *U.S.-Coalition Forces and Host Nations: DOTmLPF-P for Contingency Requirements*, Part 1 (Fort Belvoir, VA: Defense Acquisition University, 2014), https://apps.dtic.mil/sti/pdfs/ADA609765.pdf

[64] Chairman of the Joint Chiefs of Staff, *Manual for the Operation of the Joint Capabilities Integration and Development System* (Washington, DC: Joint Staff J-8, August 2018), https://www.acq.osd.mil/asda/jrac/docs/2018-JCIDS.pdf (Hereafter *JCIDS Manual*).

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For example, the lack of riverine ports may speak to a Facilities risk while the lack of riverine boats or watercraft might represent a Materiel problem. Agencies within a nation's defense enterprise handling Facilities and Materiel are typically different, and therefore the solutions would involve discrete actions by those agencies to fix the problem. But there may be other gaps as well that are second-order consequences of lacking both ports and boats such as in training.

The paragraphs describe each component of the framework how it is used to articulate the risks associated with a capability gap. Note the use of the principles of preparedness to characterize the extent of each gap.

Doctrine

Doctrine covers all aspects of a capability gap representing "fundamental principles that guide the employment of [forces] in coordinated action toward an objective."[65] In this context, doctrine covers more than just operating instructions for the force. It also covers enterprise actions in support of the force such as how to manage the procurement of new capabilities or how to manage and assess collective training.[66]

When assessing a Doctrine capability gap, consider the following:[67]

- Which doctrinal document is the source of the gap? OR
  - o Is there no such document that applies to the current situation? OR
  - o Does the gap express a seam, redundancy, or contradiction among several documents?
- What is the shortcoming in that document using the principles of preparedness (e.g., the moderate or high risk columns in Activity I)?

Organization

Organization covers the unit structure by which "individuals cooperate systemically to accomplish a common mission and directly

provide or support" operations.[68] Organization covers the *force-as-designed* with its required personnel and equipment, not the force as presently staffed and equipped (this aspect is covered in other DOTMLPF factors described below). The force-as-designed also includes enterprise agencies responsible for providing or procuring needed support.[69]

When assessing an Organization capability gap, consider the following:[70]

- Do the current organizational structures allow the capability to be used to its fullest potential?
- Are the current organizational structures inefficient or inhibit the full performance of that capability?
- Are the current organizational structures cost-prohibitive or excessive to what is needed?
- Are the current organizational structures scalable? E.g., could smaller teams tackle small-scale operations while larger teams tackle larger ones?
- Are the current organizational structures available where and when needed, or is the mobilization cost prohibitive?

The latter two questions should cause planners to consider which capabilities are needed and at what level of readiness. If, for example, logistics capabilities would be required first in theater but are held at lowered readiness (e.g., lowered percentage of personnel fill, placed in a reserve status) that may create a critical Organization gap.

Training

Training covers the preparation that the training enterprise provides to the force. This include mission rehearsals for staffs and units, individual and collective training, and certification requirements regarding the tactics, techniques, and procedures required of the force to accomplish the mission.[71] This should also include training necessary for enterprise staffs

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[65] *JCIDS Manual*, B-G-F-2.
[66] Rhyne, *DOTmLPF-P for Contingency Operations*.
[67] *JCIDS Manual*, B-G-F-2.
[68] *JCIDS Manual*, B-G-F-2.

[69] Rhyne, *DOTmLPF-P for Contingency Operations*.
[70] *JCIDS Manual*, B-G-F-2.
[71] *JCIDS Manual*, B-G-F-3.

providing support to the force such as in security cooperation / liaison activities or exercising local procurement.[72]

When assessing a Training capability gap, consider the following: [73]

- To what extent may existing training – individual or collective – inadequately prepare a force to conduct operations as uncovered in the scenario-based assessments?

- What needed training is presently not performed or done inadequately due to costs, lack of access to needed facilities, insufficient training supplies (e.g., ammunition), lack of time to conduct the training, or other resource shortfalls?

- What training is presently performed that may no longer be necessary? That is, the training addresses tactics, techniques, or procedures not required for any tested scenario?

Materiel

Materiel are pieces of equipment or systems needed to support the capability.[74] A *piece of equipment* is an individual product, usually procured commercially (e.g., computers) or developed for governmental purposes only (e.g., howitzers). Pieces of equipment can also include kits (e.g., tool kits, warning kits), spares (e.g., spare tires), and sets (e.g., calibration devices). *Systems* are composed of multiple pieces of equipment that generally function together. For example, a weapons system based on a howitzer includes the vehicle, trailer, the howitzer itself, and all associated sustainment equipment provided to the crew.

As will be shown in Activity VI, requirements typically come in two forms: non-materiel and materiel. Non-materiel solutions are those involving solely the incremental improvements of existing systems – either enhancements of quality or increases in quantity.

Materiel solutions required the development of entirely new capabilities, which is far more costly and time-consuming. Therefore, non-materiel solutions should be considered first.

When assessing a Materiel capability gap, consider the following:

- Is the available materiel inadequate for the conduct of operations? Was this a problem of insufficiency (i.e., lacking capacity) or a problem of incapability (i.e., the materiel is not right for the job)?

- To what extent could existing capabilities be adapted or repurposed to fulfill the needs? What capability gaps might such adaptations incur elsewhere?

- Based on the above, is this potentially a gap requiring a non-materiel or a materiel solution? (If this is not knowable based on present information, this can be deferred to Activity VI)

It is also important to defer discussions about possible sourcing of solutions to Activity VI. Such discussions might include identification of specific commercial-off-the-shelf (COTS) or government-off-the-shelf (GOTS) products.[75] Premature identification of such solutions risk biasing the development toward a pre-determined and possibly wrong answer. It is important to rationally express the gaps before examining possible solutions.

Leadership and Education

Leadership and Education concerns the professional development of leaders as a "product of a learning continuum that comprises training, experience, education, and self-improvement."[76] It therefore goes beyond professional military education as conducted in schools separate from the duty environment. It includes teaching, coaching, and mentoring of leaders, civilian education, required or supporting external certifications (e.g., military doctors, lawyers, civil engineers), and special

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[72] Rhyne, *DOTmLPF-P for Contingency Operations*.

[73] *JCIDS Manual*, B-G-F-2

[74] Note, *JCIDS Manual*, B-G-F-3 defines it as items, systems, and equipment but there is no clear definition for each term except that items combine to form systems. For present purposes, this is sufficient.

[75] Darren W. Rhyne, "U.S.-Coalition Forces and Host Nations: DOTmLPF-P for Contingency Requirements: Part 2," *Defense AT&L* (July-August 2014): 24-28.

[76] *JCIDS Manual*, B-G-F-4.

skills, competencies, or talents (e.g., language and regional expertise, experience in cyber or space operations, professional degrees, functional area qualifications such as strategic planning or nuclear operations). The force-as-designed will normally specify the additional qualifications needed not inherently developed through the leaders' ordinary career paths.

When assessing a Leadership and Education capability gap, consider the following:

- Are there skills, competencies, or talents that leaders require for the successful completion of the mission that they would not have under present talent management configurations?

- Are there development requirements that leaders must satisfy to be adequately prepared for such operations (e.g., requirements for broadening outside one's dominant career field, prerequisite experiences to hold a particular leadership position)?

- To what extent could leadership and education processes or systems be modified to address such gaps?

Personnel

Like Leadership and Education, *Personnel* systems ensure that qualified personnel exist to support the capabilities needed for operations.[77] However, Personnel is distinct in that the focus is on the sufficient quantity of personnel to fill the organization. Leadership and Education focuses on specific qualifications needed for the leaders but is not so concerned about the overall quantity. Organization is concerned with "spaces" as the specification for the force-as-designed; while Personnel is concerned with how many "faces" are available to fill those spaces.[78]

When assessing a Personnel capability gap, consider the following:

- Are there overall sufficient quantities of personnel holding the required occupational specialties for the units to perform their missions?

- To what extent are there skill gaps, such as shortages in particular skills in the force, which would inhibit mission accomplishment?

- To what extent do personnel have skills no longer required?

Facilities

Facilities pertain to real property, defined as "buildings, structures, ranges, utility systems [e.g., power grids, water sources], associated roads and other pavements [e.g., rail, ports], and underlying land."[79] Moreover, *key facilities* are those facilities of "primary importance" for supporting either operations (e.g., forward bases) or enterprise activities (e.g., organic industrial base).[80] Facilities can be permanent, such as those that are government-owned and controlled; temporary, such as those that the government might lease ahead of time or access through a pre-existing agreement with a host for contingency purposes; or acquired, which might include real property captured during operations (e.g., the occupation of territory captured from the enemy in Europe or the Pacific during World War II).

When assessing a Facilities capability gap, consider the following:

- To what extent does available real property support all phases of the operation – from predeployment preparation to deployment to conduct of operations to redeployment?

- To what extent does planned temporary real property address capability needs for operations, to include being activated and ready in time?

- To what extent does the force have the capacity to control and utilize real property captured from the enemy or acquired otherwise during operations?

- To what extent does the force adequately establish and maintain lines of communication covering the entire area of operations?

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[77] *JCIDS Manual,* B-G-F-5
[78] Explain the "space" and "face" metaphor.

[79] *JCIDS Manual,* B-G-F-6.
[80] *JCIDS Manual,* B-G-F-5.

Policy

The second P, *Policy*, is critically important as it establishes the manner in which the force conducts its operations. Policy includes service, joint, defense, interagency, alliance, coalition, or international policy issues that may impact the ability to conduct operations. Some policies will be assumed during scenario-based testing, such as adherence to the Law of Armed Conflict, and therefore need not be considered further. Other policy matters are theater- or operation-specific. For example, in multinational environments, different troop contributing nations may impose so-called *caveats* or internal restrictions on what their forces can or cannot do without expressed permission from the host government. In some cases, caveats may prevent access to a capability which therefore presents a gap that may have to be filled by one's own force. Of course, one's own nation may be the source of such caveats as well, and planners must consider the constraints that expected caveats could hold.

When assessing a Policy capability gap, consider the following:

- To what extent could caveats or other policy decisions constrain the force?

- To what extent might the force have to work around a caveat to successfully complete the mission? Might it have to use different capabilities that ordinarily programmed, approaches other than ordinarily preferred in doctrine, or non-military solutions where military ones would be the logical choice?

- To what extent would the force have to provide capabilities that ordinarily would be provided by a partner nation? What would be the gaps created in the force when doing so?

PRIORITIZING & EXPRESSING REQUIREMENTS

In practice, the numbers of capability gaps exposed during scenario-based testing could be numerous. The enterprise would ordinarily prioritize this list according to criteria oriented on the urgency, feasibility, and acceptability of closing the gaps.

The challenge for the enterprise is that such capability gaps come in many forms, and they may not be comparable. At the enterprise level, how does one make a fair comparison among tanks, intelligence, and sustainment capabilities when one is likely only an expert in one of them, or possibly none?

An approach is to employ *centers of excellence* at the service level to adjudicate capability gaps that are in like capability areas – such as a military's declared warfighting functions. A center of excellence might govern the following: maneuver and fires, intelligence, command and control, mobility and countermobility, sustainment, force protection, and others. Theoretically, each center of excellence should have the expertise needed to prioritize capability gaps within the warfighting function and then the enterprise can combine these bottom-up to form one priority list.

ASSEMBLING THE LIST OF REQUIREMENTS

As requirements are collected, planners and leaders should critically evaluate them to ensure the list contains capabilities that are discrete and distinguishable from each other. By *discrete*, there should be no two capabilities on the list that are so interdependent that they would effectively be combined and neither capability could be operated on their own. Otherwise, the two are merely components of one capability. By *distinguishable*, there should be no effect or purpose served by more than one capability. If the main purpose or mission of multiple capabilities is the same or significantly overlap, that is a potential redundancy. But context matters in determining to what extent redundancies exist. For example, if the same gap exists in the land, sea, and air domains, which does not mean that a single solution can be applied to all three effectively or efficiently. The resulting capability may require three variants, one per domain, and these must be distinguishable from each other.

There can be a problem with comparing capabilities to ensure they are discrete and distinguishable. One may find oneself comparing apples and oranges. A common approach, used in this Activity, is to divide responsibilities for assessing requirements by warfighting

function—for example, separate maneuver requirements from those of intelligence or sustainment—and assign those requirements to subject matter experts among the planning team for evaluation. Warfighting function may not be the most appropriate way to divide the workload, but it is one that easily translates into capability development processes and systems due to its straightforward ties to resourcing.

There are no absolute rules for ensuring capability gaps are discrete and distinguishable. The following line of inquiry may help, but ultimately the answers lie in the judgment of the leader:

If two requirements overlap significantly, consider combining them into a single requirement with two variants. An example of this is when there are multiple requirements for trucks to carry specific kinds of cargo. Would it be possible to express this as a requirement for a single type of truck that has slightly different versions for handling specialized cargo?

If two requirements are closely interrelated such that they are normally needed together, consider combining them into a single requirement with two subcomponent parts. For example, requirements for upgraded computer network capabilities may be linked with the need for new software applications. Combining them may facilitate development and procurement of such systems.

If one requirement can be subdivided into two or more requirements such that there is a logical or clear distinction in the personnel (including skills or competencies), materiel, and other resources that would comprise them, consider dividing them into separate requirements.

Then there is prioritization. There are many ways to prioritize a list; here are two general approaches with a range of options in between. The first is using a cut line method in which the requirements are sorted in a 1-N list according to some criteria. A *cut line* is placed in the list according to the resources needed, and all requirements that are above the cut line will be resourced in full while those below will be zeroed out and not further pursued. A *salami slice* approach spreads the investments more evenly by ensuring all capabilities get resources to move forward but not necessarily in full. For example, the top priorities may get three-fourths of its resourcing needs satisfied while those of lower priority may only get one-half or less. However, a greater number of requirements will get some resources than in the cut line method.

Requirements should be sorted first by warfighting function (or other dividing construct), then aggregated for overall sorting.

The result of this decision-making process is a *slate of requirements* that scenario-based assessments produced. The slate should then be reviewed to determine the extent to which the requirements should be acted upon individually or if a more collective option is needed. Strategic actions, and the conditions warranting them, may include the following three: (a) recommending changes to the operational concept, (b) recommending changes to the allocation of resources, and/or (c) transforming the armed forces.[81]

Structure of the Activity

This Activity is simplified to allow participants to address the needs of a small set of obvious priority requirements to wrestle with the above questions quickly. The long form includes the separation of the capability gaps into warfighting functions, whereas the short form does not – presuming that time or numbers of participants would be so limited that those steps would be unneeded. The warfighting functions used in this workbook represent a common division among some militaries but can be modified to fit any doctrinal construct.

The Activity then requires participants to detail only one or two top priority requirements according to the DOTMLPF construct. For exercise purposes, this is sufficient for learning about the overall planning process that will translate requirements into action.

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[81] Treddenick, "Transparency and Efficiency."

CONDUCT OF ACTIVITY V: DEVELOP AND PRIORITIZE REQUIREMENTS USING DOTMLPF-P

For the short form of this activity, complete items marked with a star (★) – steps 3 (for priorities 1-5) and 4a. Steps 1 & 2 will provide an opportunity for participants to divide and sort priorities by warfighting function, whereas. In the short form, participants will consider the list of capabilities as a whole.

1. DIVIDE RESPONSIBILITIES FOR DEVELOPING REQUIREMENTS

In the below table, list as many capability gaps identified as possible (including those derived from the Wild-Card Scenario in step 7c), subdivided into the six warfighting functions (or other construct as deemed appropriate – adjust/replace the labels as needed).

Table 10. Tabulating Requirements by Warfighting Function

Command and Control	Movement and Maneuver
Intelligence	Fires
Sustainment	Protection

2. Sort the Capability Gaps by Warfighting Function

Break the participants into groups and assign them each one or more of the warfighting functions. Groups will adjudicate the capability gaps per warfighting function and determine a priority order based on the following criteria: (a) urgency of the gap, (b) feasibility of the probable solutions (e.g., preferring non-materiel solutions over materiel, costs, time expected), and (c) acceptability of the solutions.

When concluded, have groups fill out the appropriate blocks on the below table.

Table 11. Sorting Capability Gaps by Warfighting Function

Command and Control	Movement and Maneuver
Intelligence	Fires
Sustainment	Protection

★3. DETERMINE OVERALL PRIORITY LIST OF CAPABILITY GAPS:

List in order the capability requirements (at least 5 for the purposes of this workshop, spaces are provided for 12) that must be addressed. If the short form of the Activity, Answer the below questions for each. Can be done as a group or divided among teams. (Note: cost analysis is beyond the scope of this workshop)

- ★ Priority 1 -- capability name: _____
    o Description of capability (one sentence):

    o Justification (one sentence):

    o Outcomes that the capability provides (one sentence):

- ★ Priority 2 -- capability name: _____
    o Description of capability (one sentence):

    o Justification (one sentence):

    o Outcomes that the capability provides (one sentence):

- ★ Priority 3 -- capability name: _____
    o Description of capability (one sentence):

    o Justification (one sentence):

    o Outcomes that the capability provides (one sentence):

- ★ Priority 4 -- capability name: _____
    o Description of capability (one sentence):

    o Justification (one sentence):

    o Outcomes that the capability provides (one sentence):

- ★ Priority 5 -- capability name: _____
  - o Description of capability (one sentence):

  - o Justification (one sentence):

  - o Outcomes that the capability provides (one sentence):

- Priority 6 -- capability name: _____
  - o Description of capability, justification, and outcomes:

- Priority 7 -- capability name: _____
  - o Description of capability, justification, and outcomes:

- Priority 8 -- capability name: _____
  - o Description of capability, justification, and outcomes:

- Priority 9 -- capability name: _____
  - o Description of capability, justification, and outcomes:

- Priority 10 -- capability name: _____
  - o Description of capability, justification, and outcomes:

- Priority 11 -- capability name: _____
  - o Description of capability, justification, and outcomes:

- Priority 12 -- capability name: _____
  - o Description of capability, justification, and outcomes:

4. SUMMARIZE THE TOP PRIORITY CAPABILITY GAPS:

Take the top priorities from Step 3 (two for the long form, one for the short form) and answer the following questions in accordance with DOTMLPF-P analysis. Be sure to incorporate the Principles of Preparedness (Activity I) when articulating the responses.

★ *4a. For Priority 1 -- capability name*: _____

Fill in the below table as appropriate:

Table 12. DOTMLPF-P Implications for Priority #1

Doctrine	Organization
Identify doctrinal gaps and their impact	Identify gaps in how units/elements are organized to provide this capability
Training	**Materiel**
Identify gaps in the training enterprise to ensure the forces are able to provide the capability	Identify gaps in materiel that constrain forces (needing incremental change or modernization)
Leadership & Education	**Personnel**
Identify gaps in leadership & education – schooling, coaching, mentoring, development	Identify skills and competency gaps that preclude forces from fully completing mission
Facilities	**Policy**
Identify real property, facility, infrastructure concerns that preclude mission accomplishment	Identify policies or caveats that necessitate some sort of mitigation or workaround

★ *4b. <u>For Priority 2 -- capability name</u>*: _____

Fill in the below table as appropriate:

Table 13. DOTMLPF-P Implications for Priority #2

Doctrine	Organization
Identify doctrinal gaps and their impact	Identify gaps in how units/elements are organized to provide this capability
Training	**Materiel**
Identify gaps in the training enterprise to ensure the forces are able to provide the capability	Identify gaps in materiel that constrain forces (needing incremental change or modernization)
Leadership & Education	**Personnel**
Identify gaps in leadership & education – schooling, coaching, mentoring, development	Identify skills and competency gaps that preclude forces from fully completing mission
Facilities	**Policy**
Identify real property, facility, infrastructure concerns that preclude mission accomplishment	Identify policies or caveats that necessitate some sort of mitigation or workaround

Activity VI: Build the Force Development Plan

Force structure decisions govern what capabilities the military should have on-hand now and in the future. They often address physical things – people, materiel, and infrastructure – how they are organized into capabilities, and where they are postured to best serve national military objectives.

Changing a force structure can be a slow process. If the situation or the strategy requires that a nation grow its force by hundreds or thousands of soldiers, there must be mobilization units to receive and equip them, training ranges available for them to prepare, units for them to join, bases for them to be stationed, and power projection capacity to employ them. It is the same when downsizing or transforming a force as soldiers must either retrain for new skills or leave the service, units must be stood down or replaced with those of another kind, and there must be places to manage the divestment of excess equipment and facilities, all while trying to ensure the remaining force maintains readiness and relevancy.

This Activity begins the transition from capability-based assessments to action – of developing products that would lead to the eventual provision of new or improved capabilities for the warfighter. The Activity provides a hasty form of an *initial capabilities document* that provides: (1) overarching guidance to the enterprise for force development, and (2) the roadmap for change – of turning DOTMLPF-P into the organizing construct for enterprise action.[82]

Components of Force Structure Decisions

Figure 3 shows the strategic view of decisions about force structure. The goal is to create what we will call the *force-as-designed*.[83] The force as designed is the force that best satisfies the strategy and allows the force to fight in accordance with operational concepts with the least risk. Developing the force-as-designed involves four decisions, and each incorporate capabilities-based planning techniques.[84] Roles & Missions divides the responsibilities of the strategy to the major commands or subordinate agencies so there is no overlap. Sizing the Force determines how big the force must be to fight as described in the Concepts. Organizing the Force determines the unit structure – how big is a brigade or battalion and what support elements

are needed? Finally, Stationing the Force determines where all the units are stationed.

This provides a logical path from the strategy to the force-as-designed, and the activities today will follow that path. But it is not hard to see how decisions on one activity can constrain the others. For example, consider the case of a capability with a strong history in the force, yet scenario-based assessments determines that the capability is no longer needed. It is conceivable that leaders will demand or require that the capability must remain. This demand will naturally affect other considerations such as the size and organization of the rest of the force. Another case is one of a capability that requires a specialized facility that is very expensive (e.g., aviation). It may be infeasible to relocate or re-station the capability to a preferred location.

Roles & Missions

Many Roles & Missions decisions are straightforward. For example, at the defense level, the army handles everything on the ground, the navy owns the maritime, and the air force controls the skies. The questions arise when considering cross-domain responsibilities. Who owns riverine or amphibious operations? What about new domains such as cyber or space – do

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[82] Wayne Chalupa and Jeff Wilson, "Capability Requirements and Materiel System Research, Development, and Acquisition Management," in Lou Yuengert (ed.), *How the Army Runs: A Senior Leader Reference Guide 2021-2022* (Carlisle, PA: Department of Command, Leadership, and Management, 2022), 10-8 to 10-9.

[83] Tom Galvin and Bob Bradford, *Force Structure* (faculty paper, Carlisle, PA: Department of Command, Leadership, and Management, 2022).

[84] See Richard M. Meinhart, *Strategic Planning by the Chairmen, Joint Chiefs of Staff, 1990-2005* (Carlisle, PA: Strategic Studies Institute, 2006).

we give those responsibilities to an existing service or create new ones?

These same questions apply within a service. Many armies divide responsibilities by following tradition -- such as infantry and armor for combat maneuver, signal for communications, engineers for mobility, and sustainment for providing logistics and support. But some responsibilities can be difficult to assign to a branch, such as new missions like cyber. A common challenge is assigning responsibilities for missions that overlap between conventional and special operations forces. Another challenge is the division of responsibilities between operational forces and the institutional elements that support them – sometimes out of necessity an infantry battalion may have to serve an institutional role such as training.

Three general principles are useful for assigning Roles & Missions. The first is *clarity*. Strategies are often written at a high, abstract level, so there may be multiple approaches that leaders can take to designing the force to meet it. Roles & Missions decisions should be clear and unambiguous, leaving no room for misinterpretation. Ambiguity should be minimized and proponency clearly assigned to ensure accountability for designing the force.

The second principle is *feasibility*. There are probably more roles and missions required from the strategy than there are types of units. Some units will have to perform multiple missions, and satisfying all the missions can be challenging. One should avoid overloading any units – a unit with too many missions will risk not doing any of them properly.

The third is *acceptability*. Changing or adding responsibilities from what follows tradition may face resistance. Traditions are strong in military

units. Thus, any changes to Roles & Missions require strong justification.
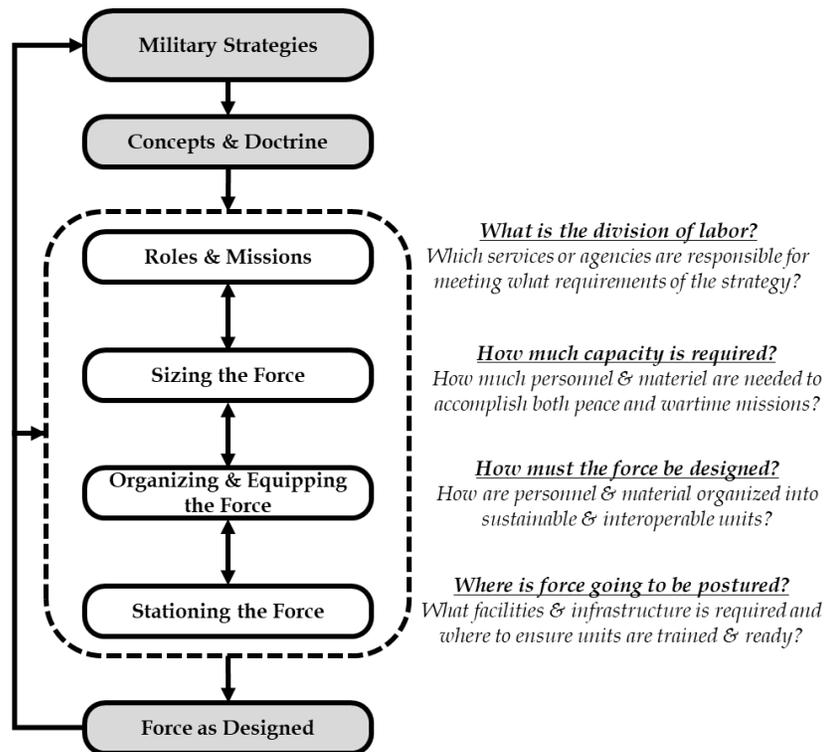
Figure 4. Conceptual framework for force structure decisions

Sizing the Force

Resource considerations go hand-in-hand with Roles & Missions and Concepts & Doctrine decisions. Chances are good that the force required to fight may exceed the size of the force that the nation can afford. For example, it may take a force of 20,000 strong to fight as depicted in the concept – but the nation may only be willing to maintain a force of 10,000 due to cost. How to make up the difference? Perhaps those additional 10,000 are placed in the reserves instead? There may be other options, but the important point is that Sizing the Force is a decision all its own. Changing the size not only impacts resources, but it could also send unintended messages to the public or to adversaries. For example, if a military increases its end strength to satisfy a new strategy, questions will be raised – why is the country "building up its armed forces"? The same is true in the other direction. If the force will downsize by 10,000, that may be interpreted as a lack of commitment to the military, even if it is justified by the strategy.

End strength is not the only sizing consideration. Armies tend to measure themselves in end strength, but navies and air forces measure their sizes in quantities of platforms, such as a 50-ship Navy or a 50-aircraft Air Force. It may not matter that the 50 ships are of different types, and some are larger while others are smaller – the number becomes important on its own.

So, what are the right numbers? And how do those numbers align with the Concept? These are indeed particularly important questions to consider.

Organizing & Equipping the Force

Organizing the force involves arranging the end strength and platforms into units in order to provide capabilities to get to the desired future state, along with the various commands, headquarters, or staffs needed to mobilize, employ, sustain, and administrate them. Combat units are generally the easier cases – Concepts & Doctrine establishes what capabilities each unit at echelon should provide based on historical experience and extensive analysis. Their organizational designs become templates for all units of the same type. That way, each infantry battalion is structured the same, or at least similarly, to all the others.

All other types of organizations – combat support, service support, headquarters at all echelons – tend to be exceptional, even unique. Whereas the line elements of a combat unit may be copies of each other (for example, the A, B, and C Companies of an infantry battalion), line units of signal, intelligence, medical or other brigades may differ completely from each other and share little in terms of personnel and materiel assets. For these units, one may have to revisit and clarify the Roles & Missions or Concepts & Doctrine to account for any unusual structures.

Headquarters organizations represent another challenge. Many are one-of-a-kind, such as a services' major commands. These are assigned unique institutional or operational Roles & Missions not performed anywhere else in the service. Such Missions may not be easily downsized or transformed since they are dependent on unique skills and competencies of its personnel, and these skills and competencies might not be resident elsewhere.

Organizing the Force may face constraints because of the forces' Size, and therefore may lead to some tough decisions. For example, the available active end strength may be 10,000, but the force may need ten battalions to fight. If each battalion is 800 soldiers, then 10,000 – 8,000 leaves only 2,000 for all the support and headquarters functions. Among the solutions are to place some battalions in a reserve status and assume that they could be mobilized in time to fight. Or each battalion gets only two companies rather than three, and the third company would have to be mobilized. Or reduce some battalions to a cadre status, consisting of only a commander and primary staff but no troops. The troops would mobilize when needed.

Tough decisions also come whenever a new capability must be added. Consider cyber or drone units as examples from other countries. These new units might compete for spaces with existing units if the end strength cannot change.

Posturing the Force (Stationing)

Force posture is the arrangement of forces, footprints, and agreements representing both active stationing of forces and assets that are available to varying degrees if needed for mobilization and employment. *Forces* refers to the military organizations and capabilities themselves. *Footprints* refers to networks of real property, facilities, and infrastructure. *Agreements* include any relevant treaties, access arrangements and other support that facilitate military presence in a particular location.[85] Force posture encompasses the entirety of a nation's forces, although for nations with forces stationed outside its borders, management policies, processes, and systems may differ between domestic and foreign locations.[86]

Stationing, the act of establishing the footprint and agreements to allow forces to

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[85] For example, U.S. Department of Defense, *Management of U.S. Global Defense Posture (GDP)*, DoD Instruction 3000.12 with Change 1 (Washington, DC: U.S. Department of Defense, 2017),

https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/300012p.pdf (Hereafter *DoDI 3000.12 w/c1*).
[86] *DoDI 3000.12 w/c1*.

occupy that footprint, comes in multiple forms. *Permanent stationing* is when such occupation is long-term, implying the presence of permanent, durable facilities or buildings. Units can also be *temporarily stationed*, such that they move to a new footprint for a limited period of time. Temporary stationing is often involved in rotations to a forward operating base for operations or training, and usually include temporary facilities that can be erected and torn down with less impact on the underlying real estate.

Footprints can also be of several types. They can be permanent, such that the government either owns the property or sustains an enduring agreement with a host government or private entity for its use. Other footprints can be enduring in character and occupied persistently by forces (sometimes referred to as *warm-basing*) or only periodically occupied and retained primary for use during mobilizations, surge, exercises, or other military activities (sometimes called *cold-basing*).

The force posture of a nation, even when entirely domestic, can be complex. For example, the real estate available may not fully support the types of units to be stationed there in support of the strategy. The terrain of a tense border region with an adversary may be too rugged or overcrowded for the presence of a combined arms training range, or the nation cannot afford the expense of establishing and sustaining one there. This may necessitate the ready forces traveling elsewhere for training, which in turn may require another unit to backfill and monitor the border until the ready forces return. Or, the border region must be served with a rotational force, which requires increased real estate elsewhere for permanent stationing and an increased funding for conducting the rotation. These sorts of hidden costs incurred by stationing can stretch a force structure in unexpected ways and lead to difficulties in maintaining expected overall levels of readiness.

Stationing decisions can involve balancing centralization for efficiency versus distribution for effectiveness and resiliency. Put another way, one can establish fewer, larger posts that can be administered at reduced overhead and provide greater amenities and opportunities for soldiers and allow larger units the opportunity to train and collaborate together physically. The disadvantages are that such bases typically must be established away from where they would be employed and can become large, high-value targets for adversaries. Distributing the force among smaller bases has the advantages of being more survivable against enemy action and having the greater opportunity to base forces in or nearer their initial place of employment. For sustainment, the advantage is that support functions operate under conditions closer to war and the shift to a wartime footing may be less impactful, but distributed operations during peacetime are more expensive than those of a consolidated footprint.

Force structure decisions are complex as each of the above decisions are interrelated but respond to different stakeholders and interests. It is helpful to maintain a strategic view and consider how all these components work together to translate capability requirements into fully trained and ready forces for employment.

. Once may think that developing the plan is a top-down affair – the leaders have identified the set of capability requirements and will direct its action. But in reality, planning will be bottom-up. We will start by looking at individual capability requirements and examine their cumulative effect on the defense enterprise.

DEVELOPING THE PLAN

The approach to plan development is straightforward but can become quickly complex. To this point, a number of capability requirements have been identified – each placing demands on the personnel, materiel, and real property available. We now need to sum these demands together and determine the overall best ways to proceed, especially if competition over internal resources becomes significant.

The first step is to initiate plans for each capability requirement using a handy construct –

capability (tactically, operationally, and strategically)?

Proponent Responsibilities

Milestones and Decision Points

Validation & Certification

Coordination and Synchronization

Doctrine

Organization

Training

Materiel

Leadership & Education

Personnel

Facilities

Capability Required

Capability Fielded

Capability Sustained/Upgraded as Needed

Capability Divested
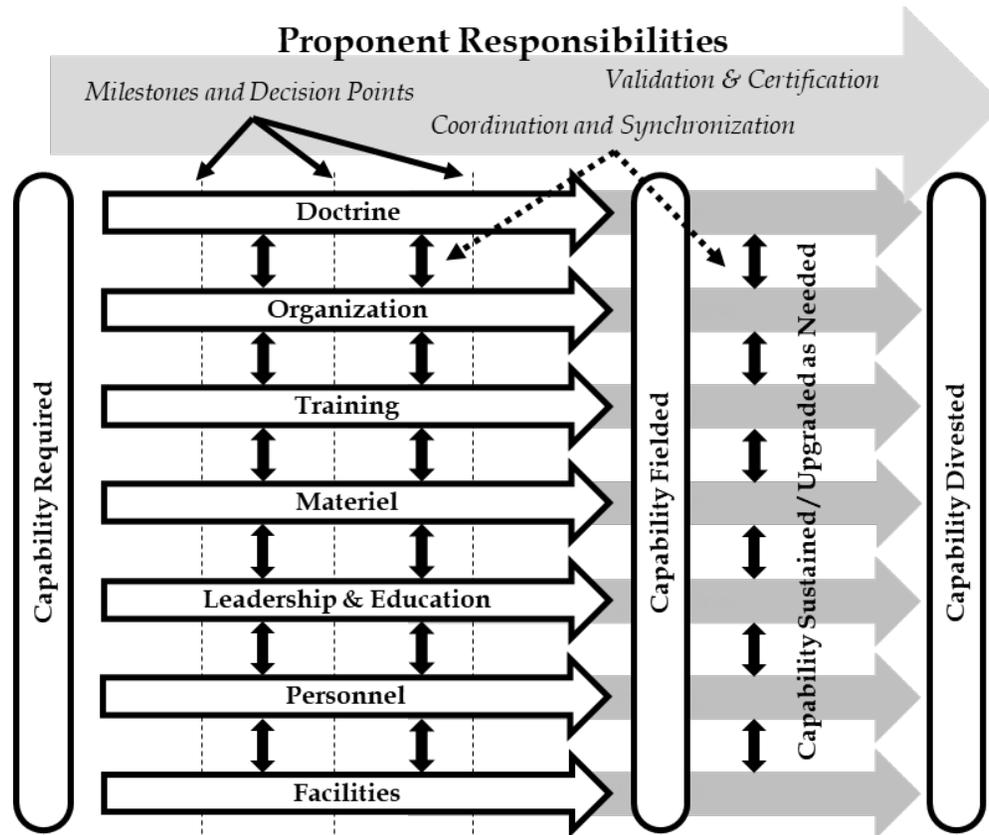
DOTMLPF-P – which stands for the following:[87]

- *Doctrine*: What is the way the capability will be employed?

- *Organization*: How will the capability be organized or structured (e.g., what kinds of units, elements, teams, etc.)?

- *Training*: How will the skills and competencies required of the capability be built and sustained?

- *Materiel*: What equipment is needed (e.g., weapons, spares, test sets, parts, fuel)?

- *Leadership & Education*: How will leaders be prepared to employ and manage this

- *Personnel*: What personnel is needed and what skills, competencies, or talents must they possess?

- *Facilities*: What real property, installations, industrial facilities, buildings, transportation (e.g., roads, rail, sea, air), and others are required to house, deploy, and sustain the capability?

- *Policy*: What policy restrictions, constraints, or enablers are needed for the capability to be used to its fullest and most efficient?

Each of the above represent different lines of effort managed by separate staff elements in the

Figure 5. The life-cycle approach to capability development

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[87] Acquipedia, s.v. "DOTmLPF-P Analysis," Defense Acquisition University, https://www.dau.edu/acquipedia/pages/articledetails.aspx#!457

defense enterprise, but there should be a central proponent for each capability requirement that exercises authorities and responsibilities for achieving the desired capability. The value of DOTMLPF-P is the recognition that all these lines of effort should converge at the end, such that the capability is fielded with its doctrine established, organizations built, training capacity available, materiel on-hand, leaders prepared, personnel present, and the facilities constructed and ready. So, if one were to diagram what the capability development process looks like, it would resemble the diagram in Figure 4.[88]

The Figure shows both the DOTMLPF-P lines of effort and the proponent's responsibilities across the top. For present purposes, we are primarily concerned with the left part of the Figure, starting with the requirement and progressing to having the capability fielded. A Proponent must be named with the responsibilities of establishing the management tools for capability development. These include:

Milestones and Decision Points. Capability development could take months to years or longer depending on the availability of technology and other factors. The Proponent should identify timelines to evaluate progress and make decisions that will ensure the project stays on course.

Coordination and Synchronization. Delays in any one line of effort can have impacts on other lines of effort. Therefore, the Proponent should ensure that coordination routinely occurs so that problems can be addressed as they arise.

Validation and Certification. As capability development nears completion, the Proponent has the responsibility to validate and certify that the capability is ready for fielding. Subsequently, the Proponent maintains responsibility thereafter to monitor the use of the capability to ensure its sustainment, identify the need for upgrades or modifications, and ultimately decide that the capability is no longer needed (e.g., superseded or excess) and should be divested.

Planners therefore can construct a basic plan for requirement development that establishes: (a) the Proponent and its responsibilities, (b) the timelines for development and appropriate intermediate milestones, (c) coordination mechanisms, (d) evaluation standards used to determine when ready to field, and (e) guidance and requirements to the subordinate lines of effort. In addition, it is useful to assess known major hurdles that could hamper development. Common ones include major facility construction requirements which can be expensive and experience delays, materiel issues such as science and technology being too immature or risky, personnel and training issues such as the lack of expertise in the skills necessary to utilize the new capability or be able to train the force on its usage, and resource constraints that leads to insufficient funding for development or procurement of the capability. If these can be anticipated, the Proponent should monitor the environment and look for signs that a problem is emerging.

As the plans for each requirement come together, it is important to organize the institution to effectively and efficiency manage the potential hundreds of change-related activities that CBP has spawned. Two considerations are offered on how to do this at the enterprise level.

One is by clustering together Proponents by warfighting function or other natural division. In general, if CBP produces 100 requirements, it is unlikely that assigning 100 independent Proponents will be either feasible or effective. It is not uncommon to find one staff agency serving as Proponent for multiple capability development efforts. There are several ways to divide the Proponency responsibilities. One is by warfighting function – e.g., command and control, fires, force protection, information, intelligence, logistics, and maneuver. Another is by branch – e.g., infantry, armor, signal, engineer, etc. The decision on how to divide Proponency may depend on the breadth and distribution of requirements, with the aim being to even the workload among proponents.

Another is to develop strategies for each of the DOTMLPF-P functions – e.g., a "Doctrine" strategy, a "Training" strategy, a "Facilities" strategy, and so on – to help the lines of effort address the competing needs of all the capability

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[88] Original graphic by author.

requirements. A Facilities strategy would consolidate and prioritize the various facilities, infrastructure, and real property needs to station all the capabilities being developed. The strategy might sort the facility requirements into near-term (e.g., simple renovations, small-scale construction) and long-term (e.g., large-scale construction, base closures, and realignments) to help with programming and budgeting.

STRUCTURE OF THE ACTIVITY

Activity VI follows the major elements of the Initial Capabilities Document (ICD) as described in the US defense enterprise. The ICD is a document that describes capability gaps where planners deem "the operational risk of unmitigated capability gaps to be unacceptable."[89] Key elements of an ICD include: (a) operational context, (b) threat summary, (c) statement of the capability gaps or overlaps, and (d) final recommendations. The final recommendations include DOTMLPF-P requirements as listed above.

The Activity concludes with two optional steps to consider holistic concerns about the requirements being articulated – efficiencies and conflicts. Efficiencies are opportunities to consolidate enterprise actions if they can support the development of multiple capabilities. Conflicts are constraints or challenges that may preclude the ability to devote sufficient enterprise energies toward multiple requirements. An example of the latter is the dependency on one small agency or limited expertise that would be asked to prepare and enact functional plans for more than one development simultaneously, which exceeds their organic capacity. Ameliorating these capabilities will be helpful for ensuring the cumulative efficiency of these change efforts.

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[89] *JCIDS Manual,* B-A-1.

Conduct of Activity VI: Build the Force Development Plan Using a Force Structure Decision Framework

For the short form of this activity, complete items marked with a star (★) – focusing on the one top priority from the previous activity, do only steps 1a,d,e,f. For a moderate length activity, the same steps (2a,d,e,f) can be performed for the second top priority.

★ 1. Initial Capabilities Plan for Top Priority Requirement #1 (from Activity V):

★ *1a. Copy the name of the top priority capability here.*

1b. Identify the units or commands in the force who would most likely own the capability. If an existing command, name it below. If there is no suitable command or unit, so state. This means that one would potentially have to be created.

★ *1c. Answer the following questions about the impact the capability might have on the unit or command.* If not known, so state – this would be deferred to the planning phase (next activity):

- What changes might occur to the roles and missions? Is the new capability merely replacing a current capability? Would it be an added capability, which may mean the unit/command must grow?

- What personnel skills or competencies might be needed that are not already present in the unit or the force or are in insufficient quantities?

- If the organization must grow or a new one is needed, are there opportunities to divest current capabilities or units?

- What real property, facility, or infrastructure requirements would this capability need for stationing and sustainment?

★ *1d. Identify the proponent.* Name the staff organization at service level or above that will be the lead proponent responsible for overseeing development of the capability and other units or commands that would play a critical support role (if any):

- **Lead Proponent**:
- Supporting Units/Commands:

1e. Identify key tasks and barriers. In 3-5 bulletized statements, identify the major tasks that must be completed for the successful development of the capability.

★ *1f. Responsibilities to the DOTMLPF functions.* We now divide the responsibilities. For each DOTMLPF-P function, identify the proponent for that function (be as specific as possible) and the guidance you give the proponent? The key questions listed in the pamphlet are copied here for reference.

- **D (Doctrine) – Proponent:** _____
  - *Key question – how will doctrine capture the way the capability will be employed?*
  - Guidance to the proponent:

- O **(Organization) – Proponent:** _____
  - *Key question – how will the capability be organized and structured (types of units, etc.)?*
  - Guidance to the proponent:

- **T (Training) – Proponent:** _____
  - *Key question – how will the skills & competencies required of the capability be built and sustained?*
  - Guidance to the proponent:

- **M (Materiel) – Proponent:** _____
  - *Key question – what equipment, supplies, parts, etc. are needed and how to procure them?*
  - Guidance to the proponent:

- **L (Leadership & Education) – Proponent:** _____
  - *Key question – how will leaders be prepared to employ and manage this capability?*
  - Guidance to the proponent:

- **P (Personnel) – Proponent:** _____
  - *Key question – what skills & competencies are needed and how to acquire & develop them?*
  - Guidance to the proponent:

- **F (Facilities) – Proponent:** _____
  - *Key question – what real property, installations, buildings, & infrastructure are required?*
  - Guidance to the proponent:

- **P (Policy) – Proponent:** _____
  - *Key question – what policy decisions must be made to enable use of this capability?*
  - Guidance to the proponent:

1g. Coordinating Mechanisms. Answer the following questions:

- How will the Lead Proponent and functional Proponents coordinate and how often? Options may include staff meetings, in-person conferences, video teleconference, reports, etc. which can be weekly, monthly, annually, or on an as-needed basis. Include timelines for reviews where the Lead Proponent holistically assesses progress and determines whether capability development continues or not.

- What are indicators of progress that the Lead Proponent can use to determine how well capability development is proceeding?

- What are indicators of emerging problems or delays? Which Proponent will have responsibility for monitoring the situation to identify such indicators as they arise?

2. INITIAL CAPABILITIES PLAN FOR TOP PRIORITY REQUIREMENT #2 (FROM ACTIVITY V):

2*a. Copy the name of the top priority capability here.*

2*b. Identify the units or commands in the force who would most likely own the capability.* If an existing command, name it below. If there is no suitable command or unit, so state. This means that one would potentially have to be created.

2*c. Answer the following questions about the impact the capability might have on the unit or command.* If not known, so state – this would be deferred to the planning phase (next activity):

- What changes might occur to the roles and missions? Is the new capability merely replacing a current capability? Would it be an added capability, which may mean the unit/command must grow?

- What personnel skills or competencies might be needed that are not already present in the unit or the force or are in insufficient quantities?

- If the organization must grow or a new one needed, are there opportunities to divest current capabilities or units?

- What real property, facility, or infrastructure requirements would this capability need for stationing and sustainment?

2*d. Identify the proponent.* Name the staff organization at service level or above that will be the lead proponent responsible for overseeing development of the capability and other units or commands that would play a critical support role (if any):

- **Lead Proponent**:
- Supporting Units/Commands:

2*e. Identify key tasks and barriers.* In 3-5 bulletized statements, identify the major tasks that must be completed for the successful development of the capability.

2*f. Responsibilities to the DOTMLPF functions.* We now divide the responsibilities. For each DOTMLPF-P function, identify the proponent for that function (be as specific as possible) and the guidance you give the proponent? The key questions listed in the pamphlet are copied here for reference.

- **D (Doctrine) – Proponent:** _____
  - ○ *Key question – how will doctrine capture the way the capability will be employed?*
  - ○ Guidance to the proponent:

- **O (Organization) – Proponent:** _____
  - ○ *Key question – how will the capability be organized and structured (types of units, etc.)?*
  - ○ Guidance to the proponent:

- **T (Training) – Proponent:** _____
  - ○ *Key question – how will the skills & competencies required of the capability be built and sustained?*
  - ○ Guidance to the proponent:

- **M (Materiel) – Proponent:** _____
  - ○ *Key question – what equipment, supplies, parts, etc. are needed and how to procure them?*
  - ○ Guidance to the proponent:

- **L (Leadership & Education) – Proponent:** _____
    - *Key question – how will leaders be prepared to employ and manage this capability?*
    - Guidance to the proponent:

- **P (Personnel) – Proponent:** _____
    - *Key question – what skills & competencies are needed and how to acquire & develop them?*
    - Guidance to the proponent:

- **F (Facilities) – Proponent:** _____
    - *Key question – what real property, installations, buildings, & infrastructure are required?*
    - Guidance to the proponent:

- **P (Policy) – Proponent:** _____
    - *Key question – what policy decisions must be made to enable use of this capability?*
    - Guidance to the proponent:

2g. Coordinating Mechanisms. Answer the following questions:
- How will the Lead Proponent and functional Proponents coordinate and how often? Options may include staff meetings, in-person conferences, video teleconference, reports, etc. which can be weekly, monthly, annually, or on an as-needed basis. Include timelines for reviews where the Lead Proponent holistically assesses progress and determines whether capability development continues or not.

- What are indicators of progress that the Lead Proponent can use to determine how well capability development is proceeding?

- What are indicators of emerging problems or delays? Which Proponent will have responsibility for monitoring the situation to identify such indicators as they arise?

3. Identify Potential Efficiencies.

Are there opportunities for Proponents to consolidate efforts in support of multiple capability requirements? For example, in Facilities, are there ways that construction or renovation of a maintenance building could satisfy the needs of sustaining multiple new capabilities?

4. Identify Potential Conflicts.

Are there potential conflicts between capability development efforts? For example, in Training, development of two capabilities may require extensive access to the same training area and satisfying both needs is infeasible. What guidance could be issued to help the respective Lead Proponents coordinate and resolve the conflict?

Activity VII: Develop the Communications Campaign

The final activity is communication campaign development. Army transformations are highly risky from a communication standpoint. There will always be opponents – those who argue against change and those who argue that the transformation will not go far enough. Defense leaders must decide how to promote the message that transformation is good and necessary, defend the transformation against attacks, and counter any potential misinformation and disinformation in the environment. It is also important that the same messages are disseminated throughout the Army so that subordinate leaders can act in ways consistent with the campaign's messages. This is critically important – the actions of the organization's members should be as closely aligned with the leader's messages as possible.

Communications campaigns promote what the whole organization wishes to accomplish, which in this context is informing stakeholders of the results of the CBP efforts and justifying the capability requirements and associated resources needed bring the military into alignment with the strategy. The campaign approach is important because successfully gathering support from stakeholders is helped by everyone in the defense enterprise communicating similar messages on a consistent and coherent basis. The campaign should also arm leaders with response to potential counterarguments. As indicated before, there will always be an opponent or competitor because the demand for national resources will normally exceed supply. It is better for defense leaders to argue their case using logical arguments based on the rigor and evidence-based assessments performed in CBP, which will ordinarily be more convincing and powerful than emotional arguments based on assumptions and suppositions.

Key is that there is only one campaign. Even if all the capability requirements are developed separately – the campaign consolidates the messages to show that all activities that will occur support the national strategy in some way. Proponents for each individual capability requirement may generate their own messages, but they must be *nested* – meaning consistent with and in support of – the overall communication campaign.

There are four basic steps to developing a campaign: (1) establish the overall purpose and vision of the campaign, (2) develop themes and messages to guide communications with others, (3) plan the campaign's launch, and (4) develop measures of effectiveness for the campaign.

Establishing the Campaign's Purpose and Vision

The first question that the leader must answer regards the purpose of undergoing CBP and the urgency of meeting the capability requirements that come from it. Ideally, this purpose should be harmonized with work being done in all lines-of-effort of the overall transformation effort – especially on the institutional side. As the defense enterprise changes the way it fights, it naturally must also change the way it generates capability and manages resources that enable the force. Thus, it is normally preferred that the campaign be a joint effort between the operational and institutional parts of the enterprise.

The purpose and vision need to be holistic and express the general intent in simple language. Not only does this help with delivering messages to stakeholders, but it also helps subordinate commanders deliver the same messages consistently in everything they say or do.

Some questions to consider when developing the campaign purpose include the following. As the purpose statement is developed, consider how easy or difficult it would be to justify each individual capability requirement using the purpose.

- What is it about the force overall that is insufficient or deficient that necessitates change? Be sure that the answer supports the strategy.
- To what extent must the force change overall? Is this a significant transformation effort or is it a series of incremental initiatives?

- To what extent will the force remain the same? Stakeholders will want assurances that the fighting force will remain ready while the changes take place. Some continuity will likely be needed.
- Is the overall effort feasible, suitable, acceptable, and minimizes risk?

The vision is an expression of the desired future state when the changes to the force are complete.[90] It should not only be informative, explaining what the future should look like, but also inspiring. After all, the desired future state should be *desirable,* something that motivates members to act and stakeholders to support. Other characteristics of a good vision include that the vision is: (a) *focused*, such that it provides enough guidance to guide decision making, (b) *flexible*, such that it allows for individual initiative or the ability to respond as the security environment changes, and (c) *communicable*, so that anyone in the organization can understand it and explain it in both words and actions.[91]

There is no formula for developing a vision, so an example is provided here. Below was the vision drawn from the Army Operating Concept (AOC) published in October 2014? Per the proponent, the Commander of the U.S. Training and Doctrine Command, the concept was called "Win in a Complex World," and the following describes what it meant:

> *"Win" occurs at the strategic level and involves more than just firepower. It involves the application of all elements of National Power. Complex is defined as an environment that is not only unknown, but unknowable and constantly changing. The Army cannot predict who it will fight, where it will fight, and with what coalition it will fight. To win in a complex world, Army forces must provide the Joint Force with multiple options, integrate the efforts of multiple partners, operate across multiple domains, and present our enemies and adversaries with multiple dilemmas.[92]*

From this statement, it was easy to justify the types of capabilities that the future force would need. Interoperability, one of the principles of readiness, was heavily emphasized. New and current capabilities should work together seamlessly. Incompatible systems and methods would provide opportunities for adversaries to exploit.

There is also no prescribed length for a vision, although a short statement like the above is usually better. Longer statements of vision risk being too complicated or too detailed. They also make it easier for opponents to find counterarguments against change.

Crafting Themes and Messages

However, because the vision lacks detail, the campaign needs to provide some guidance to members about what to say and do that helps communicate the vision. Themes and messages help make the vision more concrete and tailorable to particular audiences, such as stakeholders and the general public.

Themes and messages represent a hierarchy. *Themes* relate to central "topics" or "representations" that guide communications with an audience.[93] If we use the AOC example above and the audience is a partner military, for example, then a theme could be what leaders wish to communicate with the partner military over a period of time, such as the value of the partnership and interoperability. *Messages* are the concrete expressions of themes at specific events. The following might be examples of messages that convey the theme of valued partnership and interoperability in our AOC example:

- "We will fight together" – conveyed through combined exercises that involve a complex battlefield against an adaptive enemy
- "We must have compatible weapons systems" – conveyed through combine programs to procure the same or similar equipment, or combined conferences

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[90] Kotter, *Leading Change*, 71.

[91] Kotter, *Leading Change*, 73.

[92] U.S. Army Training and Doctrine Command (TRADOC), *The U.S. Army Operating Concept: Win in a Complex World*, TRADOC Pamphlet 525-3-1 (Fort Eustis, VA: TRADOC, 2014), iii.

[93] This is drawn from the definition of *theme* in literary studies – "a subject or topic of discourse or of artistic representation" from Merriam Webster, s.v. *Theme*, http://www.merriam-webster.com/dictionary/theme. Merriam-Webster, s.v. *Discourse*, http://www.merriam-webster.com/dictionary/discourse refers more to verbal communication and not actions.

where procurement decisions are discussed

For the workshop, it is sufficient to generate a couple of representative themes and leave the detailed work of messages for later. The following tables some ideas of themes that one might generate. Table 7 shows themes are the generally useful for any purpose.[94] It also shows some key messages from each theme that leaders should include in their communications.[95]

Meanwhile, Table 8 shows themes useful for major transformation efforts.[96] This is because that the fighting force must change. Transformations normally face resistance from both external stakeholders and internal members, so communications should be focused on overcoming that resistance.

PLAN THE LAUNCH AND SET MEASURES OF PERFORMANCE

With the themes and messages established, leaders then determine *who* is going to say or do *what* and *when* to get the messages out. *Launch* represents a period when the organization wants maximum attention and energy devoted to announcing the campaign and initiating all the change efforts derived from CBP. Priorities for engagement often include primary stakeholders to foster decisions favorable to the organization, such as resources and authorities the defense enterprise will require. Often, initial activities of the campaign will involve the leaders announcing the campaign and its objectives. Some examples of launch activities follow:

- A "ribbon-cutting" ceremony where the leaders deliver messages formally to announce the start of the campaign

- A "road show" where leaders visit stakeholders and units and engage with them on the campaign at a more personal level

- Social media or e-mail campaigns

- "All hands meetings" where the leader assembles a large internal audience and explains the campaign

- On-going exercises, operations, demonstrations, or experiments that show audiences the campaign's value or necessity

Measures of performance focus on the per-event ability to ensure dissemination of the intended message without error or misinterpretation.[97] As each of the above activities take place, leaders should assess to what extent the intended messages were delivered and to what extent they were received by the audience. Mistakes, such as misstatements or omissions, may happen and therefore the campaign should include remedial actions to correct the situation. Leaders can also adjust the themes and messages based on feedback from audiences.

SETTING MEASURES OF EFFECTIVENESS

Measures of effectiveness gauge the impact of the campaign on others over time by observing behaviors and others' communications, surveying the opinions of stakeholders and third parties, or interviewing impartial observers or experts. Organizations might look for changes in tone of rhetoric by allies and opponents, changes in character of relationships with stakeholders, prolonged absence of problems or crises, or reports from trusted spokespeople or observers.[98]

One should identify measures of effectiveness before launch. It is unlikely that audiences will show much change in behavior or receptivity during launch—supporters would likely remain supporters, and opponents would likely use the launch as an opportunity to criticize the armed forces or its leaders. Desired changes in stakeholders' minds may take longer.

There are three broad outcomes to consider. Critics may go silent, but the criticisms—the messages opposing the change--may persist and could continue to spread, causing doubts to resurface among members or stakeholders.

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[94] Galvin, *Communication Campaigning,* 107.

[95] Galvin, *Communication Campaigning,* 107; Office of Aerospace Studies, *Capabilities-Based Assessment (CBA) Handbook¸* 58.

[96] Galvin, *Communication Campaigning*, 122; Office of Aerospace Studies, *Capabilities-Based Assessment (CBA) Handbook¸* 58.

[97] Galvin, *Communication Campaigning,* 115.

[98] Galvin, *Communication Campaigning,* 122.

Table 14. Themes in most communications campaigns

Themes of …	Description	Key Messages for CBP
Excellence	Celebrates identity Promotes competitive advantage (current and future)	Importance of the capability gaps and the urgency of addressing them Core functions that the capability gaps are linked to
Stability	Discredits charges of complacency and risk aversion Presents organization's strengths, resilience, camaraderie, reliability	What will change and what should stay the same in the organization How the transition from old to new will occur
Constantly Improving	Emphasizes learning and innovation, embracing new ideas Discredits charges of complacency and risk aversion	Risks of not taking action Professional responsibilities to maintain competitive advantage
Correcting Problems	Acknowledges criticisms Shows understanding of environment Demonstrates validity of intended change efforts	Corrective actions to plug capability gaps are feasible (affordable), suitable, and acceptable Risks of such actions are acceptable

Table 15. Added themes for transformational campaigns

Themes of …	Description	Key Messages for CBP
Urgency for Change	Presents impetus for change Explains undesired future state Explains risks of failing to change	Why the organization in its current state is at a competitive disadvantage and an iterative/partial solution is unacceptable
Benefits of Change	Presents desired future state Presents improved or sustained competitive advantage	What the transformed organization will look like and how it will fight better / operate more efficiently How will the members and stakeholders benefit from the transformation
Countering Resistance	Addresses arguments to avoid or defer change Addresses risks of lack of priority for change Addresses attempts to interfere with change	Acknowledging criticisms against transformation—especially if similar efforts in the past failed How current efforts will not repeat past failures
Countering Ambivalence	Addresses conflicted feelings & anxiety over change Addresses disagreements over the change effort approach Addresses concerns change effort does not go far enough	Avenues to get more information and encourage participation in the effort (e.g., chain of command, social media)
Overcoming Cynicism Toward Change	Counteracts antipathy toward change ("It's going to fail" or "Didn't work before, won't now") Addresses unwarranted withholding of resources and support	Leaders' and stakeholders' commitment to see the transformation to completion

The following can help leaders present a clear vision to bind together the themes and messages.

- How will the campaign promote the vision? Are stakeholders and members coming to view the vision as desirable and are showing support as the capability requirements move from development to fielding?

- How effectively is the campaign countering criticism? Is the organization succeeding in discrediting opposing messages so that stakeholders and members do not believe them?

- How effectively is the campaign countering opponents? Are the themes and messages successful in discredit them such that they are ineffective in producing or disseminating counterarguments?

Structure of the Activity

This activity follows the four steps described above. You will first determine the launch conditions – will you choose to launch the effort in a time-driven fashion or event-driven, and why?

The second step is to conduct pre-launch dissemination. A way to think of this is how you will employ the guiding coalition of the change effort. Who must be consulted? Who must be excluded? What messages must be pre-positioned to promote the change effort? What talking points must be available when criticism of the change effort inevitably surfaces?

The third step is determining the launch actions – from the initial unveiling (which may or may not be a public event) to all the follow-on communications and engagements with stakeholders who were not included in the initial unveiling. How is the sequencing of these events determined? What will be conducted direct (e.g., face-to-face) vs. indirect (e.g., social media and the like)?

Determining measures of performance is the final step – and these will include indicators of success and of mounting barriers against change. Each of these will represent data needing to be collected and analyzed, so it is important to keep these to the minimum necessary to provide a useful picture of the success of the launch. Although not explicit in this activity, it would be helpful for the measures to be also useful for (or at least aligned with) post-launch implementation.

It is also acknowledged that not everything done in the capabilities-based planning needs to be included in the messaging. We should consider what constitutes the right amount of detail to inform stakeholders. The development of these campaigns in support of an Army transformation is complicated and challenging. We will only address the basic elements of the campaign here -- (1) overall purpose and vision of the campaign, (2) themes and messages, (3) starting the campaign, and (4) measures of effectiveness. As this is the last activity, some elements may be omitted due to time constraints.

CONDUCT OF ACTIVITY VII: DEVELOP COMMUNICATIONS CAMPAIGN USING COMMUNICATIONS PLANNING FRAMEWORK

For the short form of this activity, complete items marked with a star (★) – steps 1 (all) and 2 (all).

★ 1. DESCRIBE THE PURPOSE FOR THE CAMPAIGN:

Answer the following questions:
- Who are the key stakeholders and what do we need from them for the transformation to succeed?

- Who are the opponents of the Army or the transformation effort, and why do they oppose us?

- What are the opposing messages against the Army or the transformation that are being shared among the public or making our stakeholders hesitant to support us?

★ 2. IDENTIFY THEMES AND MESSAGES

Select the most important stakeholder, the strongest opponent, and the most challenging opposing message. Answer the below questions, using Tables 3 & 4 in the pamphlet as references:

- Most important stakeholder: _____
  - What do you want the campaign to accomplish – maintain support for transformation, change their minds if they are uncertain about transformation, dissuade them from taking an opposing stance?

  - What therefore do we need to tell the stakeholders (consider the themes in Table 4 such as the Urgency for Change and Benefits of Change)? Identify 2-3 messages

- Strongest opponent: _____
    - o Why do they oppose you or the transformation?

    - o What do you want the campaign to accomplish – change the opponent's mind, encourage the opponent to be less active, or ensure the opponent has less influence over stakeholders?

    - o What do we need to tell opponents (directly or indirectly)? Consider themes in Tables 3 & 4 such as Correcting Problems, Countering Resistance, Countering Ambivalence, or Overcoming Cynicism Toward Change).

- Strongest opposing message among public: _____
    - o Is this message a form of misinformation or disinformation spread by false rumors, or is it rooted in a legitimate concern about the Army?

    - o What do you want the campaign to accomplish – prove the opposing message wrong, or weaken its impact so fewer are willing to listen or share it?

    - o What messages may help us do that? (Consider the themes in Table 3 in addition to any messages already identified above) It is not necessary to consider a specific audience – these messages would apply to any audience.

3. STARTING THE CAMPAIGN

How will the campaign start? Answer the following questions:

- Which of the following activities is the best approach to convey the messages you identify above? The following are described in the pamphlet -- "Ribbon-cutting" type ceremony, "Road show," social media campaigns, "All Hands" meetings, and on-going exercises. Describe the activity, why it is the best choice, and how the activity will communicate the desired messages.

- Identify measures of performance. How will you determine that the above activities were successful at disseminating the intended messages?

4. MEASURES OF EFFECTIVENESS

Take the desired outcomes from Step 1 above (answers to the question of "what do we want the campaign to accomplish") and list below the indicators that the campaign is being either effective or ineffective. How will you monitor these indicators? Also consider what might trigger the need to significantly alter the campaign.

APPENDIX: CONDUCTING THE WORKSHOP

This workbook provides long and short forms of most Activities so one can tailor the conduct of workshops according to available time. The long form represents a four-day workshop where approximately one-half day is devoted to each Activity and an added half-day for introductory and summative activities. The short form represents a two-day workshop where Activities are given 1-2 hours or are combined together.

The following guidelines are offered should available time and resources not align with either option above. Longer workshops can be tailored for greater depth in each Activity, while shorter ones may require omitting some key steps.

Time constraints obviously play a role in how one would use this book to conduct CBP. If more than four days are available, the existing Activities would be performed largely as is, but in greater depth to make use of the time. For example, one could:

- Expand the concept descriptions in Activity II and the scenario descriptions in Activity III

- Expand the number of critical capabilities in Activities IV and V to be considered for gaps

- Increase the fidelity of the requirements definitions, force development plans, and communication campaigns derived in Activities V-VII

However, in the event that time is constrained, or trade-offs are needed to make best use of the time, the following are ways to further tailor the Activities.

Activity I: Describe Current Situation

This could be omitted entirely. However, this requires the problem definition to be worked out in advance. Workshop planners would need to construct and disseminate the change story so that participants could begin with Activity II.

Activity II: Develop Operating Concepts

This could also be omitted if the relevant concepts already exist and are sufficiently known to the participants. This is not recommended if the current situation involves uncertainty or complexity such that extant concepts should be called into question. However, one could consider a one-hour exercise to validate or review the extant concepts in lieu of a half-day period to conduct Activity II.

Activity III: Develop Scenarios to Test the Concepts

It is conceivable to choose the scenarios in advance or restrict the parameters by which participants could identify possible scenarios. For example, one could pre-determine the two driving forces in steps 2a and 2b to provide participants with a partially-completed matrix. This could cut 30-60 minutes from the time needed to complete the Activity.

This is also an option if there is a desire to include a wild-card scenario without going to the long form of Activity III. Provide a partially filled matrix for Step 2 and allocate the saved time for completion of Step 4.

Activity IV: Test the Concepts

Because the process is repetitive, with each scenario tested in an identical fashion, one could divide the participants into four groups and have each assess only one of the four scenarios or divide the participants by half and assign two scenarios each. If the wild-card is included in Activity III, participants could be divided into five groups with one group handling the wild-card. Assume that a scenario takes 30-45 minutes to analyze in a workshop setting and one can divide the work of this Activity accordingly.

Activity V: Determine Requirements

In a similar fashion, one can divide the work of this Activity according to warfighting function. Participants would address the capabilities gaps exposed within that function and make recommendations to the assembly of participants.

Development of the consolidated list can also be skipped in favor of having each warfighting function develop its one or two top priorities independently in the later Activities.

Activity VI: Build the Force Development Plan

This Activity can be skipped in its entirety if there is not enough information for participants to flesh out the force development requirements for the top priorities. Participants could also be asked to develop only one instead of two top priorities. This would reduce the time required to complete the Activity by one-third or one-half.

The scope of questions 1c and 2c can also be reduced (e.g., focusing solely on the roles and missions vice considering personnel, materiel, and real property factors).

Activity VII: Develop Communications Campaign

This Activity in its short form could be scaled down to cover only the most contentious elements in Step 2. It is important to discuss ways to convince potential opponents to support or stay neutral about the force development plan so this Activity should not be skipped. But addressing the greatest stakeholder concern could be enough to scale this Activity down to an hour.
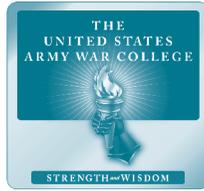
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